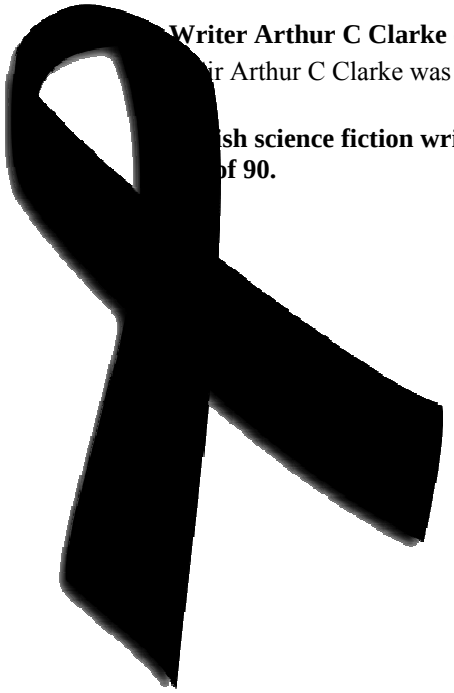
Infoteca's E-Journal

An Electronic Compilation of Scientific and Cultural Information by Sistema de Infotecas Centrales, Universidad Autónoma de Coahuila

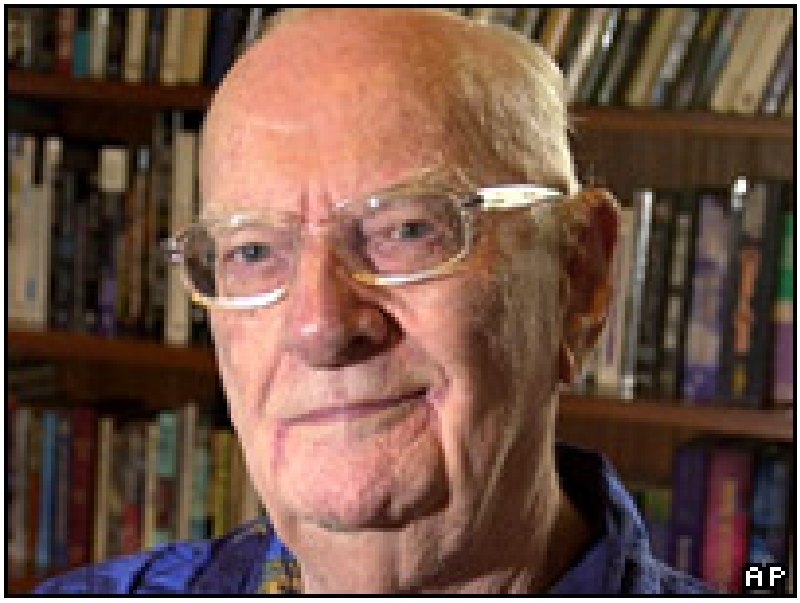
CONTENTS



Writer Arthur C Clarke dies at 90

ir Arthur C Clarke was famous for his science fiction writing

sh science fiction writer Sir Arthur C Clarke has died in his adopted home of Sri Lanka at the f 90.



The Somerset-born author came to fame in 1968 when short story The Sentinel was made into the film 2001: A Space Odyssey by director Stanley Kubrick.

His visions of space travel and computing sparked the imagination of readers and scientists alike.

Sri Lankan President Mahinda Rajapakse paid tribute, hailing the writer as a "great visionary".

Since 1995, the author had been largely confined to a wheelchair by post-polio syndrome.

He died at 0130 local time (2000 GMT) of respiratory complications and heart failure, according to his aide, Rohan De Silva.

Far-seeing scientist

"Sir Arthur has left written instructions that his funeral be strictly secular," his secretary, Nalaka Gunawardene, was quoted as saying by news agency AFP.

She said the author had requested "absolutely no religious rites of any kind".

A farmer's son, Sir Arthur was educated at Huish's Grammar School in Taunton before joining the civil service.

A great science fiction writer, a very good scientist, a great prophet and a very dear friend
Sir Patrick Moore

He served in the Royal Air Force during World War II, and foresaw the concept of communication satellites.

Sir Arthur's detailed descriptions of space shuttles, super-computers and rapid communications systems inspired millions of readers.

When asked why he never patented his idea for communication satellites, he said: "I did not get a patent because I never thought it will happen in my lifetime."

In the 1940s, he maintained man would reach the moon by the year 2000, an idea dismissed at the time.

He was the author of more than 100 fiction and non-fiction books, and his writings are credited by many observers with giving science fiction a human and practical face. He collaborated on the screenplay for 2001: A Space Odyssey with Kubrick.

'Great prophet'

British astronomer Sir Patrick Moore had known Sir Arthur since they met as teenagers at the British Interplanetary Society.

Sir Patrick paid tribute to his friend, remembering him as "a very sincere person" with "a strong sense of humour".

Tributes have also come from George Whitesides, the executive director of the National Space Society, where Sir Arthur served on the board of governors, and fellow science fiction writer Terry Pratchett.
HAVE YOUR SAY His writing inspired many people to wonder what might be possible Pratik, California

The author married in 1953, and was divorced in 1964. He had no children.

He moved to the Indian Ocean island of Sri Lanka in 1956 after embarking on a study of the Great Barrier Reef.

There, he pursued his interest in scuba diving, even setting up a diving school at Hikkaduwa, near the capital, Colombo.

"Sometimes I am asked how I would like to be remembered," he recalled recently.

"I have had a diverse career as a writer, underwater explorer and space promoter. Of all these, I would like to be remembered as a writer."

A statement from Sir Arthur's office said he had recently reviewed the final manuscript of his latest novel.

The Last Theorem, co-written with Frederik Pohl, will be published later this year, it said.

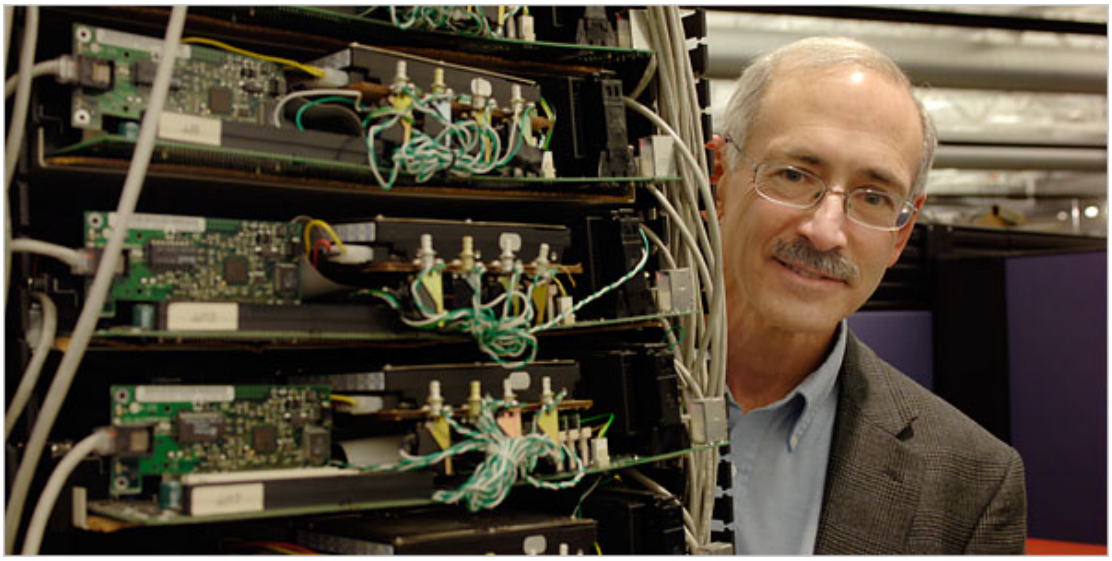
Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/2/hi/uk_news/7304004.stm

Published: 2008/03/19 11:09:47 GMT

Trying to Add a Pulse to a World of Machines

By KATIE HAFNER

Mountain View, Calif.



THE Computer History Museum could not be more conspicuous. Since 2002 its home has been a 120,000-square-foot building just off the freeway in this city in the heart of Silicon Valley, a microprocessor's throw from Google.

Yet although the museum has the largest collection of computer artifacts in the world and has raised tens of millions of dollars, it remains relatively little known. Last year, the Silicon Valley Concierge Association, a hospitality industry group, gave the museum its Best-Kept Secret Attraction award.

The museum is evolving at a far slower pace than the industry whose history it chronicles. Even its officials call it "a museum in progress," and they continue to work at making a compelling story from historical artifacts that consist mainly of nondescript machinery.

The museum's principal current exhibition, called "Visible Storage," which showcases about 500 of the collection's most notable artifacts, "amounts to a warehouse with labels," said Len Shustek, a successful Silicon Valley entrepreneur who is the museum's interim executive director and chairman of its board of trustees.

The exhibition is open only 15 hours a week, spread over four days, and last year it attracted only 15,000 walk-in visitors. Dr. Shustek said most of them probably learned about the museum by word of mouth, as it currently does little to promote itself.

That will change. The Visible Storage exhibition is just a warm-up act, Dr. Shustek said, for what is to come in 2009: an ambitious 14,000-square-foot interactive timeline depicting 2,000 years of computing. "The real measure of success will be the much larger audience that will come when we open our first big exhibit," he said.

The exhibition will start with abacuses and progress through mechanical calculators and the failed attempts in the 1800s to build the first computing machines. The bulk of the timeline will focus on World War II and the postwar evolution of electronic computing, the companies it spawned and the people who started them.

The goal is to weave the artifacts together into a story line. And the importance of this is very clear to Dr. Shustek. “A museum is not about objects,” he said. “A museum is about telling stories.”

John L. Hennessy, president of Stanford University, takes a group of undergraduates to the museum every summer. “It provides an incredibly valuable perspective on how much progress has occurred in the field, and how radically technologies have changed,” said Dr. Hennessy, who is an engineer by training.

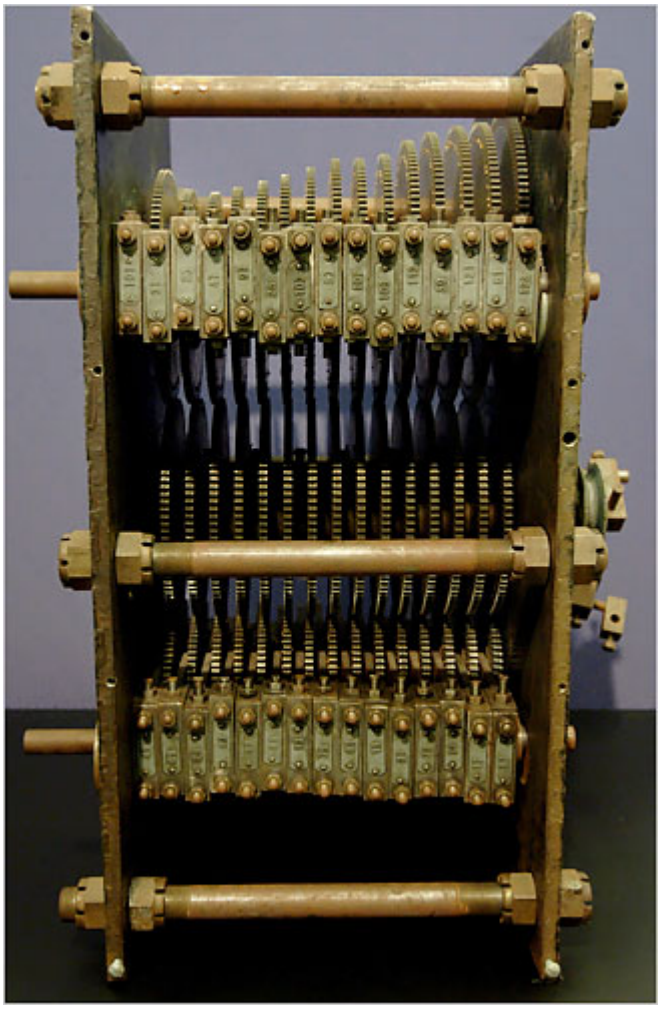
But it’s all about objects that are ugly, slow and obsolete, and while those qualities in a stegosaurus, say, might make for a fascinating dinosaur museum, they don’t do much for a computer exhibition.

“The question is, how do you create as much excitement around this as taking kids to see dinosaur bones?” Dr. Hennessy said. “We’ve got this vision of that dinosaur walking. When you see a box sitting there, that doesn’t do it.”

For that reason, he said, it is even more important to tell stories. As he and his students stand in front of an early computer called the Johnniac, for instance, he tells them about John von Neumann, the computer pioneer after whom it was named. And he shows them the old machines he used as a young programmer in the 1960s, like an I.B.M. 360 mainframe and a punch-card machine.

“When I tell them, ‘By the way, this machine is maybe one one-hundredth or one one-thousandth as powerful as the computer on your desk,’ they’re astounded,” said Dr. Hennessy, who also takes the same group of students across the street to Google, so they can glimpse the future.

Gregory Dreicer, a historian of technology and long-time museum curator who is vice president of exhibitions at the Chicago Architecture Foundation, said that fostering a sense of astonishment can be important. “You need to be able to reveal to people things they don’t know or you will lose most of your audience,” he said. “There’s a surprise factor that’s very important in any exhibition. Surprise is the key. You use that to hook people in and make them want to learn.” Dr. Shustek said the museum’s new timeline should help do that. “The exhibit will show visitors that much of what they take for granted in computers today was there 50 years ago, only much slower, bigger and more expensive,” he said.



Fittingly, the museum is in an office building that once belonged to Silicon Graphics, one of the valley's most prominent success stories. Among the museum's most famous artifacts is an imposing nine-foot-tall metal rack crammed with vacuum tubes and colored wires. It represents just a portion of a 1945 Eniac (for Electronic Numerical Integrator and Computer), the world's first electronic digital computer. The complete Eniac filled an entire room, weighed 30 tons and had about 200 bytes of memory.

The museum is also the repository for an Apple I computer, signed by its mastermind, Steve Wozniak. Bill Gates has donated the paper tape of a computer program he wrote as a Harvard student.

Mr. Gates and other wealthy entrepreneurs have also helped by giving money to the museum, which does not charge admission. The plan is to raise $120 million, and so far the museum has collected $64 million of $73 million in pledges. The Bill and Melinda Gates Foundation has donated the most, $15 million. Dr. Shustek and his wife, Donna Dubinsky, who helped create the original Palm hand-held device, gave $10 million, as did Eric Hahn, another Silicon Valley entrepreneur. John Doerr, the venture capitalist, gave $5 million.

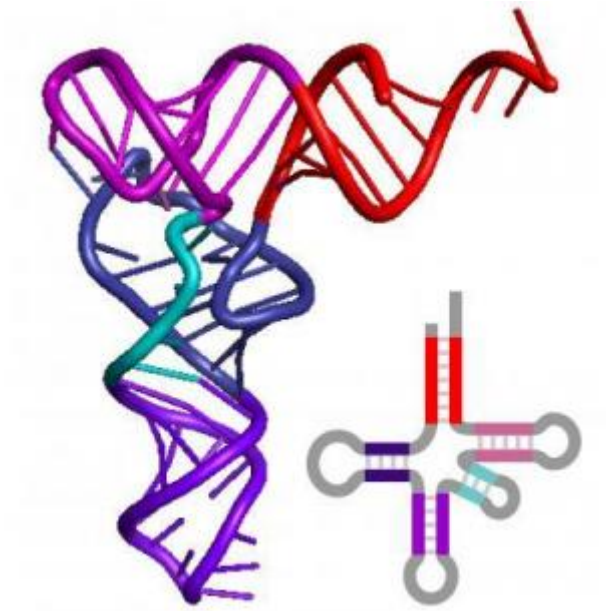
The museum is also becoming a community center of sorts. Public lectures and other events attracted 50,000 people to the museum last year.

As the museum continues to expand its collection, Dr. Shustek said, its task will no longer simply be to declare every computer a piece of history but to identify only those that are relevant.

"From now on, everything that has a battery or plug will have a computer," he said. "That's one of the existential problems we have: When a computer is part of everything, will we have to exhibit everything?"

http://www.nytimes.com/2008/03/12/arts/artsspecial/12silicon.html?ref=artsspecial

History Of Life Seen In The Structure Of Transfer RNA



All tRNAs assemble themselves into a shape that, if flattened, resembles a cloverleaf. Patterns in these structures give clues to early evolutionary history. The red areas of the molecule pictured above are the most ancient. (Credit: Image courtesy of Gustavo Caetano-Anollés)

ScienceDaily (Mar. 10, 2008) — Transfer RNA is an ancient molecule, central to every task a cell performs and thus essential to all life. A new study from the University of Illinois indicates that it is also a great historian, preserving some of the earliest and most profound events of the evolutionary past in its structure.

The study, co-written by Gustavo Caetano-Anollés,* a professor of crop sciences, and postdoctoral researcher Feng-Jie Sun, appears March 7 in PLoS Computational Biology.

Of the thousands of RNAs so far identified, transfer RNA (tRNA) is the most direct intermediary between genes and proteins. Like many other RNAs (ribonucleic acids), tRNA aids in translating genes into the chains of amino acids that make up proteins. With the help of a highly targeted enzyme, each tRNA molecule recognizes and latches onto a specific amino acid, which it carries into the protein-building machinery. In order to successfully add its amino acid to the end of a growing protein, tRNA must also accurately read a coded segment of messenger RNA, which gives instructions for the exact sequence of amino acids in the protein.

The fact that tRNA is so central to the task of building proteins probably means that it has been around for a long time, Caetano-Anollés said. His inquiry began with a hunch that understanding the structural properties of tRNA would shed light on how organisms and viruses evolved.

"Perhaps in evolution there are things that are so fundamental that they are kept, held onto, for millions or even billions of years," Caetano-Anollés said. "Those are the fossils, the molecular fossils, that tell us about the past. Therefore, studying these molecules can address fundamental questions in biology and evolution."

All tRNAs assemble themselves into a shape that, if flattened, resembles a cloverleaf. The team began by looking for patterns in this cloverleaf structure, using detailed data from hundreds of molecules representing viruses and each of the three superkingdoms of life: archaea, bacteria and eukarya.

The researchers converted all distinguishing features of the individual tRNA cloverleaf structures into coded characters, a process that allowed a computerized search for the most "parsimonious" (that is, the simplest, most probable) tRNA family tree. They conducted the same analysis on the tRNAs of each of the superkingdoms, to see how far these groupings diverged from the overall tree. This comparison allowed them to determine the order in which viruses and each of the superkingdoms diverged.

The new analysis supports an earlier study that suggested that the archaea were the first to arise as an evolutionarily distinguishable group. Archaea are microbes that can survive in boiling acid, near sulfurous ocean vents or in other extreme environments. The earlier study, also led by Caetano-Anollés, analyzed the vast catalog of protein folds -- those precisely configured regions in proteins that give them their functionality -- as a guidebook to evolutionary history.

"The transfer RNA data matches our earlier data," Caetano-Anollés said. "This is important because two lines of independent evidence are supporting each other."

The new analysis also indicates that viruses emerged not long after the archaea, with the superkingdoms eukarya and bacteria following much later -- and in that order. This finding may influence the ongoing debate over whether viruses existed prior to, or after, the emergence of living cells, Caetano-Anollés said.

"This supports the idea that viruses arose from the cellular domain," he said.

*Caetano-Anollés is an affiliate of the U. of I. Institute for Genomic Biology.

Adapted from materials provided by University of Illinois at Urbana-Champaign, via EurekAlert!, a service of AAAS.

http://www.sciencedaily.com:80/releases/2008/03/080306202749.htm

Broccoli May Help Boost Aging Immune System

Broccoli. (Credit: Image courtesy of University of California - Los Angeles)

ScienceDaily (Mar. 10, 2008) — Eat your broccoli! That's the advice from UCLA researchers who have found that a chemical in broccoli and other cruciferous vegetables may hold a key to restoring the body's immunity, which declines as we age.

Published in the online edition of the Journal of Allergy and Clinical Immunology, the study findings show that sulforaphane, a chemical in broccoli, switches on a set of antioxidant genes and enzymes in specific immune cells, which then combat the injurious effects of molecules known as free radicals that can damage cells and lead to disease.

Free radicals are byproducts of normal body processes, such as the metabolic conversion of food into energy, and can also enter the body through small particles present in polluted air. A supercharged form of oxygen, these molecules can cause oxidative tissue damage, leading to disease -- for example, triggering the inflammation process that causes clogged arteries. Oxidative damage to body tissues and organs is thought to be one of the major causes of aging.

"The mysteries of aging have always intrigued man," said Dr. Andre Nel, the study's principal investigator and chief of nanomedicine at the David Geffen School of Medicine at UCLA. "While we have known for some time that free radicals are important in aging, most of the past attention has focused on the mechanisms that produce free radicals rather than addressing the pathways used by the body to suppress their production."

A dynamic equilibrium exists in the body between the mechanisms that lead to increased free radical production and those antioxidant pathways that help combat free radicals.

"Our study contributes to the growing understanding of the importance of these antioxidant defense pathways that the body uses to fight free radicals," said Nel, a practicing clinical allergist and immunologist at the Geffen School. "Insight into these processes points to ways in which we may be able to alleviate the effects of aging."

The delicate balance between pro-oxidant and antioxidant forces in the body could determine the outcome of many disease processes that are associated with aging, including cardiovascular disease, degenerative joint diseases and diabetes, as well as the decline in efficiency of the immune system's ability to protect against infectious agents.

"As we age, the ability of the immune system to fight disease and infections and protect against cancer wears down as a result of the impact of oxygen radicals on the immune system," Nel said.

According to the UCLA study, the ability of aged tissues to reinvigorate their antioxidant defense can play an important role in reversing much of the negative impact of free radicals on the immune system. However, until this current study, the extent to which antioxidant defense can impact the aging process in the immune system was not properly understood.

"Our defense against oxidative stress damage may determine at what rate we age, how it will manifest and how to interfere in those processes," Nel said. "In particular, our study shows that a chemical present in broccoli is capable of stimulating a wide range of antioxidant defense pathways and may be able to interfere with the age-related decline in immune function."

The UCLA team not only found that the direct administration of sulforaphane in broccoli reversed the decline in cellular immune function in old mice, but they witnessed similar results when they took individual immune cells from old mice, treated those cells with the chemical outside the body and then placed the treated cells back into a recipient animal.

In particular, the scientists discovered that dendritic cells, which introduce infectious agents and foreign substances to the immune system, were particularly effective in restoring immune function in aged animals when treated with sulforaphane.

"We found that treating older mice with sulforaphane increased the immune response to the level of younger mice," said Hyon-Jeen Kim, first author and research scientist at the Geffen School.

To investigate how the chemical in broccoli increased the immune system's response, the UCLA group confirmed that sulforaphane interacts with a protein called Nrf2, which serves as a master regulator of the body's overall antioxidant response and is capable of switching on hundreds of antioxidant and rejuvenating genes and enzymes.

Nel said that the chemistry leading to activation of this gene-regulation pathway could be a platform for drug discovery and vaccine development to boost the decline of immune function in elderly people.

"This is a radical new way of thinking in how to increase the immune function of elderly people to possibly protect against viral infections and cancer," Nel said. "We may have uncovered a new mechanism by which to boost vaccine responses by using a nutrient chemical to impact oxidant stress pathways in the immune system."

Kim said that although there is a decline in Nrf2 activity with aging, this pathway remains accessible to chemicals like sulforaphane that are capable of restoring some of the ravages of aging by boosting antioxidant pathways.

The next step is further study to see how these findings would translate to humans. "Dietary antioxidants have been shown to have important effects on immune function, and with further study, we may be adding broccoli and other cruciferous vegetables to that list," Nel said.

For now, Nel suggests including these vegetables as part of a healthy diet. Nel said that these findings offer a window into how the immune system ages. "We may find that combating free radicals is only part of the answer. It may prove to be a more multifaceted process and interplay between pro- and antioxidant forces," he said.

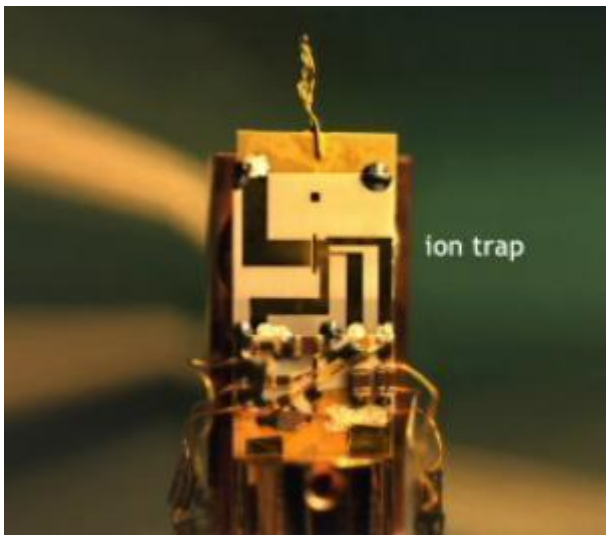
The study was funded by the National Institute on Aging, the UCLA Claude D. Pepper Older Adults Independence Center, and the National Institute of Allergy and Infectious Diseases.

Other study authors included Berenice Barajas and Dr. Meiying Wang.

Adapted from materials provided by University of California - Los Angeles.

http://www.sciencedaily.com/releases/2008/03/080306133919.htm

'Quantum Logic Clock' Rivals Mercury Ion As World's Most Accurate Clock



NIST quantum logic clock (Credit: Greg Kuebler/JILA)

ScienceDaily (Mar. 10, 2008) — An atomic clock that uses an aluminum atom to apply the logic of computers to the peculiarities of the quantum world now rivals the world's most accurate clock, based on a single mercury atom. Both clocks are at least 10 times more accurate than the current U.S. time standard.

The measurements were made in a yearlong comparison of the two next-generation clocks, both designed and built at the Commerce Department's National Institute of Standards and Technology (NIST). The clocks were compared with record precision, allowing scientists to measure the relative frequencies of the two clocks to 17 digits-the most accurate measurement of this type ever made. The comparison produced the most precise results yet in the worldwide quest to determine whether some of the fundamental constants that describe the universe are changing slightly over time, a hot research question that may alter basic models of the cosmos.

The research is described in the March 6 issue of Science Express.* The aluminum and mercury clocks are both based on natural vibrations in ions (electrically charged atoms) and would neither gain nor lose one second in over 1 billion years-if they could run for such a long time-compared to about 80 million years for NIST-F1, the U.S. time standard based on neutral cesium atoms.

The mercury clock was first demonstrated in 2000 and is now four times better than its last published evaluation in 2006, thanks to ongoing improvements in the clock design and operation. The mercury clock continues its reign as the world's most accurate for now, by a margin of 20 percent over the aluminum clock, but the designers say both experimental clocks could be improved further.

"The aluminum clock is very accurate because it is insensitive to background magnetic and electric fields, and also to temperature," says Till Rosenband, the NIST physicist who built the clock and is the first author of the new paper. "It has the lowest known sensitivity of any atomic clock to temperature, which is one of the most difficult uncertainties to calibrate."

Both the aluminum clock and the mercury clock are based on ions vibrating at optical frequencies, which are 100,000 times higher than microwave frequencies used in NIST-F1 and other similar time standards around the world. Because optical clocks divide time into smaller units, they can be far more precise than microwave standards. NIST scientists have several other optical atomic clocks in development, including one based on thousands of neutral strontium atoms. The strontium clock recently achieved twice the accuracy of NIST-F1, but still trails the mercury and aluminum clocks.

Highly accurate clocks are used to synchronize telecommunications networks and deep-space communications, and for satellite navigation and positioning. Next-generation clocks may also lead to new types of gravity sensors, which have potential applications in exploration for underground natural resources and fundamental studies of the Earth.

Laboratories around the world are developing optical clocks based on a variety of different designs and atoms; it is not yet clear which design will emerge as the best candidate for the next international standard.

The new paper provides the first published evaluation of the operational quantum logic clock, so-named because it is based on the logical reasoning process used in quantum computers (see sidebar for details). The clock is a spin-off of NIST research on quantum computers, which grew out of earlier atomic clock research. Quantum computers, if they can be built, will be capable of solving certain types of complex problems that are impossible or prohibitively costly or time consuming to solve with today's technologies.

The NIST quantum logic clock uses two different kinds of ions, aluminum and beryllium, confined closely together in an electromagnetic trap and slowed by lasers to nearly "absolute zero" temperatures. Aluminum is a stable source of clock ticks, but its properties cannot be detected easily with lasers. The NIST scientists applied quantum computing methods to share information from the aluminum ion with the beryllium ion, a workhorse of their quantum computing research. The scientists can detect the aluminum clock's ticks by observing light signals from the beryllium ion.

NIST's tandem ion approach is unique among the world's atomic clocks and has a key advantage: "You can pick from a bigger selection of atoms," explains NIST physicist Jim Bergquist, who built the mercury clock. "And aluminum has a lot of good qualities-better than mercury's."

An optical clock can be evaluated precisely only by comparison to another clock of similar accuracy serving as a "ruler." NIST scientists used the quantum logic clock to measure the mercury clock, and vice versa. In addition, based on fluctuations in the frequencies of the two clocks relative to each other over time, NIST scientists were able to search for a possible change over time in a fundamental quantity called the fine-structure constant. This quantity measures the strength of electromagnetic interactions in many areas of physics, from studies of atoms and molecules to astronomy. Some evidence from astronomy has suggested the fine-structure constant may be changing very slowly over billions of years. If such changes are real, scientists would have to dramatically change their theories of the fundamental nature of the universe.

The NIST measurements indicate that the value of the fine-structure constant is not changing by more than 1.6 quadrillionths of 1 percent per year, with an uncertainty of 2.3 quadrillionths of 1 percent per year (a quadrillionth is a millionth of a billionth). The result is small enough to be "consistent with no change," according to the paper. However, it is still possible that the fine-structure constant is changing at a rate smaller than anyone can yet detect. The new NIST limit is approximately 10 times smaller than the best previous measurement of the possible present-day rate of change in the fine-structure constant. The mercury clock is an especially useful tool for such tests because its frequency fluctuations are magnified by any changes in this constant.

The work described in the new Science paper was supported in part by the Office of Naval Research and Disruptive Technology Office.

As a non-regulatory agency of the Commerce Department, NIST promotes U.S. innovation and industrial competitiveness by advancing measurement science, standards and technology in ways that enhance economic security and improve our quality of life.

*Journal reference: T. Rosenband, D.B. Hume, P.O. Schmidt, C.W. Chou, A. Brusch, L. Lorini, W.H. Oskay, R.E. Drullinger, T.M. Fortier, J.E. Stalnaker, S.A. Diddams, W.C. Swann, N.R. Newbury, W.M. Itano, D.J. Wineland, and J.C. Bergquist. 2008. Frequency ratio of Al+ and Hg+ single-ion optical clocks; metrology at the 17th decimal place. Science Express. Published online March 6.

Background: Where the 'Quantum Logic Clock' Gets Its Name

The NIST quantum logic clock is so named because it borrows techniques that are key to quantum computers, which would solve problems using quantum mechanics, nature's instruction book for the smallest particles of matter and light. Logic is reasoning that determines an action or result based on which one of different possible options is received as input. In the NIST clock, the input options are two different quantum states, or internal energy levels, of an aluminum ion. Information about this state is transferred to a beryllium ion, which, depending on the input, produces different signals that are easily detected.

NIST scientists use lasers to cool the two ions which are held 4 thousandths of a millimeter apart in an electromagnetic trap. Aluminum is the larger of the two ions, while the beryllium emits light under the conditions of this experiment. Scientists hit the ions with pulses from a "clock laser" within a narrow frequency range. If the laser frequency is at the center of the frequency range, the precise "resonance frequency" of aluminum, this ion jumps to a higher energy level, or 1 in the binary language of computers. Otherwise, the ion remains in the lower energy state, or 0.

If there is no change in the aluminum ion, then another laser pulse causes both ions to begin rocking side to side in unison because of their physical proximity and the interaction of their electrical charges. An additional laser pulse converts this motion into a change in the internal energy level of the beryllium ion. This pulse reverses the direction of the ion's magnetic "spin," and the beryllium goes dark, a signal that the aluminum remained in the 0 state.

On the other hand, if the aluminum ion jumps to the higher energy level, then the additional laser pulses fail to stimulate a shared rocking motion and have no effect on the beryllium ion, which keeps emitting light. Scientists detect this light as a signal that the aluminum ion jumped from 0 to 1.

The goal is to tune the clock laser to the exact frequency that prompts the aluminum to jump from 0 to 1. The actual measurement of the ticking of the clock is provided not by the ions but rather by the clock laser's precisely tuned center frequency, which is measured with a "frequency comb," a tool for measuring very high optical frequencies, or colors of light.

Adapted from materials provided by National Institute of Standards and Technology.

http://www.sciencedaily.com/releases/2008/03/080306202743.htm

Biologists Surprised To Find Parochial Bacterial Viruses

The spring-fed pools, or "pozas," in Mexico's remote Cuatro Ciénegas valley are home to at least 70 species found nowhere else on Earth. (Credit: Tommy LaVergne/Rice University)

ScienceDaily (Mar. 9, 2008) — Biologists examining ecosystems similar to those that existed on Earth more than 3 billion years ago have made a surprising discovery: Viruses that infect bacteria are sometimes parochial and unrelated to their relatives in other parts of the globe.

The finding, published online by the journal Nature, is surprising because bacteria are ubiquitous on Earth. They've been found from the upper reaches of the atmosphere to miles below the ocean floor. Because of their ubiquity, scientists have long believed bacteria to be cosmopolitan, having similar genetic histories across the globe. The same was also believed to be true for phages, the viruses that infect bacteria.

"The idea that things in the microbial world can have endemic properties is relatively new," said study co-author Janet Siefert, a Rice University computational biologist who has made a half-dozen trips to one of the study sites in Mexico's remote Cuatro Ciénegas valley. "People really weren't talking about it until about a decade ago, and we certainly didn't expect to find this when we began our work in Mexico."

Bacteria are the dominant forms of life on Earth. They helped shape the planet's land, oceans and atmosphere for 3 billion years before the first appearance of multicellular creatures. Siefert and several of her co-authors began traveling to Cuatro Ciénegas in Mexico's Chihuahuan Desert in 2004 to study cyanobacteria living in a network of more than 200 spring-fed pools, or "pozas." Cuatro Ciénegas' pozas have been compared to the Galapagos Islands, except that their endemic species -- at least 70 species in the valley are found nowhere else on Earth -- are separated from the rest of the world by mountains and a sea of sand rather than an ocean.

The cyanobacteria in the pozas live communally, forming coral-like structures called "stromatolites," or microbialites, that are geologically identical to 3.5 billion-year-old fossils that are believed to be the oldest evidence of life on Earth.

"We had very little funding when we started going to Cuatro Ciénegas," Siefert said. "We were taking a shot in the dark to see if we could better understand the physical, chemical and geological context of the bacterial communities and the stromatolites."

The work drew interest and seed funding from NASA's astrobiology program, which hoped the work might provide important clues about the way early life might develop on other planets.

Siefert said biogeography -- the study of species' biodiversity and distribution across time and space -- has only recently been possible for viruses, mainly due to advancements in software and other computer tools. New sequencing technologies made it possible to analyze and geographically map the genetic differences among viral genotypes in Cuatro Ciénegas and other locations. The new study's findings contrast with previous studies that found viruses are widely dispersed on Earth and share almost the same genotypes.

Stromatolite samples collected from two pozas in 2004 were examined by several co-authors in the research group of San Diego State University biologist Forest Rohwer, who has prepared the world's largest database of phage DNA. In the first step of the tests, researchers crushed small bits of the coral-like stromatolites and extracted DNA from the samples. The DNA from each sample was decoded and compiled into a database called a "metagenome." The metagenomes from the Mexican pozas were compared with each other and with metagenomes from stromatilites in Highborne Cay, Bahamas. Finally, all three of these metagenomes were compared with Rohwer's phage database and with several large gene-sequence databases, like GenBank.

"Taken together, these results prove that viruses in modern microbialites display the variability of distribution of organisms on our planet," Rohwer said. "It also suggests that they may be derived from an ancient, microbial community."

The analyses found that the phages in the Bahamas and in both Mexican pozas shared only about 5 percent of the same DNA sequences. Moreover, the analyses revealed that the Mexican phages appeared to have evolved from ancient, ocean-going relatives. Siefert said the finding is amazing given that Cuatro Ciénegas has been cut off from the ocean for about 100 million years, but it complements prior findings of marine genetic signatures in some of Cuatro Ciénegas' other endemic species.

"Over that length of time, we would expect the marine signature to get washed out of the genetic code," she said. "In fact, when we compared the phages from the pozas to oceanic phages, we found cases where the pozas' phages were more closely related to marine relatives than were some of the phages found in other oceans."

Support for the study was provided by the National Science Foundation, the Area de Proteccion de Flora y Fauna of Cuatro Ciénegas and the University of South Florida's Internal New Research Awards Program. Co-authors include Christelle Desnues, Beltran Rodriguez-Brito, Steven Rayhawk, Scott Kelley, Tuong Tran, Matthew Haynes, Hong Liu, Mike Furlan, Linda Wegley, Betty Chau, Dana Hall, Florent Angly, Robert Edwards, Rebecca Vega Thurber and Forest Rohwer, all of San Diego State University; Yijun Ruan of the Genome Institute of Singapore; Pamela Reid of the University of Miami; Valeria Souza of Universidad Nacional Autónoma de México in Mexico City; David Valentine and Brandon Swan, both of the University of California--Santa Barbara; and Mya Breitbart of the University of South Florida.

Adapted from materials provided by Rice University, via EurekAlert!, a service of AAAS.

http://www.sciencedaily.com/releases/2008/03/080304113608.htm

Soaking Potatoes In Water Before Frying Reduces Acrylamide

ScienceDaily (Mar. 9, 2008) — Good news for chips lovers everywhere -- new research in the journal Science of Food and Agriculture shows that pre-soaking potatoes in water before frying can reduce levels of acrylamide.

Acrylamide is a naturally occurring chemical that occurs when starch rich foods are cooked at high temperatures, such as frying, baking, grilling or roasting.

There has been growing concern that acrylamide -- found in a wide range of foods -- may be harmful to health and may cause cancer in animals.

But the new research by the UK team led by Dr Rachel Burch from Leatherhead Food International found that a simple measure of pre-soaking potatoes before frying can dramatically reduce the formation of acrylamide and may therefore reduce any subsequent risk it may pose.

Dr Rachel Burch said: "There has been much research done by the food industry looking at reducing acrylamide in products but less so on foods cooked at home and we wanted to explore ways of reducing the level of acrylamide in home cooking."

The study found that washing raw French fries, soaking them for 30 minutes and soaking them for 2 hours reduced the formation of acrylamide by up to 23%, 38% and 48% respectively but only if they were fried to a lighter colour. The jury is still out on chips that are fried to a deep, dark brown.

Adapted from materials provided by Society of Chemical Industry, via EurekAlert!, a service of AAAS.

http://www.sciencedaily.com/releases/2008/03/080306075222.htm

More U.S. Teeth Susceptible To Silent Enamel-eating Syndrome

Soft drinks and other acidic foods and drinks can cause dental erosion, which is the steady loss of the teeth's protective enamel. (Credit: iStockphoto/Roman Kobzarev)

ScienceDaily (Mar. 8, 2008) — Cavities or not, your teeth could be in more trouble than you know because of a silent and destructive phenomenon called dental erosion. A faculty member at The University of Texas Health Science Center at San Antonio has found that the incidence of dental erosion, which is the steady loss of the teeth's protective enamel, is on the rise in the United States.

Bennett T. Amaechi, M.S., Ph.D., associate professor of community dentistry at the UT Health Science Center, and colleagues discovered a 30 percent prevalence rate of dental erosion among 10- to 14-year-olds in the United States. Dr. Amaechi led the San Antonio portion of the nation's first population-based, multi-center study of dental erosion. The study, involving 900 middle school students, was conducted in 2004 and 2005 at Indiana University, the University of California at San Francisco and the UT Health Science Center San Antonio.

Dental erosion has not been widely analyzed in the United States. "This study is important because it confirms our suspicions of the high prevalence of dental erosion in this country and, more importantly, brings awareness to dental practitioners and patients of its prevalence, causes, prevention and treatment," Dr. Amaechi said.

He explained that dental erosion is caused by acids found in products that are being more widely consumed than ever in the U.S. These include soft drinks, some fruit juices, sports drinks, herbal teas, beer salts, and the Lucas brand of candy imported from Mexico that is especially popular among children in San Antonio and South Texas.

"When consumed in excess, these products can easily strip the enamel from the teeth, leaving the teeth more brittle and sensitive to pain," Dr. Amaechi said. "The acids in these products can be so corrosive that not even cavity-causing bacteria can survive when exposed to them."

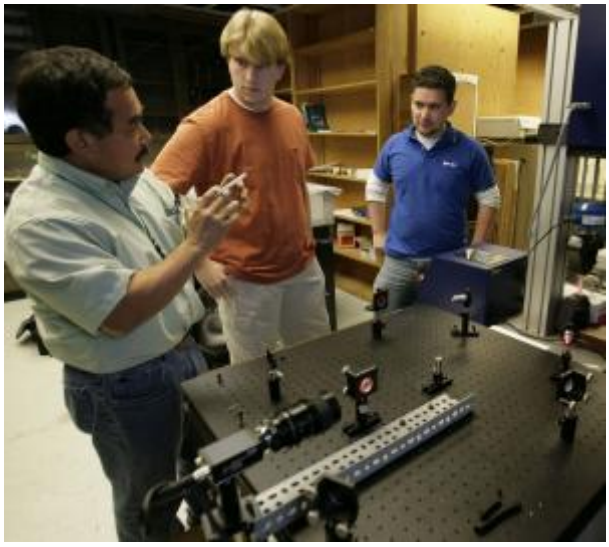
Dr. Amaechi said some medications including aspirin, when taken regularly, have erosive potential. Some underlying medical conditions such as acid reflux disease or disorders associated with chronic vomiting, including bulimia, also can cause dental erosion because of the gastric acids that are regurgitated into the mouth.

"It is important for dental practitioners to identify dental erosion and its causes before it is too late," Dr. Amaechi said. "Because dental erosion creates a smooth and shiny appearance of the enamel and causes no pain or sensitivity in its early stages, most patients are not aware that they are suffering from the condition until the problem becomes severe. Therefore, the responsibility of early detection and treatment falls on the professionals."

Adapted from materials provided by University of Texas Health Science Center at San Antonio.

http://www.sciencedaily.com:80/releases/2008/03/080305201926.htm

Weaknesses In Structures -- From Massive Bridges To Nanotechnology -- Identified With New Gadget



From left, Southeastern Louisiana University physicist Sanchiro Yoshida explains points about his patented deformation detection instrument to student assistants Christopher W. Schneider and John A. Gaffney. The instrument, Southeastern's first patent, helps detect structural weaknesses in various materials. (Credit: Randy Bergeron, Southeastern Louisiana University)

ScienceDaily (Mar. 8, 2008) — A patent has been awarded to Southeastern Louisiana University through one of its faculty that holds the potential to identify weaknesses in structures ranging from massive bridge construction to the tiniest elements of nanotechnology no larger than a speck of dust on a pinhead.

The patent is for a deformation prediction instrument developed by physicist Sanichiro Yoshida. The instrument uses the technology of optical interferometry to make precise measurements that identify weak spots in a wide range of materials, including metals, plastics and other products.

Interferometry uses multiple light paths -- typically two -- from a common source, in this case a laser. The light paths allow the operator to exactly measure the difference in the path lengths when the light waves hit an object. The light waves – measuring less than one micron or one millionth of a meter – intersect on the material under study, are carefully measured and compared by the interferometer. This determines displacements of all points on the object, and through analysis of the pattern of the displacements, reveals a point of weakness in the material.

Yoshida, who has been working with light and lasers since 1983 and optical interferometry since 1994, developed the mathematical procedure that determines the actual displacement from the interferometric images. He also has a second patent pending on a related development.

“This approach allows us to be able to predict where and when fractures may occur by determining the weak spot and the remaining intact life of the material,” Yoshida explained. “This has significant applications in engineering and construction technology where we could possibly do the measurements from a distance or using portable equipment.

“It also seems to work well with very small items, such as what we see in nanotechnology,” he added. “It is very hard to predict failure in small objects because the dynamics of the structures are very different, but this device seems to work with this.”

Yoshida, who also serves as a scientist at Livingston’s (LA) Laser Interferometer Gravitational Wave Observatory where researchers are probing Einstein’s theory of gravitational fluctuations, is currently trying to develop a partnership with a software firm as the next step in further developing and perfecting

the instrument. In addition, he will be working this summer under an agreement with Pennsylvania State University on the nanotechnology aspect that will also allow the institutions to exchange students and faculty.

Before the break up of the Soviet Union, Yoshida worked in Siberia with Russian scientists, whom he says developed the theory his invention is based upon. The Russian scientists were using satellite technology to measure small changes in the earth's crust as a way of possibly predicting earthquakes. Yoshida took that theory, introduced optical interferometry, and worked to make the theory a practical tool in modern applications.

Five undergraduate students work with Yoshida in his laboratory, carrying out various experiments under his direction. Two of those students, Christopher W. Schneider of Ponchatoula and John A. Gaffney of San Pedro Sula, Honduras, will present papers on their work at the American Physical Society's annual meeting in New Orleans in March. Preliminary experiments conducted three years ago on the first version of the optical interferometer by Rashmi Manjegowda, a former Southeastern student from India helped Yoshida confirm the validity of the patented technology.

Adapted from materials provided by Southeastern Louisiana University.

http://www.sciencedaily.com/releases/2008/03/080304153747.htm

Text Generation Gap: U R 2 Old (JK)

By LAURA M. HOLSON

AS president of the Walt Disney Company's children's book and magazine publishing unit, Russell Hampton knows a thing or two about teenagers. Or he thought as much until he was driving his 14-year-old daughter, Katie, and two friends to a play last year in Los Angeles.

"Katie and her friends were sitting in the back seat talking to each other about some movie star; I think it was Orlando Bloom," recalled Mr. Hampton, whose company produced the "Pirates of the Caribbean" movies, in which the actor starred. "I made some comment about him, I don't remember exactly what, but I got the typical teenager guttural sigh and Katie rolled her eyes at me as if to say, 'Oh Dad, you are so out of it.' "

After that, the back-seat chattering stopped. When Mr. Hampton looked into his rearview mirror he saw his daughter sending a text message on her cellphone. "Katie, you shouldn't be texting all the time," Mr. Hampton recalled telling her. "Your friends are there. It's rude." Katie rolled her eyes again.

"But, Dad, we're texting each other," she replied with a harrumph. "I don't want you to hear what I'm saying."

Chastened, Mr. Hampton turned his attention back to the freeway. It's a common scene these days, one playing out in cars, kitchens and bedrooms across the country.

Children increasingly rely on personal technological devices like cellphones to define themselves and create social circles apart from their families, changing the way they communicate with their parents.

Innovation, of course, has always spurred broad societal changes. As telephones became ubiquitous in the last century, users — adults and teenagers alike — found a form of privacy and easy communication unknown to Alexander Graham Bell or his daughters.

The automobile ultimately shuttled in an era when teenagers could go on dates far from watchful chaperones. And the computer, along with the Internet, has given even very young children virtual lives distinctly separate from those of their parents and siblings.

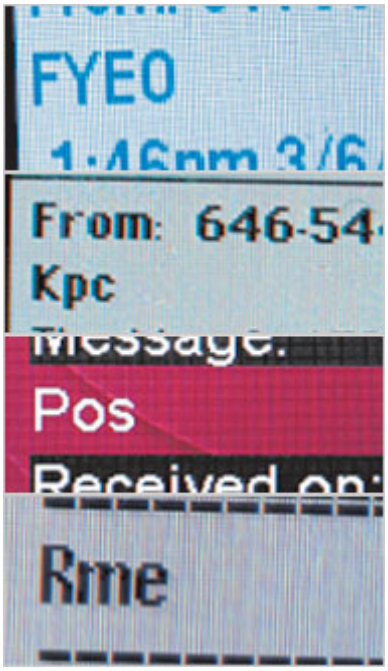
Business analysts and other researchers expect the popularity of the cellphone — along with the mobility and intimacy it affords — to further exploit and accelerate these trends. By 2010, 81 percent of Americans ages 5 to 24 will own a cellphone, up from 53 percent in 2005, according to IDC, a research company in Framingham, Mass., that tracks technology and consumer research.

Social psychologists like Sherry Turkle, a professor at the Massachusetts Institute of Technology who has studied the social impact of mobile communications, say these trends are likely to continue as cellphones morph into mini hand-held computers, social networking devices and pint-size movie screens.

"For kids it has become an identity-shaping and psyche-changing object," Ms. Turkle said. "No one creates a new technology really understanding how it will be used or how it can change a society."

Marketers and cellphone makers are only too happy to fill the newest generation gap. Last fall, Firefly Mobile introduced the glowPhone for the preschool set; it has a small keypad with two speed-dial buttons depicting an image of a mother and a father. AT&T promotes its wireless service with television commercials poking fun at a mom who doesn't understand her daughter's cellphone vernacular. Indeed, IDC says revenue from services and products sold to young consumers or their parents is expected to grow to $29 billion in 2010, up from $21 billion in 2005.

So far, parents' ability to reach their children whenever they want affords families more pluses than minuses. Mr. Hampton, who is divorced, says it is easy to reach Katie even though they live in different time zones. And college students who are pressed for time, like Ben Blanton, a freshman who plays baseball at Vanderbilt University in Nashville, can text their parents when it suits them, asking them to run errands or just saying hello.



"Texting is in between calling and sending and e-mail," he explained while taking a break from study hall. Now he won't even consider writing a letter to his mother, Jan. "It's too time consuming," he said. "You have to go to the post office. Instead, I can sit and watch television and send a text, which is the same thing."

But as with any cultural shift involving parents and children — the birth of rock 'n' roll or the sexual revolution of the 1960s, for example — various gulfs emerge. Baby boomers who warned decades ago that their out-of-touch parents couldn't be trusted now sometimes find themselves raising children who — thanks to the Internet and the cellphone — consider Mom and Dad to be clueless, too.

Cellphones, instant messaging, e-mail and the like have encouraged younger users to create their own inventive, quirky and very private written language. That has given them the opportunity to essentially hide in plain sight. They are more connected than ever, but also far more independent.

In some cases, they may even become more alienated from those closest to them, said Anita Gurian, a clinical psychologist and executive editor of AboutOurKids.org, a Web site of the Child Study Center at New York University.

"Cellphones demand parental involvement of a different kind," she said. "Kids can do a lot of things in front of their parents without them knowing."

TO be sure, parents have always been concerned about their children's well-being, independence and comportment — and the rise of the cellphone offers just the latest twist in that dynamic. However it all

unfolds, it has helped prompt communications companies to educate parents about how better to be in touch with their children.

In a survey released 18 months ago, AT&T found that among 1,175 parents the company interviewed, nearly half learned how to text-message from their children. More than 60 percent of parents agreed that it helped them communicate, but that sometimes children didn't want to hear their voice at all. When asked if their children wanted a call or a text message requesting that they be home by curfew, for instance, 58 percent of parents said their children preferred a text.

"Just because you can reach them doesn't mean they have to answer," said Amanda Lenhart, a senior research specialist at the Pew Internet & American Life Project, which is studying the impact of technology on adolescents. "Cellphones give teens more of a private life. Their parents aren't privy to all of their conversations."

Text messaging, in particular, has perhaps become this generation's version of pig Latin. For dumbfounded parents, AT&T now offers a tutorial that decodes acronyms meant to keep parents at bay. "Teens may use text language to keep parents in the dark about their conversations by making their comments indecipherable," the tutorial states. Some acronyms meant to alert children to prying eyes are POS ("parent over shoulder"), PRW ("parents are watching") and KPC ("keeping parents clueless").

SAVANNAH PENCE, 15, says she wants to be in touch with her parents — but also wants to keep them at arm's length. She says her father, John, made sure that she and her 19-year-old brother, Alex, waited until high school before they got cellphones, unlike friends who had them by fifth grade. And while Savannah described her relationship with her parents as close, she still prefers her space.

"I don't text that much in front of my parents because they read them," she said. And when her parents ask who is on the phone? "I just say, 'People.' They don't ask anymore."

At first, John Pence, who owns a restaurant in Portland, Ore., was unsure about how to relate to his daughter. "I didn't know how to communicate with her," Mr. Pence said. "I had to learn." So he took a crash course in text messaging — from Savannah. But so far he knows how to quickly type only a few words or phrases: Where are you? Why haven't you called me? When are you coming home?

When his daughter asks a question, he typically has one response. " 'OK' is the answer to everything," he said. "And I haven't used a question mark yet." He said he had to learn how to text because his daughter did not return his calls. "I don't leave a message," he said, "because she knows it's me."

Savannah said she sends a text message to her father at least two or three times a day. "I can't ask him questions because he is too slow," she said. "He uses simple words." On the other hand, her mother, Caprial, is more proficient at texting and will ask how her day was at school or how her friends are doing. (Her mom owed her more facile texting skills to being an agile typist with small hands.)

Early on, Savannah's parents agreed that they had to set rules. First, they banned cellphone use at the dinner table and, later, when the family watched television together, because Mr. Pence worried about the distraction. "They become unaware of your presence," he said.

Mr. Pence is well aware of how destabilizing cellphones, iPods and hand-held video game players can be to family relations. "I see kids text under the table at the restaurant," he said. "They don't teach them etiquette anymore." Some children, he said, watch videos in restaurants.

"They don't know that's the time to carry on a conversation," he said. "I would like to walk up to some tables and say, 'Kids, put your iPods and your cellphones away and talk to your parents.' "

But even he has found that enforcing rules is harder than might be expected. He now permits Savannah to send text messages while watching TV, after he noticed her using a blanket over her lap to hide that she was sending messages to friends. "I could have them in the same room texting, or I wouldn't let them text

and they would leave," said Mr. Pence of his children. "They are good kids, but you want to know what they are up to."

Other families face similar challenges.

In 1999, Marie Gallick got a family plan for her and her three children and found that each of them had a different approach to cellphone use. One of Ms. Gallick's sons likes to talk, she said, while her other son, Brandon, who lives near her home in Raritan, N.J., preferred to text. How much they communicated with her, she said, depended on their mood. And she found she had to be careful about what she said and how.

"There is emotion behind it," she said. Once, one of her sons didn't answer his cellphone when she called, so she sent him a text saying, "NICE OF YOU TO TURN ON YOUR PHONE."

"They thought I was mad," she said. Ms. Gallick did not understand that using capital letters was the same as yelling. (She said she had the same problem when she began using e-mail, which, perhaps, makes her problem as much about adapting to digital shifts as it is about communicating with children.)

Brenda Ng, vice president for consumer insights at T-Mobile, the cellular provider, said her company's studies show that while cellphone use can cause division, it, too, is "the glue" that cements relationships. "It may seem mundane, but they keep people together," Ms. Ng said.

Consider this: Brandon Gallick, who is 23, recalled a night last year when he was driving home on a country road near Hillsborough, N.J., and a large donkey ran in front of his car. He couldn't wait to get home to call his mother. "I had to text my mom right away," he said, noting he sent text messages to friends, too. "I wanted to tell her about it because it was so funny. We don't see many donkeys in New Jersey."

Ms. Gallick appreciated the message. "I like it when he does that," she said. "It makes me feel special." But again, the unintended consequence was more miscommunication for her.

"It took five texts before I thought he really meant it," she said. "What I find is that you have to text each other more to understand each other than if you just picked up the phone. You are constantly asking, 'What did you mean?' It is a form of alienation but at the same time it is keeping us in contact."

In fact, texting appears to be easier than talking for some cellphone users, providing yet another distraction for them inside their cars. Mr. Blanton at Vanderbilt, like many of his peers, texts his mother and friends even when both of his hands should be on the steering wheel.

"I can text without looking at the phone," he said. "It's definitely not safe. Sometimes I'll look up and I don't remember where I've been driving."

MS. TURKLE, the M.I.T. professor, says cellphones offer another way for the Facebook generation to share every life experience the second it unfolds.

"There is a slippage from 'I have a feeling I want to make a call' to 'I need to make a call,' " she said. "You don't get to have a feeling before sharing that feeling anymore."

Ms. Turkle recalled a vacation with her daughter in Paris, where she hoped to immerse her in the local culture and cuisine. "Part of the idea of Paris is being in Paris," Ms. Turkle said. But during an afternoon stroll, her daughter received several calls and text messages on her cellphone from friends back in Boston. Her daughter, she said, felt compelled to return every one.

When Ms. Turkle asked why she didn't turn off her cellphone and enjoy the city, she said her daughter replied, "I feel more comfortable talking with my friends." But her daughter's friends didn't even really want to talk. "They just want to know where you are," Ms. Turkle said. "It's a new sensibility."

It is a new sensibility on many fronts. Jan Blanton said her relationship with her son, Ben, is closer because cellphones make reaching out so simple. And that has caused her to reflect on her relationship with her own parents.

In the early 1980s, when she left home to attend college, Ms. Blanton said, her relationship with her parents was frayed. “We didn’t have open communication,” she said. “I wasn’t close to them. Maybe once a week I’d call. My parents were happy when we were out of the house.”

Ms. Blanton wonders if things might have been different if they had text messaging back then. Her son now sends frequent text messages to his grandfather, discussing baseball and fishing. “I can write better than I talk,” said Ms. Blanton, whose relationship with her parents is now close. “I think we would have had a better experience.”

It is likely that in just a few years, younger members of the digerati will consider cellphones like those the Blantons are using to be relics. While many consumers have become fashion-conscious about the latest in technological devices, analysts say that young children and teenagers are particularly so and more likely than their parents to continually gravitate to something new.

Mr. Hampton said his daughter Katie recently asked for a BlackBerry so she could better send e-mail to her friends and have unfettered access to the Internet.

“I said no,” he recalled. “It’s not necessary.”

But then again, Mr. Hampton said, he may change his mind. “No one is teaching kids how to use these things,” he said. “But in fairness, adults don’t know how to use them, either.”

http://www.nytimes.com/2008/03/09/business/09cell.html?_r=1&th&emc=th&oref=slogin

The Taste of Nothing, the Smell of Mars

By AMY SERAFIN

PARIS

EVEN an artist who likes to fool around with spatiotemporal dimensions can get stressed out by a deadline. Last month technicians were working day and night to prepare for the opening of Loris Gréaud's "Cellar Door" project at the Palais de Tokyo in Paris, but Mr. Gréaud was visibly anxious that it would not be ready on time.

The strain was understandable. Mr. Gréaud, barely 29, is the first artist to take over all 40,000 square feet of this prestigious contemporary-art center. He has devoted two years to the realization of his exhibition, and the budget for the project has turned out to be double what any other show there has cost.

The director, Marc-Olivier Wahler, admitted it was an "all or nothing gamble" to give carte blanche to such a young and relatively inexperienced artist. Yet when the two started planning the undertaking, Mr. Wahler said, "it became clear that his project was so large and encompassed so many different systems, he had to have the whole space." (Mr. Gréaud, his gallery and the filmmaker Claude Berri, who bought an artwork, helped defray the costs.)

What Mr. Gréaud has done with it is both enchanting and mind-blowingly conceptual. Like Alice down the rabbit hole, visitors enter through a black door that glides open automatically as they approach. Once inside they wander through the artist's strange, dark universe, divided into various attractions called bubbles.

A vending machine sells candies that taste like nothing. A passage leads under a crumpled resin ceiling that was molded from the earth after a subterranean fireworks explosion — as Mr. Gréaud explained, a "celebration and manifestation of underground activity." A steel-and-mesh structure reveals paintball warriors shooting at one another with pellets in the patented blue developed by the artist Yves Klein as the color of the immaterial.

Yet in a reflection of Mr. Gréaud's artistic process, the work will change as it travels to other locations. It will remain at the Palais de Tokyo through April 27 and reappear in totally different forms at the Institute of Contemporary Arts in London, the Yvon Lambert gallery in New York, San Francisco's CCA Wattis Institute and the gallery of Michael Benevento in Los Angeles.

As with all of Mr. Gréaud's work, "Cellar Door" isn't limited to one place or time, nor to the conventions of a typical museum exhibition. It boomerangs across disciplines, locations, time periods, even between reality and the immaterial. "I like creating beautiful stories that connect to make something vast, going beyond the public's understanding or even mine," he said. He refers to his process as an "empirical machine," a production chain involving architects, musicians, engineers and historians and spanning fields as diverse as quantum mechanics and neurology. Comparing himself to an orchestra conductor, he guides each project while letting it take on a life of its own.

In "Cellar Door" a forest of tree sculptures coated in gunpowder leads to a clearing where a film projector shuts down the moment a viewer arrives. Air currents blow down from the ceiling in the configuration of walls to create a phantom apartment, and plastic bottles release the imagined smell of Mars.

Elsewhere, in an empty viewing room, a screen shows meaningless forms in faded colors — what Mr. Gréaud calls a "story that doesn't reveal itself" — shot on super-16-millimeter film he discovered in the basement of the Palais de Tokyo (formerly a cinémathèque) and then used to make a scripted movie without telling the actors or crew that the film stock had expired. (Hence the abstract masses.) "Everyone was mad at me," he admitted sheepishly. "But if I had told them beforehand, nobody would have played along."

The exhibition space is filled with sound, from the pop of paintball guns to static that seems to come from the great beyond. For six hours a day the sound, light and video effects are controlled by a technician in a central command booth. When the technician is off duty, the exhibit is on standby, with everything turned off, a state Mr. Gréaud compares to a slumped marionette. "This is when the exhibit will be strongest, when the visitors can imagine what goes on," he said optimistically. "It's a paradise of conceptual art."

The Palais de Tokyo exhibition is only one of three parts that make up "Cellar Door." Mr. Gréaud commissioned an original opera score and libretto that were recorded by the Orchestre Philharmonique de Radio France. The work is also titled "Cellar Door," a word combination that J. R. R. Tolkien once singled out as a particularly beautiful phrase. A fantastical tale, the story of a studio without a door, the opera aims to be a musical representation of the exhibition, opening it up to infinite future permutations.

Part 3 is in principle a 4,000-square-foot building Mr. Gréaud is having constructed outside Paris where he will live and work. (It will be closed to the public.) He explains that the "Cellar Door" project — exhibition and opera — is ultimately all about an artist's studio, or what he calls a "dreaming factory." Thus he has reversed the usual chain of events, going from an exhibition to the birth of an atelier.

"What interests me is to take an idea to its conclusion," he said, "that it doesn't remain a utopia, but crashes into the real world."

Like his work Mr. Gréaud's own career path has been anything but linear. Born in 1979 in Eaubonne, a middle-class town on the outskirts of Paris, he chafed at authority and couldn't adapt to the formal school system. He studied flute at a national music conservatory until he was expelled at 14 for forming a studio of "musical unlearning" after hearing the compositions of John Cage. Then he discovered experimental cinema and received a graphic arts degree, sponging up the influences of Lewis Carroll, Marcel Duchamp, Buckminster Fuller, Stan Brakhage, William S. Burroughs and David Lynch.

Since his first exhibition in 2002 he has managed a cometlike ascent with his enigmatic productions: cross-fading sound frequencies to put listeners to sleep, towing an ominous black sculpture around Paris in fleeting appearances, reproducing the vibrations of the Big Bang.

Mark Sladen, director of exhibitions at the Institute of Contemporary Arts, said the "element of instability" is what intrigues him, the way Mr. Gréaud's projects "move between rumor and fact." Mark Alizart, adjunct director of the Palais de Tokyo, said the artist "sculptures the immaterial."

It can certainly seem that way. In 2006 the Frieze Art Fair in London invited Mr. Gréaud to create something, and he responded with 10 nanosculptures developed in cooperation with France's National

Center for Scientific Research. He says each was 100 times smaller than half a hair and visible only through an electron microscope — which was not provided — prompting The Guardian newspaper to tease, "How much for the invisible sculpture?" Yet they all sold, and Mr. Gréaud mused that he should have made more.

It's the type of work that strives to blur the limits of reality, or at least adjust the viewer's perspective. He hopes to mass-market Celador, his colorful candy bereft of flavor. "A taste of illusion," its striped package reads, trumpeting the imagined pleasures of a product stripped of its intrinsic properties.

It's both a comment on modern consumption and a reflection of Duchamp's belief that the viewer finishes the work of art. The gummy little bonbons are so bland they're offensive. Nonetheless the Palais de Tokyo's vending machines keep selling out.

http://www.nytimes.com/2008/03/09/arts/design/09sera.html?ref=design

'COLOR AS FIELD'
Weightless Color, Floating Free

By ROBERTA SMITH

WASHINGTON — Starting in the late 1950s the great American art critic Clement Greenberg only had eyes for Color Field painting. This was the lighter-than-air abstract style, with its emphasis on stain painting and visual gorgeousness introduced by Helen Frankenthaler followed by Morris Louis, Kenneth Noland and Jules Olitski.

With the insistent support of Greenberg and his acolytes, Color Field soared as the next big, historically inevitable thing after Jackson Pollock. Then over the course of the 1970s it crashed and burned and dropped from sight. Pop and Minimal Art, which Greenberg disparaged, had more diverse critical support and greater influence on younger artists. Then Post-Minimalism came along, exploding any notion of art's neatly linear progression.

Now Color Field painting — or as Greenberg preferred to call it, Post-Painterly Abstraction — is being reconsidered in a big way in "Color as Field: American Painting, 1950-1975," a timely, provocative — if far from perfect — exhibition at the Smithsonian American Art Museum here. It has been organized by the American Federation of Arts and selected by the independent curator and critic Karen Wilkin. She and Carl Belz, former director of the Rose Art Museum at Brandeis University, have written essays for the catalog.

It is wonderful to see some of this work float free of the Greenbergian claims for greatness and inevitability (loyally retraced by Ms. Wilkin in her essay), and float it does, at least the best of it. The exhibition begins with the vista of Mr. Olitski's buoyant, goofily sexy "Cleopatra Flesh" of 1962, looming at the end of a long hallway. The work sums up the fantastic soft power that these artists could elicit from brilliant color, scale and judicious amounts of pristine raw canvas. A huge blue motherly curve nearly encircles a large black planet while luring a smaller red planet into the fold, calling to mind an abstracted stuffed toy.

It is a perfect, exhilarating example of what Mr. Belz calls "one-shot painting" and likens to jazz improvisation. Basic to the thrill is our understanding that the stain painting technique involved a few rapid skilled but unrehearsed gestures, and that raw canvas offered no chance for revision. "Cleopatra's Flesh" is an act of joyful derring-do.

The "one-shot painting" stain technique of color field was the innovation of Helen Frankenthaler, first accomplished in "Mountains and Sea," made in 1952, when she was 24 and unknown. (It is not in this exhibition, but the method is conveyed by her 1957 "Seven Types of Ambiguity," with its great gray splashes punctuated by peninsulas of red, yellow and blue.) The technique negotiated a common ground between Pollock's heroic no-brush drip style and the expanses of saturated color favored especially by Barnett Newman and Mark Rothko.

In Greenberg's eyes the torch of Abstract Expressionism (the cornerstone of his power as a critic) was being carried forward by Ms. Frankenthaler's spirited reformulation, followed by Mr. Louis's languid pours; Mr. Noland's radiant targets; Mr. Olitski's carefully controlled stains and (later) diaphanous sprayed surfaces. And this continuity confirmed the central premise of Greenbergian formalism: that all modern art mediums would be meekly reduced to their essences; for painting that meant abstractness, flatness and weightless color. As you can imagine, that didn't leave anyone, not even the anointed few, with much to do.

Revisionist this show is not. Its 38 canvases represent 17 painters, including a selection of works by Abstract Expressionist precursors titled "Origins of Color Field." The elders tend to look as light and jazzy as their juniors; Adolph Gottlieb, Hans Hoffman and Robert Motherwell, all present, were ultimately as much a part of Color Field as Abstract Expressionism. But even Newman's "Horizontal Light" of 1949 seems undeniably flashy; its field of dark red is split by a narrow aqua band, called a zip,

that seems to speed across the canvas. Rothko's 1951 "Number 18," with its shifting borders and cloud-squares of white, red and pink, has a cheerful, scintillating forthrightness.

This forthrightness expands into dazzling instantaneousness in the works of Ms. Frankenthaler and Mr. Louis, where it sometimes seems that the paint is still wet and seeping into the canvas. Ms. Frankenthaler's high-wire act is especially evident in the jagged pools and terraces of color in the aptly titled "Flood" and in "Interior Landscape," which centers on a single, exuberant splash. Mr. Louis manages a similar tension while seeming completely relaxed. In "Floral V," where an inky black washes like a wave over a bouquet of brilliantly colored plumes, he achieves a silent grandeur, like a Frankenthaler with the sound off.

After the Frankenthaler and Louis works, this show dwindles into a subdued free-for-all, as most artists settle into more predetermined ways of working. Often big scale and simple composition add up to emptiness, especially when the signs of derring-do recede. Both Mr. Olitski and especially Mr. Noland are poorly represented. In Mr. Noland's square "Space Jog," Newman's zips run perpendicular to one another, forming a pastel plaid on a sprayed ground of sky blue, like a Mondrian bed sheet.

Jack Bush and Frank Stella make stronger impressions; they too subject the staining technique to geometric form. In his rambunctious "Moultonville II" Mr. Stella, to whose work Greenberg never really warmed, adds the further complication of a shaped canvas, creating a sculptural effect that clashed with the theory of flatness. Ms. Wilkin has rightly included Sam Gilliam, who eventually pushed stain painting into installation art, and the stripemeister Gene Davis.

The strongest presence in the remainder of the show is Larry Poons, whose three paintings (from 1963, '69 and '72) outline his progress from optical dots on monochrome fields to torrential pours of paint that tosses stain-painting delicacy to the winds and parodying both Pollock's and Ms. Frankenthaler's finesse. In the 1980s Mr. Poons's cottony paintings began to trash Greenbergian theories of flatness and weightless color with undisguised glee. It is time for someone, Ms. Wilkin perhaps, to organize a Poons retrospective.

One problem with Greenberg may have been a lack of humor. He didn't appreciate that if, as he said, Abstract Expressionism was Baroque, then Color Field might be Rococo: beautiful, frivolous and even comedic. Color Field shares its insouciance with Pop Art, its declarative use of materials with Minimalism and its high-key artificial palette with both. It even has links to Process Art in the work of early adapters like Alan Shields and has become a trope for so-called post-Modernists like Monique Prieto, Rudolf Stingel and Kelley Walker.

But given Color Field painting's long neglect, a time capsule is in itself a new look, and Ms. Wilkin's retelling has some new twists. Take for example her account of the legendary visit, orchestrated by Greenberg, that Mr. Louis and Mr. Noland made to Ms. Frankenthaler's studio to see "Mountains and Sea" during their 1953 visit to New York from Washington. Ms. Wilkin writes in passing that the visit occurred in Ms. Frankenthaler's absence, which completely reframes this pivotal event. Color Field was arguably the first major art movement initiated by a woman, and that woman was not present, in her own studio, to watch the wheels start turning in the heads of two male artists who, let's face it, were competitors?

Sometimes a critic's enthusiasm can do as much harm as good, especially when the critic has a blinkered take on the art of his time. The Icarus-like flight Greenberg took with Color Field was damaging to both parties and became a cautionary tale for art critics. New art is an unmanageable beast. If you think you have its reins in your grip, you will surely be unseated. Better to remain on your own two feet, ever alert to the inevitability of surprise and of betrayal, not the least by your own aesthetic responses.

"Color as Field: American Painting, 1950-1975" is at the Smithsonian American Art Museum, Eighth and F Streets, NW, Washington, (202) 633-7970, through May 26.

http://www.nytimes.com/2008/03/07/arts/design/07colo.html?ref=design

Psychotherapy for All: An Experiment

By DAVID KOHN

SIOLIM, India — At the faded one-story medical clinic in this fishing and farming village, people with depression and anxiety typically got little or no attention. Busy doctors and nurses focused on physical ailments — children with diarrhea, laborers with injuries, old people with heart trouble. Patients, fearful of the stigma connected to mental illness, were reluctant to bring up emotional problems.

Last year, two new workers arrived. Their sole task was to identify and treat patients suffering depression and anxiety. The workers found themselves busy. Almost every day, several new patients appeared. Depressed and anxious people now make up "a sizable crowd" at the clinic, said the doctor in charge, Anil Umraskar.

The patients talk about all sorts of troubles. "Financial difficulties are there," said one of the new counselors, Medha Upadhye, 29. "Interpersonal conflicts are there. Unemployment. Alcoholism is a major problem."

The clinic is at the forefront of a program that has the potential to transform mental health treatment in the developing world. Instead of doctors, the program trains laypeople to identify and treat depression and anxiety and sends them to six community health clinics in Goa, in western India.

Depression and anxiety have long been seen as Western afflictions, diseases of the affluent. But new studies find that they are just as common in poor countries, with rates up to 20 percent in a given year.

Researchers say that even in places with very poor people, the ailments require urgent attention. Severe depression can be as disabling as physical diseases like malaria, the researchers say, and can have serious economic effects. If a subsistence farmer is so depressed that he cannot get out of bed, neither he nor his children are likely to eat.

In India, as in much of the developing world, depression and anxiety are rarely diagnosed or treated. With a population of more than one billion, India has fewer than 4,000 psychiatrists, one-tenth the United States total. Because most psychiatrists are clustered in a few urban areas, the problem is much worse elsewhere.

As a result, most Indians with mental illness go untreated, especially in poor and rural areas. "There is a huge treatment gap for people with depression," said Dr. Vikram Patel of the London School of Hygiene and Tropical Medicine, the psychiatrist who began the Siolim project. "In most places in the developing world, 80 percent to 90 percent of people with severe depression don't receive adequate treatment."

For India, adding thousands of psychiatrists would take large sums of money and years of effort, resources unavailable to a developing country with many other health problems besides mental illness. By contrast, Dr. Patel's strategy costs relatively little and does not require legions of doctors.

"It's a really interesting, exciting thing he's doing," said Dr. Greg E. Simon, a researcher at the Center for Health Studies in Seattle.

Dr. Simon, a psychiatrist who studies mental health in the developing world, said the Goa strategy grew from a crucial idea. Unlike, say, heart disease and stroke, which can require expensive interventions, depression is relatively simple to diagnose and treat. Many studies have shown that talk therapy and antidepressants lead to significant improvement in most patients.

"The fundamentals of helping people with depression are pretty low tech," Dr. Simon said. "The core resource is humans," people who can identify patients and offer treatments.

The Goa program, financed by the Wellcome Trust, is not the first using nonmedical workers to treat mental illness, but it is the largest. Almost 2,000 patients have been treated. Dr. Patel is conducting a randomized clinical trial to see whether the strategy works, the first time such a careful study has been run in the developing world.

If the research, which will finish in 2010, reports positive results, donors and governments are more likely to try it elsewhere in India and the world, Dr. Patel said, adding: "This is the most important question in psychiatry. How do we scale up treatments to a population in a low-resource setting?"

"If you rolled this program out across India," Dr. Simon said, "you'd be doing some good for a fifth of the world's population."

Dr. Patel, 43, grew up in Bombay, now Mumbai, and wanted to be a caterer. His middle-class parents insisted on a more respectable career. He went to medical school.

After completing training, he spent two years in Zimbabwe as a researcher. He hoped to prove that Western concepts of mental illness did not apply in the developing world. Instead, he came to the opposite conclusion, that the ailments were in fact just as common and just as treatable as in the West.

He now splits his time between London and Goa, where he runs a social welfare organization, Sangath, which means partnership in Hindi.

Known in the West for its beautiful beaches, Goa is relatively wealthy by Indian standards. But most of its three million residents earn a few dollars a day, not enough to afford much medical care. Public health officials say that poverty can lead to alcoholism, domestic abuse and stress, all contributors to depression and anxiety.

At government clinics like the one here, overworked doctors lack time and inclination to ask patients about mental health. Even clinicians who look for depression may miss it. For reasons that no one fully

understands, depressed patients in the developing world often complain of physical symptoms like fatigue, headache and insomnia rather than emotional problems like sadness or regret.

As a result, Dr. Patel said, depressed patients in Goa may receive unnecessary and expensive treatments that fail to address the underlying problem. For all those reasons, he said, most depression and anxiety remains undiagnosed. But they are common. A survey by Dr. Patel found that one in three adults seeking care at public health clinics in Goa were depressed or anxious. Dr. Neerja Chowdhury, a psychiatrist at Sangath who is helping manage the project, said, "That might be an underrepresentation."

The program began in 2005, hiring 12 recent high school or college graduates who lacked medical backgrounds. Six "health assistants" received a week of training, and six "health counselors" had three months of training. The workers — paid the equivalent of $100 to $200 a month, significantly less than Indian psychiatrists — were sent to the six clinics.

Five days a week, the assistants screen almost every patient who arrives at the door. Pregnant women, minors and emergency cases are excluded. The screening is created for the program. It includes questions about physical symptoms, as well as emotional problems.

A patient meeting the criteria for mental illness is immediately sent to the health counselor, who provides a straightforward explanation of depression and anxiety and offers a range of treatments like talk therapy, yoga and, in conjunction with a doctor, antidepressant medication. Patients return every few weeks for follow-ups.

The screening and first consultation typically take a half-hour. In the old system, the few patients with diagnoses of depression were referred to a psychiatrist at one of two state mental hospitals. Dr. Patel said many patients failed to show up for appointments because they could not afford to take time from work or pay for transportation.

Most are also apparently wary of visiting a mental hospital. In India, the stigma of mental illness remains strong. To minimize the problem, health workers avoid using the words "mental illness," "depression" or "anxiety" with patients, relying on more commonly used words like "strain" and "tension."

The patients "are happy to talk," Dr. Sudipto Chatterjee, a psychiatrist at Sangath, said, "as long as you stay away from the idea of mental illness."

Dr. Chatterjee helped draw up the program and oversees the screeners and counselors. He said they not only diagnosed as well as doctors but were generally better listeners, partly because they have more time.

Psychiatrists usually "have five minutes to see a patient," Dr. Chatterjee said.

In a society where many people have no place to share their worries, the effects of therapy can be striking. On a recent Saturday morning at the Siolim clinic, Ms. Upadhye, the health counselor, sat in her closet-size plywood-wall office, trying to stay cool under a negligible breeze from a tiny plastic fan, when a psychiatric patient arrived for a return visit.

A housemaid in her 50s who wore large glasses, bright bangles on her wrists and a light blue sari, the patient had originally reported physical problems like headache, insomnia and pains but had been given a diagnosis of depression. As Ms. Upadhye listened, the woman let loose a flood of words.

Speaking in Konkani, the predominant Goan language, she told the counselor that she was not getting along with her four children, especially her son, who had recently beaten her up in a drunken rage. She said she had no one to talk to. Holding tightly to her handkerchief, she began to cry.

Within minutes, she began to relax. Her expression loosened.

"I feel better when I tell my problems to somebody else," she said.

Ms. Upadhye ended by reminding the woman to keep taking her antidepressant medicine and to check in regularly.

After the session, Ms. Upadhye reflected that just listening to her patients made a big difference.

"I feel like I'm doing something, just giving them time to ventilate," she said. "They can tell their problems, they can share their feelings."

http://www.nytimes.com/2008/03/11/health/11psych.html?_r=1&nl=8hlth&emc=hltha1&oref=slogin

Reminder to Smokers: Your Lungs Are Aging

By NICHOLAS BAKALAR

A simple discussion of lung capacity appears to double the rate patients follow a doctor's advice to quit smoking.

A study published online March 7 in the British journal BMJ suggests that if a doctor tells smokers their "lung age" — the age of the average healthy nonsmoker who would match them in breathing strength — they are more likely to stop smoking.

Using a spirometer, a device that measures how fast and how much air a person can breathe, British doctors tested 561 smokers, men and women with an average age of 53.

Half were randomly assigned to receive their results as lung age, explained with a chart showing lung capacity as it normally decreases with age. The other half were told the amount of air in liters they could force out in one second and were to return in a year "to see if there has been any change in lung function."

The subjects with readings that suggested a medical problem were referred to their physicians.

Regardless of the results, all participants were advised to quit smoking, informed about government programs to stop smoking and told that the test of lung function did not show anything about other serious diseases that smoking causes.

Twelve months later, the scientists tested participants for carbon monoxide in their breath and cotinine in their saliva, reliable indicators of smoking. Of those who were not told their lung age 6.4 percent were no longer smoking, and 13.6 percent of those who knew their lung age had quit.

Dr. Gary Parkes, the lead author and a general practitioner in Hertfordshire, said that at first the smokers were not highly motivated to quit. More than 60 percent had made no plans to do so.

According to background information in the report, a physician's simple advice results in a 4 to 6 percent rate of quitting.

"All smokers should have a lung function test," Dr. Parkes said. "Sixteen percent of our sample had lung damage they didn't know about. And communicating lung function as lung age is a good psychological tool for helping people make decisions about their own health."

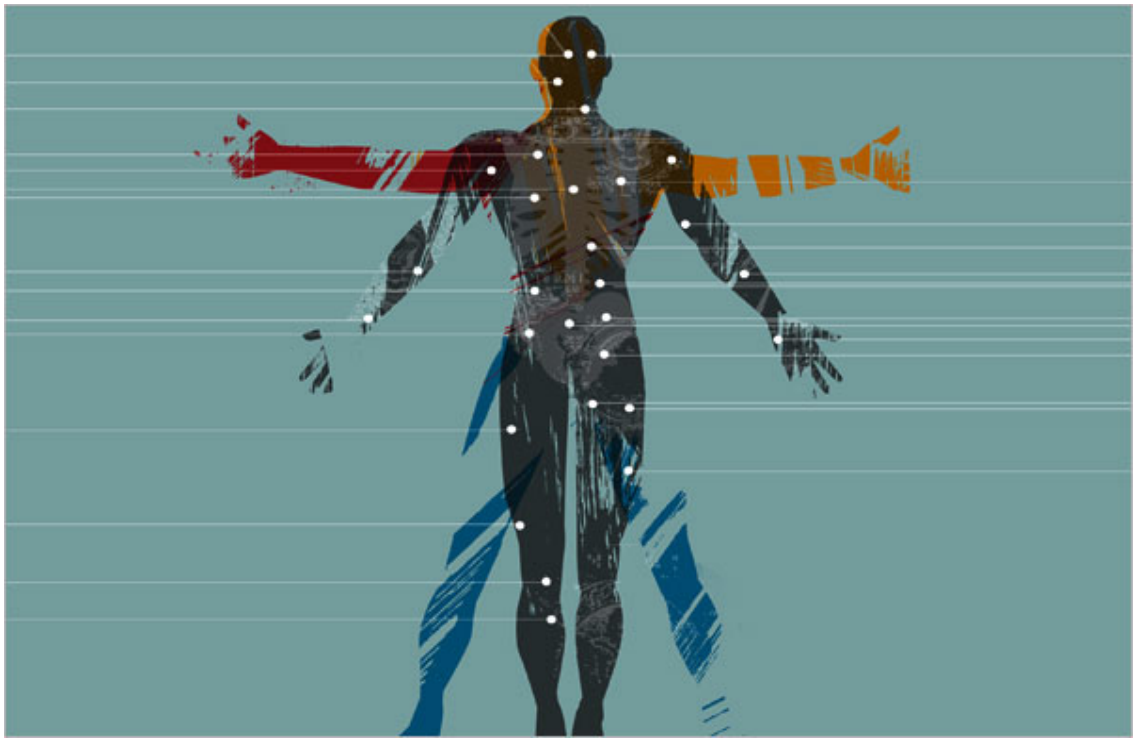
There was no evidence that subjects with poorer lung function were more likely to quit. A 45-year-old who was told her lung age was normal was as likely to stop as one told her lung age was 65. Although the study could not prove it, merely being presented with the facts of lung function in a vivid and understandable way was apparently enough to encourage people to stop smoking.

The authors speculate that when told lung function is normal, a smoker feels encouraged to quit before it is too late, and when shown that it is abnormal is motivated to stop by the fear of further deterioration. The precise psychological forces remain unclear, but the scientists cite previous research that suggested that information presented as a prospect for gain is more persuasive than negative messages about costs or disadvantages.

http://www.nytimes.com/2008/03/11/health/research/11smok.html?nl=8hlth&emc=hltha2&pagewanted=print

Many Doctors, Many Tests, No Rhyme or Reason

By SANDEEP JAUHAR, M.D.



I recently took care of a 50-year-old man who had been admitted to the hospital short of breath. During his monthlong stay he was seen by a hematologist, an endocrinologist, a kidney specialist, a podiatrist, two cardiologists, a cardiac electrophysiologist, an infectious-diseases specialist, a pulmonologist, an ear-nose-throat specialist, a urologist, a gastroenterologist, a neurologist, a nutritionist, a general surgeon, a thoracic surgeon and a pain specialist.

He underwent 12 procedures, including cardiac catheterization, a pacemaker implant and a bone-marrow biopsy (to work-up chronic anemia). Despite this wearying schedule, he maintained an upbeat manner, walking the corridors daily with assistance to chat with nurses and physician assistants. When he was discharged, follow-up visits were scheduled for him with seven specialists.

This man's case, in which expert consultations sprouted with little rhyme, reason or coordination, reinforced a lesson I have learned many times since entering practice: In our health care system, where doctors are paid piecework for their services, if you have a slew of physicians and a willing patient, almost any sort of terrible excess can occur. Though accurate data is lacking, the overuse of services in health care probably cost hundreds of billions of dollars last year, out of the more than $2 trillion that Americans spent on health.

Are we getting our money's worth? Not according to the usual measures of public health. The United States ranks 45th in life expectancy, behind Bosnia and Jordan; near last, compared with other developed countries, in infant mortality; and in last place, according to the Commonwealth Fund, a health-care research group, among major industrialized countries in health-care quality, access and efficiency.

And in the United States, regions that spend the most on health care appear to have higher mortality rates than regions that spend the least, perhaps because of increased hospitalization rates that result in more life-threatening errors and infections. It has been estimated that if the entire country spent the same as the lowest spending regions, the Medicare program alone could save about $40 billion a year.

Overutilization is driven by many factors — "defensive" medicine by doctors trying to avoid lawsuits; patients' demands; a pervading belief among doctors and patients that newer, more expensive technology is better. The most important factor, however, may be the perverse financial incentives of our current system. Doctors are usually reimbursed for whatever they bill. As reimbursement rates have declined in recent years, most doctors have adapted by increasing the quantity of services. If you cut the amount of air you take in per breath, the only way to maintain ventilation is to breathe faster.

Overconsultation and overtesting have now become facts of the medical profession. The culture in practice is to grab patients and generate volume. "Medicine has become like everything else," a doctor told me recently. "Everything moves because of money." Consider medical imaging. According to a federal commission, from 1999 to 2004 the growth in the volume of imaging services per Medicare patient far outstripped the growth of all other physician services. In 2004, the cost of imaging services was close to $100 billion, or an average of roughly $350 per person in the United States.

Not long ago, I visited a friend — a cardiologist in his late 30s — at his office on Long Island to ask him about imaging in private practices.

"When I started in practice, I wanted to do the right thing," he told me matter-of-factly. "A young woman would come in with palpitations. I'd tell her she was fine. But then I realized that she'd just go down the street to another physician and he'd order all the tests anyway: echocardiogram, stress test, Holter monitor — stuff she didn't really need. Then she'd go around and tell her friends what a great doctor — a thorough doctor — the other cardiologist was.

"I tried to practice ethical medicine, but it didn't help. It didn't pay, both from a financial and a reputation standpoint."

His nuclear imaging camera was in an adjoining "procedure" room. He broke down the monthly costs for me: camera lease, $4,500; treadmill lease, $400; office space, $1,000; technician fee, $1,800; nurse fee, $1,000; and miscellaneous expenses of $200.

"Now say I get on average $850 per nuclear stress test," he said. "Then I have to do at least 10 stress tests a month just to cover the costs, no profit going into my pocket."

"So," I said, "there's pressure on you to do more than 10 stress tests a month, whether your patients need it or not."

He shrugged and said, "That is what I have to do to break even."

Last year, Congress approved steep reductions in Medicare payments for certain imaging services. Deeper cuts will almost certainly be forthcoming. This is good; unnecessary imaging is almost certainly taking place, leading to false-positive results, unnecessary invasive procedures, more complications and so on.

But the problem in medicine today is much larger than imaging. Doctors are doing too much testing and too many procedures, often for the sake of business. And patients, unfortunately, are paying the price.

"The hospital is a great place to be when you are sick," a hospital executive told me recently. "But I don't want my mother in here five minutes longer than she needs to be."

Dr. Sandeep Jauhar is a cardiologist on Long Island and the author of the new memoir "Intern: A Doctor's Initiation."

http://www.nytimes.com/2008/03/11/health/views/11essa.html?nl=8hlth&emc=hltha8

A $100 Million Donation to the N.Y. Public Library

By ROBIN POGREBIN

The New York Public Library's venerable lion-guarded building on Fifth Avenue at 42nd Street is to be renamed for the Wall Street financier Stephen A. Schwarzman, who has agreed to jump-start a $1 billion expansion of the library system with a guaranteed $100 million of his own.

The project, to be announced on Tuesday, aims to transform the Central Library into a destination for book borrowing as well as research. The Mid-Manhattan branch, on the east side of Fifth Avenue at 40th Street, will be sold and its circulating collection absorbed into the new space.

The gift from Mr. Schwarzman, a library trustee and buyout guru who made fortunes as the chief executive of the Blackstone Group, is among the largest to any cultural institution in the city's history. The 1911 Beaux Arts structure on Fifth Avenue will be called the Stephen A. Schwarzman Building after construction is completed around 2014. The building is protected by landmark status, and the library expects the name to be etched on the building should approval be granted by the city's Landmarks Preservation Commission.

"We hope to incise the name of the building in stone in a subtle, discreet way on either side of the main entrance about three feet off the ground," said Paul LeClerc, president of the library's board of trustees. "It's in keeping with the dignity of the building."

In an e-mail message on Monday. Mayor Michael R. Bloomberg said, "With this donation, Steve is giving back to the city that gave him so much and is helping ensure that New York remains a cultural and intellectual capital of the world."

The project reflects a new resolve among library officials to adjust to a shifting information world and become more responsive to city residents. "We're more focused on what people want from us," Mr. LeClerc said in an interview. "It's a mindset change."

In an interview, Mr. Schwarzman, 61, said he was impressed by the project when it was presented to the board last June.

"This was an absolutely first-class, professional, practical strategic plan, and it deserved to be supported," he said. "The library helps lower- and middle-income people — immigrants — get their shot at the American dream."

Mr. Schwarzman said it was the library that proposed renaming the landmark building. “They said, ‘We’d like you to be the lead gift and give us $100 million and we’d like to rename the main branch after you,’ ” he said. “I said, ‘That sounds pretty good.’ ”

He said his gift would be dispensed over the next few years (he declined to be more specific) and that he had signed a contract governing the donation. “It binds me and my estate, even if I die,” Mr. Schwarzman said.

The library is hardly the first cultural building to bear a donor’s name. The new six-story building at the Museum of Modern Art was named after David and Peggy Rockefeller, for example, and the Library for the Performing Arts at Lincoln Center is named for Dorothy and Lewis B. Cullman.

Mr. LeClerc said there was no dissension within the library’s board of trustees over the renaming. Still, the change will doubtless invite spirited commentary. Mr. Schwarzman has become something of a lightning rod for critics of Wall Street excess, especially the high-spending ways of private-equity chiefs.

Many of those financiers have suffered a comeuppance since the credit markets foundered last year. Mr. Schwarzman’s stake in Blackstone has plummeted from about $7.8 billion to about $4 billion since he took his company public last June, and Blackstone’s shares have tumbled about 32 percent in the last two months alone.

Mr. Schwarzman said his recent losses would have no effect on his gift. “As you have more resources in life, it’s your obligation to deploy those for the benefit of others,” he said.

The library itself has drawn criticism for some other transactions, like selling the Donnell branch in Midtown Manhattan in November to Orient-Express Hotels Ltd. for $59 million. The branch will be razed to make way for an 11-story hotel, with the library taking over the first floor and an underground level.

In April 2005, the library decided to sell 19 works from its art collection to bolster its endowment and raise money to buy books. The sales netted $53 million, but critics lamented the loss of canonical pieces including “Kindred Spirits,” a Hudson River School painting by Asher B. Durand.

Mr. Schwarzman is also the board chairman of the John F. Kennedy Center for the Performing Arts in Washington and a trustee of the Frick Collection, the New York City Ballet, the Asia Society and the Film Society of Lincoln Center.

The costs of the $1 billion library project are to be covered through the sale of some existing buildings and a $500 million capital campaign that has already brought in $250 million, including the Schwarzman gift.

The library is also seeking government support. New York City, which owns the Fifth Avenue building, provides about half of the library’s $265 million operating budget. It is also contributing $30 million toward a $50 million renovation of the building’s facades that is already under way.

The new circulating library will be situated in a vast space that currently houses eight levels of stacks below the Main Reading Room and overlooks Bryant Park through strip windows. The stacks will be moved to an existing three-acre storage area beneath the park, opening the way for the space to be gutted and reconfigured with new rooms for children and teenagers and ample computer work stations. Library officials said they had not yet chosen an architect.

The plan also calls for a new cafe and information center to enliven Astor Hall just inside the Fifth Avenue entrance, wireless Internet access throughout the building, refurbishment of branch libraries and the creation of two new libraries in Upper Manhattan and Staten Island.

"We're not going to set up huge neon signs in Astor Hall," said Joshua L. Steiner, the library board's vice chairman. "At the same time, people need to feel welcome."

Mr. LeClerc said he wanted the new main branch to serve the needs of teenagers working on term papers, graduate students writing theses, rare book aficionados searching out volumes and children flocking to story hour. "You can grow up intellectually, academically and professionally in the building," he said.

By making the Fifth Avenue building more accessible and drawing patrons from the shuttered Mid-Manhattan branch, the Central Library hopes to attract as many as four million people per year, up from the current one million.

Founded as a public institution in 1895, the library has four special research libraries and more than 85 branches. The main library had a small circulating division from 1911 to 1970, when the Mid-Manhattan branch across the street opened.

Officials said the system was shifting to what they call a "hub and spoke" concept. The idea is to create hub libraries with comprehensive services — literacy training, homework help, job search assistance — and to tailor programs at satellite branches to meet the needs of specific neighborhoods. Those hubs would aim to replicate the success of the new Bronx Library Center, which has become a thriving gathering spot since it opened in that borough's Fordham section in 2006. It has become a magnet for young people in the neighborhood, most of whom are African-American, Caribbean or Latino. (Brooklyn and Queens have their own library systems.)

"The Bronx library was designed to send signals, both overt and subtle, to the community that use it that this is their space," Mr. LeClerc said. "It was designed with them in mind."

Based on extensive research, the library system learned that 60 percent of its users are members of minority groups and 60 percent are from families with annual incomes of less than $50,000.

Officials hope that the Central Library at 42nd Street, with its two stone lions named Patience and Fortitude, will become a draw for such residents. "The average user of one of our branch libraries wasn't coming to 42nd Street," Mr. Steiner added. "This new plan is the further democratization of that building."

http://www.nytimes.com/2008/03/11/arts/design/11expa.html?th&emc=th

Major Advance In Biofuel Technology: Trash Today, Ethanol Tomorrow

A Chesapeake Bay marsh grass bacterium, S. degradans has an enzyme that can quickly break down plant materials, such as this old newspaper, into sugar, which can then be converted to biofuel. (Credit: Image courtesy of University of Maryland)

ScienceDaily (Mar. 11, 2008) — University of Maryland research that started with bacteria from the Chesapeake Bay has led to a process that may be able to convert large volumes of all kinds of plant products, from leftover brewer's mash to paper trash, into ethanol and other biofuel alternatives to gasoline.

That process, developed by University of Maryland professors Steve Hutcheson and Ron Weiner, professors of cell biology and molecular genetics, is the foundation of their incubator company Zymetis, which was on view March 10 in College Park for Maryland Governor Martin O'Malley and state and university officials.

"The new Zymetis technology is a win for the State of Maryland , for the University and for the environment," said University of Maryland President C.D. Mote, Jr. "It makes affordable ethanol production a reality and makes it from waste materials, which benefits everyone and supports the green-friendly goal of carbon-neutrality."

75 Billion Gallons a Year

The Zymetis process can make ethanol and other biofuels from many different types of plants and plant waste called cellulosic sources. Cellulosic biofuels can be made from non- grain plant sources such as waste paper, brewing byproducts, leftover agriculture products, including straw, corncobs and husks, and energy crops such as switchgrass.

When fully operational, the Zymetis process could potentially lead to the production of 75 billion gallons a year of carbon-neutral ethanol.

The secret to the Zymetis process is a Chesapeake Bay marsh grass bacterium, S. degradans. Hutcheson found that the bacterium has an enzyme that could quickly break down plant materials into sugar, which can then be converted to biofuel.

The Zymetis researchers were unable to isolate the Bay bacterium again in nature, but they discovered how to produce the enzyme in their own laboratories. The result was Ethazyme, which degrades the tough cell walls of cellulosic materials and breaks down the entire plant material into bio-fuel ready sugars in one step, at a significantly lower cost and with fewer caustic chemicals than current methods.

Hutcheson projects a $5 billion enzyme market for biofuels. The energy bill passed by the U.S. Senate in December mandates oil companies to blend in 21 billion gallons of cellulosic ethanol with their gasoline by 2022.

Inventors of the Year

Hutcheson and Weiner won the university's Office of Technology Commercialization Inventor of the Year Award in 2007 in the Life Science category for their enzyme system invention.

Founded in 2006, Zymetis entered the university's MTECH VentureAccelerator Program, which provides hands-on business assistance to faculty and students interested in forming companies around university-created technologies. "MTECH VentureAccelerator helped us validate our market," says Hutcheson. "They found space for our company. They helped us with licensing our technology, forming financial and business plans, and establishing trademarks."

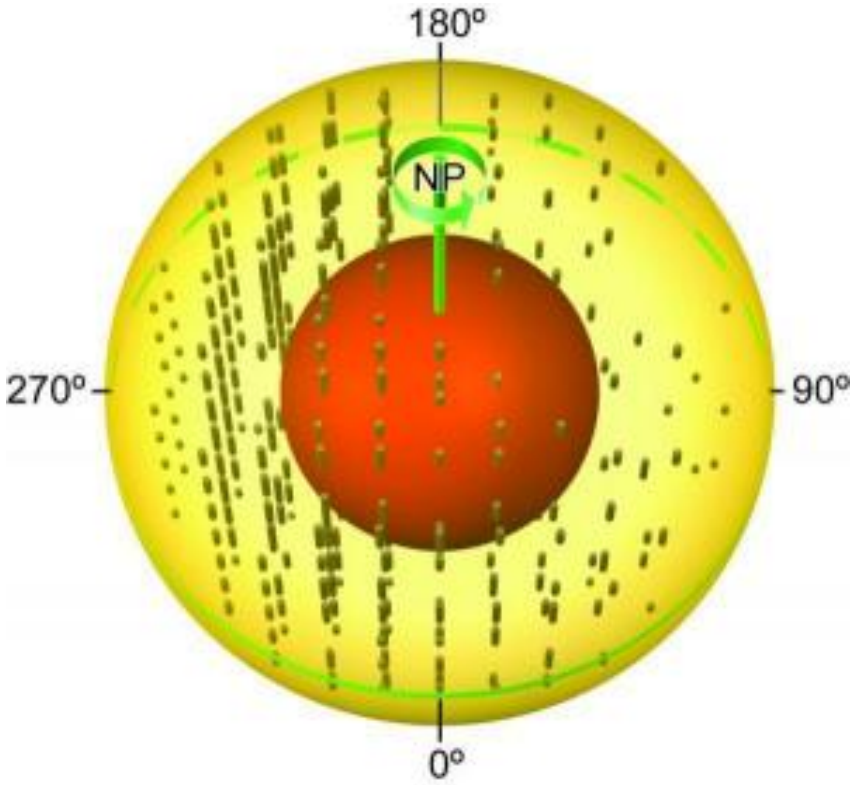
Zymetis also sought expertise from MTECH's Bioprocess Scale-Up Facility (BSF) staff to determine how to mass-produce S. degradans. The BSF is part of the MTECH Biotechnology Research and Education Program, an initiative dedicated to research, education and the development of biotechnology products and processes for Maryland companies.

See video of bacteria changing newspaper into biofuel: http://www.newsdesk.umd.edu/video/zymetis.cfm

Adapted from materials provided by University of Maryland.

http://www.sciencedaily.com:80/releases/2008/03/080310164901.htm

Discovery Of Earth's Inner, Innermost Core Confirmed



3D illustration of the Earth's inner core structure and the texturing of its iron crystals. The transparent outer surface is the inner core boundary (at radius 1220 km). The opaque inner sphere is the inner inner core (slightly less than half of the inner core radius) found in this study. The sticks represent the alignments of iron crystals in the outer part of the inner core. The longer the stick is, the higher the degree of alignment is and the stronger the seismic anisotropy is. The fast direction is parallel to the spin axis. (Credit: Illustrations by Precision Graphics)

ScienceDaily (Mar. 10, 2008) — Geologists at the University of Illinois have confirmed the discovery of Earth's inner, innermost core, and have created a three-dimensional model that describes the seismic anisotropy and texturing of iron crystals within the inner core.

"For many years, we have been like blind men touching different parts of an elephant," said U. of I. geologist Xiaodong Song. "Now, for the fist time, we have a sense of the entire elephant, and see what the inner core of Earth really looks like."

Using both newly acquired data and legacy data collected around the world, Song and postdoctoral research associate Xinlei Sun painstakingly probed the shape of Earth's core. The researchers report their findings in a paper accepted for publication in the journal Earth and Planetary Science Letters, and posted on its Web site.

Composed mainly of iron, Earth's core consists of a solid inner core about 2,400 kilometers in diameter and a fluid outer core about 7,000 kilometers in diameter. The inner core plays an important role in the geodynamo that generates Earth's magnetic field.

The solid inner core is elastically anisotropic; that is, seismic waves have different speeds along different directions. The anisotropy has been found to change with hemisphere and with radius. In the latest work, Sun and Song describe another anomaly -- a global structure -- found within the inner core.

"To constrain the shape of the inner core anisotropy, we needed a uniform distribution of seismic waves traveling in all directions through the core," Sun said. "Since the seismic waves we studied were generated by earthquakes, one challenge was acquiring enough seismic waves recorded at enough stations."

In their analysis, Sun and Song used a three-dimensional tomography technique to invert the anisotropy of the inner core. They parameterized the anisotropy of the inner core in both radial and longitudinal directions. The researchers then used a three-dimensional ray tracing method to trace and retrace the seismic waves through the inner core iteratively.

What they found was a distinct change in the inner core anisotropy, clearly marking the presence of an inner inner core with a diameter of about 1,180 kilometers, slightly less than half the diameter of the inner core.

The layering of the core is interpreted as different texturing, or crystalline phase, of iron in the inner core, the researchers say.

"Our results suggest the outer inner core is composed of iron crystals of a single phase with different degrees of preferred alignment along Earth's spin axis," Sun said. "The inner inner core may be composed of a different phase of crystalline iron or have a different pattern of alignment."

Although the anisotropy of the inner core was proposed 20 years ago, "this is the first time we have been able to piece everything together to create a three-dimensional view," Song said. "This view should help us better understand the character, mineral properties and evolution of Earth's inner core."

The work was funded by the National Science Foundation.

Adapted from materials provided by University of Illinois at Urbana-Champaign.

http://www.sciencedaily.com:80/releases/2008/03/080310131507.htm

Food Compounds That Kill Test-Tube Cancer Cells Analyzed

Some fruits and vegetables like these strawberries have natural chemicals that can destroy leukemia cells in laboratory tests. (Credit: Brian Prechtel, USDA)

ScienceDaily (Mar. 10, 2008) — Strawberries, grapes, blueberries and some familiar seasonings like rosemary contain compounds that can—in test tubes—kill cells of a childhood cancer. Nutrition-focused research by molecular biologist Susan J. Zunino of the Agricultural Research Service (ARS) Western Human Nutrition Research Center (WHNRC), Davis, Calif., may reveal exactly how the powerful plant chemicals fight the disease known as acute lymphoblastic leukemia.

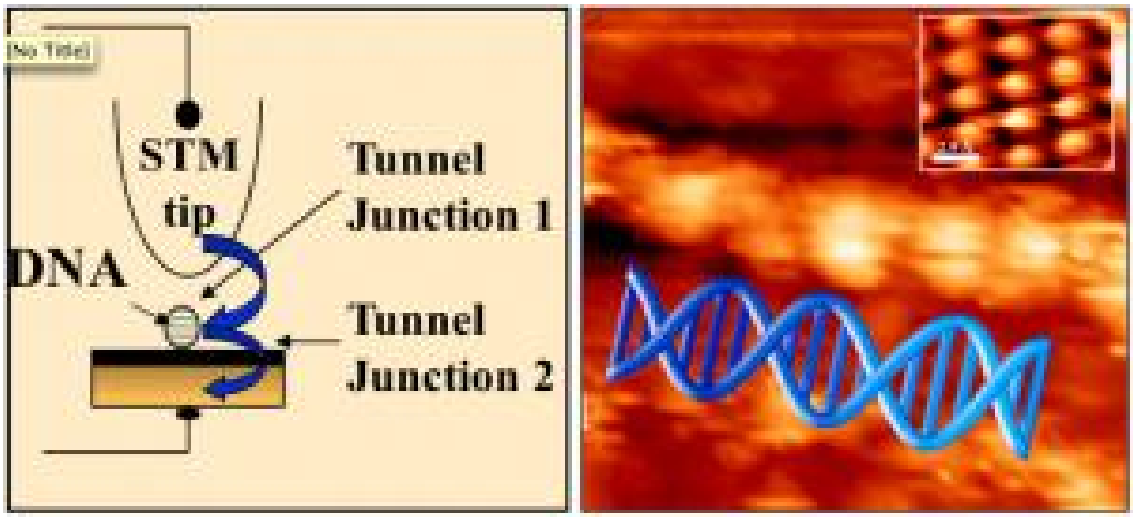
Zunino's current studies build upon her 2006 findings about the ability of carnosol from rosemary; curcumin from turmeric; resveratrol from grapes; and ellagic acid, kaempferol and quercetin from strawberries to kill the leukemia cells. She did the work using laboratory cultures of both healthy human blood cells and cancerous ones as her model. Her studies are of interest not only to cancer researchers, but also to nutrition scientists exploring the health benefits of natural compounds in the world's fruits, vegetables, herbs and spices. For the most part, scientists don't yet have all the details about how plant chemicals, or phytochemicals, bolster healthy cells and battle harmful ones. That's true even for better-known phytochemicals such as the resveratrol in grapes, blueberries and some other fruits, according to Zunino. Her investigations provide some new clues about how phytochemicals attack cancer cells. For example, she found that the phytochemicals interfere with the orderly operations of mitochondria, the miniature energy-producing power plants inside cells. Without energy, cells die.

Mitochondria exposed to resveratrol and the other phytochemicals that Zunino tested couldn't function properly. But more work is needed, to fully understand how the phytochemicals achieved that. And, Zunino and colleagues want to know more about the phytochemicals' other modes of action that result in cell death. She's collaborating in the investigations with molecular biologist David Storms at WHNRC; Jonathan Ducore at the University of California-Davis Cancer Center; and Navindra Seeram, formerly with the University of California-Los Angeles and now at the University of Rhode Island-Kingston.

Adapted from materials provided by US Department of Agriculture.

http://www.sciencedaily.com:80/releases/2008/03/080307080638.htm

Electronic Structure Of DNA Revealed For First Time



In work recently published in the journal Nature Materials, researchers from The Hebrew University of Jerusalem were able to decode the electronic structure of DNA and to understand how the electrons distribute into the various parts of the double helix, a result that has been pursued by scientists for many years, but was previously hindered by technical problems. (Credit: Nature Materials / Courtesy of Danny Porath, Hebrew University) ScienceDaily (Mar. 10, 2008) — Utilizing a technique that combines low temperature measurements and theoretical calculations, Hebrew University of Jerusalem scientists and others have revealed for the first time the electronic structure of single DNA molecules. The knowledge of the electronic properties of DNA is an important issue in many scientific areas from biochemistry to nanotechnology -- for example in the study of DNA damage by ultraviolet radiation that may cause the generation of free radicals and genetic mutations. In those cases, DNA repair occurs spontaneously via an electronic charge transfer along the DNA helix that restores the damaged molecular bonds. In nano-bioelectronics, which is the advanced research field devoted to the study of biological molecules (to produce electrical nanocircuits, for example), it has been suggested that DNA, or its derivatives, may become used as possible conducting molecular wires in the realization of molecular computing networks which are smaller and more efficient than those produced today with silicon technology.

The knowledge that has been acquired in this project, say the researchers, may also be relevant for current attempts to develop new sophisticated, reliable, faster and cheaper ways to decode the sequence of human DNA. In their work, the researchers were able to decode the electronic structure of DNA and to understand how the electrons distribute into the various parts of the double helix, a result that has been pursued by scientists for many years, but was previously hindered by technical problems. Experimental and theoretical scientists worked with long and homogeneous DNA molecules at minus 195 degrees Celsius, using a scanning tunneling microscope (STM) to measure the current that passes across a molecule deposited on a gold substrate. Then, by means of theoretical calculations based on the solution of quantum equations, the electronic structure of DNA corresponding to the measured current has been obtained. These results also suggest an identification of the parts of the double helix that contribute to the charge flow along the molecule. The research, published in the journal Nature Materials, is a result of an international collaboration. The research was conducted by Errez Shapir and coordinated by Dr. Danny Porath at the Department of Physical Chemistry and Center for Nanoscience and Nanotechnology at the Hebrew University and by Dr. Rosa Di Felice at the S3 Center of INFM-CNR in Modena, Italy. Also collaborating in the project were Prof. Alexander Kotlyar at Tel Aviv University, who synthesized the molecules, the CINECA supercomputing center in Italy, and Prof. Gianaurelio Cuniberti at the University of Regensburg, Germany.

Adapted from materials provided by Hebrew University of Jerusalem, via EurekAlert!, a service of AAAS.

http://www.sciencedaily.com:80/releases/2008/02/080228100712.htm

TV Scheduling In America Has Overshadowed Natural Circadian Rhythms

Our natural timing cues -- the circadian rhythms determined by the sun -- today fight with the man-made cues brought on within the last century, mainly by the creation of time zones and the television broadcast schedule. (Credit: iStockphoto/Sharon Dominick)

ScienceDaily (Mar. 7, 2008) — Most of the nation is once again readying itself for losing an hour of sleep with the arrival of Daylight Saving Time. This is a "shock" not only to those of us who value our sleep, but also (very temporarily) to all levels of the economy, from the individual to the world.

In their forthcoming article for the Journal of Labor Economics, "Cues for Timing and Coordination: Latitude, Letterman, and Longitude," authors Daniel S. Hamermesh, Caitlin Knowles Myers, and Mark L. Pocock look at the brief fight between American's natural timing cues -- the circadian rhythms determined by the sun -- and the man-made cues brought on within the last century, mainly by the creation of time zones and the television broadcast schedule. In this relatively brief time, they find, the markers for how we structure our day have been dramatically altered.

How did these man-made cues come about" Daylight Saving Time has its roots in the Standard Time Act of 1918; the DST component, which was a wartime energy-saving measure, was repealed after World War I. The current plan was signed into law by President Johnson in 1966 as the Uniform Time Act. Last year, Daylight Saving was extended by four weeks.

Although the prime-time television schedule is a "relic of the technology of radio transmission" -- it was created when signals could not be broadcast across the country -- it remains a powerful cue. Reflecting on his own weekday television watching schedule, Hamermesh recalled, "I lived twenty years in the Eastern Time Zone, I used to stay up until 11:45 p.m. to watch the monologue on the Tonight Show. Living in Texas, I typically turn out the lights at 10:45 p.m., when the monologue is done."

For their study, the authors turned to data provided by the unprecedented Bureau of Labor Statistics' American Time Use Survey (ATUS), which enabled them to observe how Americans split their time between their three most time-consuming activities: work, sleep, and television watching. After merging ATUS with sunrise and sunset data, the authors found that while natural daylight patterns have some

effect on people's life patterns, the demands of global business -- market openings, etc -- and regular television schedule demarcate the boundaries of most Americans' lives. Says Hamermesh, he and his colleagues were "amazed how little daylight matters nowadays, and how much artificial time zones matter."

In the case of outliers, such as Arizona's unique time pattern, residents tend to adjust their sleep and work patterns to an adjacent zone. Hamermesh, Myers, and Pocock conclude that while the "natural cue of daylight has some effect on timing ... the entirely artificial cue of the timing of television programs has still larger effects." They also find that those places, like Hawaii and Arizona, that don't "spring ahead" find themselves tied to the schedule of their neighbours, a further sign that coordination is tied to artificial cues, and not natural cues like the sun.

Your Daily Shows ... additional findings about artificial cues:

- If you are in the "professional service" sector (finance, information, business services), you are more likely to follow the time zone cue, while you are in other services sector (education, health, leisure, and hospitality), you are probably more responsive to television cues.
- The probability that you are watching TV between 11-11:15 p.m. decreases with age, but the probability that you are at work between 8 and 8:15 a.m. increases until retirement age.
- Marital status and children don't have an effect on TV viewing at 11 p.m., but married individuals are less likely to be sleeping at 7 a.m. and more likely to be at work at 8 a.m.
- Individuals in early television zones (Central and Mountain) are 6.4 percentage points less likely to be watching television between 11 and 11:15 p.m. than those in later zones, but if the sunset is pushed back by an hour the probability of watching TV at 11pm only increases by about one percentage point.

Adapted from materials provided by University of Chicago Press Journals, via EurekAlert!, a service of AAAS.

http://www.sciencedaily.com:80/releases/2008/03/080306161926.htm

When It Comes To Emotions, Eastern And Western Cultures See Things Very Differently

University of Alberta psychology professor Takahiko Masuda. (Credit: University of Alberta)

ScienceDaily (Mar. 7, 2008) — A team of researchers from Canada and Japan have uncovered some remarkable results on how eastern and western cultures assess situations very differently.

Across two studies, participants viewed images, each of which consisted of one centre model and four background models in each image. The researchers manipulated the facial emotion (happy, angry, sad) in the centre or background models and asked the participants to determine the dominant emotion of the centre figure.

The majority of Japanese participants (72%) reported that their judgments of the centre person's emotions were influenced by the emotions of the background figures, while most North Americans (also 72%) reported they were not influenced by the background figures at all.

"What we found is quite interesting," says Takahiko Masuda, a Psychology professor from the University of Alberta. "Our results demonstrate that when North Americans are trying to figure out how a person is feeling, they selectively focus on that particular person's facial expression, whereas Japanese consider the emotions of the other people in the situation."

This may be because Japanese attention is not concentrated on the individual, but includes everyone in the group, says Masuda.

For the second part of the study, researchers monitored the eye movements of the participants and again the results indicated that the Japanese looked at the surrounding people more than the westerners when judging the situation.

While both the Japanese and westerners looked to the central figure during the first second of viewing the photo, the Japanese looked to the background figures at the very next second, while westerners continued to focus on the central figure.

"East Asians seem to have a more holistic pattern of attention, perceiving people in terms of the relationships to others," says Masuda. "People raised in the North American tradition often find it easy to isolate a person from its surroundings, while East Asians are accustom to read the air "kuuki wo yomu" of the situation through their cultural practices, and as a result, they think that even surrounding people's facial expressions are an informative source to understand the particular person's emotion."

These findings are published in the upcoming issue of Journal of Personality and Social Psychology and the results are replicated in a collaborative study between Huaitang Wang and Takahiko Masuda (University of Alberta, Canada) and Keiko Ishii (Hokkaido University, Japan)

Adapted from materials provided by University of Alberta, via EurekAlert!, a service of AAAS.

http://www.sciencedaily.com/releases/2008/03/080305120850.htm

Virtual Gaming No Replacement For Real Exercise

Video games like the Wii can play an important role in getting kids off the couch and involved in physical activity, but it should not be a replacement for traditional exercise. (Credit: Image courtesy of University of Michigan Health System)

ScienceDaily (Mar. 7, 2008) — Video games like Wii Sports and Dance Dance Revolution can play an important role in getting kids off the couch and involved in physical activity. But are they a replacement for traditional exercise? Definitely not, says Colleen Greene, M.A., wellness coordinator for MFit, the health promotion division of the University of Michigan Health System.

"Virtual gaming is no replacement for real exercise," Greene notes. "It's a place to start, though. Kids can have fun doing it, they can feel a little better about actually trying the sport or activity."

A relatively recent addition to the video game universe, these games are interactive and can require as little activity as a swing of the wrist to play golf or tennis, or as much effort as an intense dance routine or the full punches in a virtual boxing match. Most of these games do not qualify as aerobic exercise, though they do require more activity than traditional video games.

"Real calories can be burned during virtual gaming, although some studies have recently shown that it may be 60 to 70 calories an hour," Greene notes. "This is nowhere near what an actual game or sport should be, which is three to four times that amount."

Greene doesn't discourage the use of these games – indeed, she notes, they can help to improve kids' confidence and hand-eye coordination. "Active virtual gaming can have a role in a healthy lifestyle. It's a place to start and have some fun. It's a way to try something new in a non-threatening environment," she says. "But really, you ought to get outside, give it a try and have some real fun."

The Centers for Disease Control and Prevention recommend that kids perform 60 minutes of physical activity on most days, preferably daily. The percentage of young people in the United States who are overweight has more than tripled since 1980.

Adapted from materials provided by University of Michigan Health System.

http://www.sciencedaily.com:80/releases/2008/03/080304130751.htm

The joy of boredom

Don't check that e-mail. Don't answer that phone. Just sit there. You might be surprised by what happens.

By Carolyn Y. Johnson | March 9, 2008

A DECADE AGO, those monotonous minutes were just a fact of life: time ticking away, as you gazed idly into space, stood in line, or sat in bumper-to-bumper traffic.

Boredom's doldrums were unavoidable, yet also a primordial soup for some of life's most quintessentially human moments. Jostled by a stranger's cart in the express checkout line, thoughts of a loved one might come to mind. A long drive home after a frustrating day could force ruminations. A pang of homesickness at the start of a plane ride might put a journey in perspective.

Increasingly, these empty moments are being saturated with productivity, communication, and the digital distractions offered by an ever-expanding array of slick mobile devices. A few years ago, cellphone maker Motorola even began using the word "microboredom" to describe the ever-smaller slices of free time from which new mobile technology offers an escape. "Mobisodes," two-minute long television episodes of everything from "Lost" to "Prison Break" made for the cellphone screen, are perfectly tailored for the microbored. Cellphone games are often designed to last just minutes -- simple, snack-sized diversions like Snake, solitaire, and Tetris. Social networks like Twitter and Facebook turn every mundane moment between activities into a chance to broadcast feelings and thoughts; even if it is just to triple-tap a keypad with the words "I am bored."

But are we too busy twirling through the songs on our iPods -- while checking e-mail, while changing lanes on the highway -- to consider whether we are giving up a good thing? We are most human when we feel dull. Lolling around in a state of restlessness is one of life's greatest luxuries -- one not available to creatures that spend all their time pursuing mere survival. To be bored is to stop reacting to the external world, and to explore the internal one. It is in these times of reflection that people often discover something new, whether it is an epiphany about a relationship or a new theory about the way the universe works. Granted, many people emerge from boredom feeling that they have accomplished nothing. But is accomplishment really the point of life? There is a strong argument that boredom -- so often parodied as a glassy-eyed drooling state of nothingness -- is an essential human emotion that underlies art, literature, philosophy, science, and even love.

"If you think of boredom as the prelude to creativity, and loneliness as the prelude to engagement of the imagination, then they are good things," said Dr. Edward Hallowell, a Sudbury psychiatrist and author of the book "CrazyBusy." "They are doorways to something better, as opposed to something to be abhorred and eradicated immediately."

Public health officials often bemoan the obesity epidemic, the unintended consequence of a modern lifestyle that allows easy access to calories. Technology seems to offer a similar proposition: a wide array of distractions that offer the boon of connection, but at a cost. Already, mobile technology has shaped the way people interact and communicate. People no longer make plans in the same way; public spaces have become semi-private bubbles of conversation; and things like getting a busy signal or being unreachable seem foreign, even quaint. Today, distraction from monotony is not just merely available; it is almost unavoidable.

Perhaps nothing illuminates the speed of social change better than the new fear of disconnection. People driving a car or standing at a bus stop or waiting in a doctor's office by themselves have always had some distractions available to them, from the radio to National Geographic. But until the advent of connected devices, they were still, fundamentally, alone in some way.

Today, there is a growing fear of the prospect of being untethered in the world without the security blanket of a cellphone. In the timescale of human inventions, the mobile phone is still new, but it is

already a crucial part of the trinity of things people fear to forget when they leave the house -- keys, wallet, and phone.

"There is this hyper-anxiety over feeling lonely or disconnected," said Kathleen Cumiskey, a professor of psychology and women's studies at the College of Staten Island who says her stepdaughter sleeps with her cellphone at arm's length and considers turning the device off unthinkable. "Our society is perpetually anxious, and a way to alleviate the anxiety is to delve into something that's very within our control, pleasurable, and fun. . . .It feels like it has all the makings of addiction."

In a way, the entrepreneurs looking to capitalize on the small moments of spare time that are sprinkled through modern life parallel the pharmaceutical industry. A growing chorus of mental health specialists has begun to question whether normal sadness and social anxiety are being transformed into disorders that people believe need to be cured -- by the companies offering elixirs. The tech industry may be doing the same thing with disconnection.

Many of the original arguments for having a cellphone -- safety, security, emergencies -- never figure into the advertisements. Like the commercials that show frowning people transformed into smiling, kitten-cuddling normality, technology companies project a happy world of connection where to intentionally disconnect seems freakish, questionable, undeniably an ailment.

Society has accepted connection so well that it takes a step back to see exactly how far things have come. Instead of carrying their entire social universe in a pocket, people used to walk out of their houses and into the world. Today, not picking up the phone for an hour is an act of defiance.

. . .

Perhaps understandably, boredom has never caught the attention of the psychological world. Emotions like anxiety, fear, or anger have been subjected to a much more thorough examination than merely feeling drab, according to Richard Ralley, a lecturer in psychology at Edge Hill University in England.

"What's gone wrong with the psychology of emotion is that the ones that are easy to do are the ones that have been researched: fear, threat, fear, threat, again and again and again," Ralley said. "A lot of other emotions that really make us human -- pride, for instance, we kind of avoid."

So, Ralley set out to examine boredom more closely, with the idea that the feeling must have a purpose. Just looking around, it was evident that children quell boredom quite naturally, with creativity -- even to the point of taking the packaging around a gift and playing with it for hours. But as people get older, anxious parents and cranky children demand more and more specific stimuli, whether it is a video game or a hot new phone.

As Ralley studied boredom, it came to make a kind of sense: If people are slogging away at an activity with little reward, they get annoyed and find themselves feeling bored. If something more engaging comes along, they move on. If nothing does, they may be motivated enough to think of something new themselves. The most creative people, he said, are known to have the greatest toleration for long periods of uncertainty and boredom.

In one of the most famous scenes in literature, for instance, boredom takes time. Marcel Proust describes his protagonist, Marcel, dunking a madeleine cookie into his teacup.

"Dispirited after a dreary day with the prospect of a depressing morrow, I raised to my lips a spoonful of the tea in which I had soaked a morsel of the cake," Proust wrote. "And at once the vicissitudes of life had become indifferent to me, its disasters innocuous, its brevity illusory . . . I had ceased now to feel mediocre, contingent, mortal."

Marcel's senses are recalibrated, his experiences deepened, and the very nature of memory begins to reveal itself. But it is only through the strenuous process of clearing his mind and concentrating that his

thoughts begin to unfurl completely, immersing him in memory. Had Marcel been holding a silver clamshell phone in his hand instead of the delicately scalloped cookie, perhaps he could have quieted the boredom with a quick game of cellphone Tetris. And had Proust come of age with an iPhone in his hand and the expectation that his entire world fit in his pocket, he may never have written his grandiose novel.

"When we're writing deeply, writing thoughtfully, we are often trying to communicate with ourselves and trying to communicate what ultimately can't be communicated -- the greatest mysteries of the world: what is truth; what is beauty; what is being?" said Eric G. Wilson, an English professor at Wake Forest University and author of the new book, "Against Happiness."

Arthur Wright, 55, who works in the travel industry, said that he refuses to carry a cellphone precisely because he has sees the effects every time he ventures out into one of the confession booths our public spaces have become.

"You hear these stupid conversations. . . . You know, it's just 'I'm bored,' and they'll call and chit-chat on the phone," Wright said. "'I'm almost there, I'm turning the corner right now.'{hellip}What would they do without it? It's like kids who use a calculator in school, and they can't add."

. . .

Connectivity, of course, has serious advantages. Parents can check in with their kids. Friends separated by hundreds of miles can have a conversation almost as if they were walking side by side. People feel safer.

Still, there has been surprisingly little public discussion of the broad sociological and psychological impact the technology will have. Like much change, it has crept up on people and radically changed behavior and expectations in ways few people could have predicted. At one time, the car was a novelty -- things like getting gas and driving on good roads were difficult to do. Today, the modern world is built around an automotive infrastructure, and is almost impossible to navigate without one.

"We set up a society that functions that way," said Rich Ling, a researcher at the Norwegian telecom firm Telenor and author of "New Tech, New Ties." "And the mobile phone is starting to work in that way."

But as it becomes more difficult to imagine a world without constant connectivity, the very concept of "microboredom" may begin to lower people's tolerance for even a second of empty time.

Paradoxically, as cures for boredom have proliferated, people do not seem to feel less bored; they simply flee it with more energy, flitting from one activity to the next. Ralley has noticed a kind of placid look among his students over the past few years, a "laptop culture" that he finds perplexing. They have more channels to be social; there are always things to do. And yet people seem oddly numb. They are not quite bored, but not really interested either.

That means steeping in uninterrupted boredom may be the first step toward feeling connected. It "may take a little bit of tolerance of an initial feeling of boredom, to discover a comfort level with not being linked in and engaged and stimulated every second," said Jerome C. Wakefield, a professor of social work at New York University and co-author of "The Loss of Sadness." "There's a level of knowing yourself, of coming back to baseline, and knowing who you truly are."

Or, just go ahead. Your phone is vibrating with a message, your e-mail is piling up, a hilarious YouTube video is waiting to entertain you. Me too.

Carolyn Y. Johnson covers business for the Globe. She can be reached at cjohnson@globe.com. ■

http://www.boston.com/bostonglobe/ideas/articles/2008/03/09/the_joy_of_boredom?mode=PF

Are Smart People Drawn To The Arts Or Does Arts Training Make People Smarter?

ScienceDaily (Mar. 6, 2008) — Learning, Arts, and the Brain, a study three years in the making, is the result of research by cognitive neuroscientists from seven leading universities across the United States. In the Dana Consortium study, researchers grappled with a fundamental question: Are smart people drawn to the arts or does arts training make people smarter?

For the first time, coordinated, multi-university scientific research brings us closer to answering that question. Learning, Arts, and the Brain advances our understanding of the effects of music, dance, and drama education on other types of learning. Children motivated in the arts develop attention skills and strategies for memory retrieval that also apply to other subject areas.

The research was led by Dr. Michael S. Gazzaniga of the University of California at Santa Barbara. "A life-affirming dimension is opening up in neuroscience," said Dr. Gazzaniga, "to discover how the performance and appreciation of the arts enlarge cognitive capacities will be a long step forward in learning how better to learn and more enjoyably and productively to live. The consortium's new findings and conceptual advances have clarified what now needs to be done."

Participating researchers, using brain imaging studies and behavioral assessment, identified eight key points relevant to the interests of parents, students, educators, neuroscientists, and policy makers.

1. An interest in a performing art leads to a high state of motivation that produces the sustained attention necessary to improve performance and the training of attention that leads to improvement in other domains of cognition.
2. Genetic studies have begun to yield candidate genes that may help explain individual differences in interest in the arts.
3. Specific links exist between high levels of music training and the ability to manipulate information in both working and long-term memory; these links extend beyond the domain of music training.
4. In children, there appear to be specific links between the practice of music and skills in geometrical representation, though not in other forms of numerical representation.
5. Correlations exist between music training and both reading acquisition and sequence learning. One of the central predictors of early literacy, phonological awareness, is correlated with both music training and the development of a specific brain pathway.
6. Training in acting appears to lead to memory improvement through the learning of general skills for manipulating semantic information.
7. Adult self-reported interest in aesthetics is related to a temperamental factor of openness, which in turn is influenced by dopamine-related genes.
8. Learning to dance by effective observation is closely related to learning by physical practice, both in the level of achievement and also the neural substrates that support the organization of complex actions. Effective observational learning may transfer to other cognitive skills.

Much of this research is of a preliminary nature, yielding several tight correlations but not definitive causal relationships.

Although "there is still a lot of work to be done," says Dr. Gazzaniga, the consortium's research so far has clarified the way forward. "We now have further reasons to believe that training in the arts has positive benefits for more general cognitive mechanisms."

Adapted from materials provided by DANA Foundation.

http://www.sciencedaily.com/releases/2008/03/080304150459.htm

Why must architects prove their worth?

Jonathan Jones

March 7, 2008 5:30 PM

http://blogs.guardian.co.uk/art/2008/03/why_must_architects_prove_thei.html

Hot property ... the Kaufmann House. Photograph: Christie's

You can currently buy two rival sets of Alfred Hitchcock films on DVD. One includes such masterpieces as Strangers on a Train and I Confess; the other boasts Psycho , The Birds and Vertigo . You might ponder why there are two sets, and what principle of selection is involved - but just look at the logos: one box contains films Hitch made for Metro Goldwyn Mayer, the other films for Universal. Long after his death and his acceptance into the pantheon of the greatest directors who ever lived, Hitchcock is still at the same time a studio property whose films are assets of today's MGM and Universal.

This brings me to the beautiful Kaufmann Desert House in Palm Springs, designed by Richard Neutra in 1946 and currently up for sale. With its clean low linear form set against desert mountains it actually resembles the modernist house at Mount Rushmore in Hitchcock's North by Northwest. But that's not why I've dragged in the master of suspense. Rather, the way the sale of the Neutra house is being promoted raises the same questions those boxed sets do about art and pragmatism.

Christie's is auctioning the Kaufmann Desert House as a work of art, hoping to redefine what was recently considered a derelict building ripe for demolition into a $25m (£12.4m) aesthetic masterpiece. What's surprising is that anyone should doubt this. The house is an extraordinary achievement from the golden age of American modernism, by a renowned designer. Why does Christie's have to labour the point that it is "art"? Why would anyone mistake it for anything else?

Because it's a house. Architecture is made to be used; it can be art but it isn't always. As a house, the old Kaufmann place has fallen into disuse and doesn't reflect the consumer aspirations of the rich today. Still it is of interest to connoisseurs of design, hope Christie's.

Architects are like film directors, it seems to me, because both have to accept and work within tough

commercial realities. An architect's dream house must also be a house to live in. A film director's vision must persuade backers to invest. It's amazing how many trials and tribulations film-makers must endure even when everyone recognises them as serious artists; it doesn't matter how much critics revere you, you still have to bring in your latest project on budget and pitch the next idea. Hitchcock recognised this and even relished it; where other directors let Hollywood destroy them he gleefully walked the line between making art and producing product.

All of this raises the question of what makes art, which is defined as such by art galleries and the art world, so much more privileged? Visual artists are protected by galleries and curators in a way no film director or architect can ever expect. To put it another way, an architect or a film director is less of an artist in the world's eyes than someone whose job description says "artist".

Visual artists fought for centuries to define themselves as more than mere craftsmen. Now they are the aristocrats of creativity while film-makers, architects, musicians and wordsmiths are its proletarians.

http://blogs.guardian.co.uk/art/2008/03/why_must_architects_prove_thei.html

Teachers call for ban on homework
Teachers want homework to be abolished for primary school age children.

A motion for the Association of Teachers and Lecturers conference will also seek a Royal Commission to examine why children are unhappy at school.

Union leader Mary Bousted said the difficulty of completing homework could set up a cycle of resistance to school in children from poorer homes.

The government says that homework is not compulsory but it is encouraged as a key part of the learning process.

Its guidelines for schools in England say children should be doing homework from the day they start school, rising from one hour a week at five, to 90 to 150 minutes a day at 16.

They say 10 and 11-year-olds should be doing half an hour of homework every day.

But research has cast doubt on its effectiveness, and has even suggested that too much is counter-productive.

Some independent schools have abolished the practice.

'Waste'

Dr Bousted told journalists that in state schools everyone just accepted that homework had to be done.

"I think a lot of homework is a waste of time. The teacher has got to set it, so what gets set is 'busy' homework," she said.

But children from disadvantaged homes, who did not have the resources and support middle class parents provided, could get into trouble for not completing it.

"I think it sets up a cycle of resistance to school because they don't have access to the cultural and emotional and learning support which middle-class children can get."

The motion also says many children appear "unhappy and anxious".

"Children should be able to explore, experiment and enjoy their learning without feeling pressurised," it adds.

"Homework has become an increasing pressure placed on children in primary and secondary schools."

The motion wants ministers to "scrap compulsory homework for primary-aged children and to limit the amount of time allocated to compulsory homework at secondary level".

'Most are happy'

A spokesman for the Department for Children, Schools and Families said homework was not compulsory but it encouraged teachers to set children work to do at outside the classroom.

"We have clear guidance for teachers on their legal entitlement to set homework.

"A good, well-organised homework programme helps children and young people to develop the skills and attitudes they will need for successful, independent, lifelong learning.

"Research shows that for most children, 2008 is a great time to be a child. Most children are happy, most are achieving to a higher level than ever before, enjoying better health, more opportunities to travel, to engage in sport or cultural activities than was the case for any previous generation."

The government has a new Children's Plan for England - underpinned by a study of parents which said they felt there was something fundamentally wrong with modern childhood.

Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/1/hi/education/7287962.stm

Published: 2008/03/10 15:07:18 GMT

The Shrinking Professoriate

Every other year, data released by the Education Department's National Center for Education Statistics provide a snapshot of the growth of part-time positions in the professoriate. This year — an off-year for that data — the federal statistics provide evidence for another shift, in which the majority of full-time professional employees in higher education are in administrative rather than faculty jobs.

In the fall of 2004, 50.6 of professional full-time employees in higher education (excluding medical schools) were faculty members. In the fall of 2006, for which data were released Tuesday, 48.6 percent of professional, full-time jobs in higher education were held by faculty members.

Faculty jobs remain the majority among full-time positions at two-year colleges and in public higher education, but because there are far more full-time jobs at four-year institutions than at two-year institutions, the balance has tilted away from professorial positions. (Adding part-time positions would of course also swell the faculty ranks across sectors, but this data set focuses on full-time positions.)

Full-Time Professional Positions in Higher Education, Fall 2004 and Fall 2006

Category	2004 Faculty	2004 Administrators	2006 Faculty	2006 Administrators
Total	50.6%	49.4%	48.6%	51.4%
Public	53.1%	46.9%	51.1%	48.9%
Private nonprofit	45.6%	54.4%	44.0%	56.0%
Private for-profit	48.0%	52.0%	44.1%	55.9%
4-year colleges	47.3%	52.7%	45.5%	54.5%
2-year colleges	63.6%	36.4%	61.4%	38.6%

— Scott Jaschik

The original story and user comments can be viewed online at http://insidehighered.com/news/2008/03/12/jobs.

Museums Refine the Art of Listening

By CAROL VOGEL

IF it seems someone is watching every time you go to a museum, you're not far off.

When the Museum of Modern Art opened its expanded $450 million home on West 53rd Street three years ago, the ticket desk began compiling the ZIP code or country of origin of every visitor, putting the information in a database.

At the Museum of Fine Arts, Boston, which is gearing up for the opening of its $345 million expansion in 2010, researchers found that besides marquee names like Picasso, van Gogh and Monet, subjects like interior design, royal jewels and Egyptian mummies pull in the crowds. And at the Detroit Institute of Arts, officials recently discovered that the average visitor spends only four or five minutes in any gallery, rather than the 20 minutes the officials had expected. Only 7 percent bothered to read the wall plaques.

While museum market research has been around for two decades, gathering data about visitors has never been as important, or as sophisticated, as it is now. As museums expand, they need more paying customers to cover ever-increasing costs. And they're competing for those customers with local shopping malls, movie theaters, even grocery stores.

"I call it the water-park phenomenon," said Ford Bell, president and chief executive of the American Association of Museums in Washington. "A zillion other things are competing for our leisure time. People might visit a museum to see a Monet or a toaster or a textile display — what's important is it's getting them in the door."

Now, besides the reliable techniques — focus groups, exit surveys and mail-in questionnaires — museums are exploring new ways to learn what visitors want. In Detroit, which is spending $158 million on a renovation and gallery reinstallation project to be finished this fall, researchers visited local mothers in their homes to determine how to attract more families to the museum.

More common, however, is the use of software to help museums get a more accurate picture of who their visitors are.

"Now you can do 10 different surveys at the same time," said Karin Graftstrom, market research manager in the visitor services department of the Metropolitan Museum. "You could never do that before." Visitor research has had an impact on everything from museum hours and the brevity of wall labels to the music played during evening hours. At some museums, it has influenced the mix of exhibitions.

At the Museum of Modern Art, Glenn D. Lowry, the director, said that it was just as important to know who is not coming to the museum as it is to know who is.

"It's what you're missing," he said. While entry information and other data showed that a healthy number of college students visited the Modern, "we were not drawing as many of the 20- to 30-years-olds that we hoped," Mr. Lowry said. "So we went out to determine how to better communicate with them."

This age group was visiting the Modern's affiliate, the P.S. 1 Contemporary Art Center in Long Island City, Queens, but didn't seem interested in the Manhattan museum. So two years ago the Modern started the "Pop Rally," with screenings, gallery tours, collaborations with artists and concerts, including performances by Patti Smith, Chicks on Speed and Paper Rad. The museum asked its younger staff members to organize the programs.

The museum also began posting messages about "Pop Rally" and its exhibitions on the museum Web site, as well as sending e-mail and text messages. "A lot of this is a generational challenge," said Mr. Lowry. "It's communicating in ways that people are comfortable."

The "Pop Rally" events have attracted 500 to 1,000 attendees, the majority from just the age group the museum had targeted. Eventually, the museum wants to find out if some of these visitors also come to see exhibitions at other times, too.

Mr. Lowry said research was helping the museum make more informed decisions about issues like opening hours, but doesn't influence the actual kinds of exhibitions it presents.

When the Modern realized, by looking at country-of-origin data, that the number of Korean and Chinese visitors had increased significantly, it added Korean and Chinese to the six languages its brochures and guides were printed in. Officials also started offering guided tours in more languages. And by tracking the time at which visitors arrived, museum officials realized that during the holidays the ticket booths were getting especially crowded, so opening time was advanced an hour to 9:30 a.m.

By questioning visitors in its lobby as well as through the mail, the museum discovered that people don't circulate in the ways curators would expect.

"People graze," said Wendy Woon, deputy director for education at the Modern. "Some read labels, others don't," adding, "We want to give people the keys, not turn the lock. People want choice."

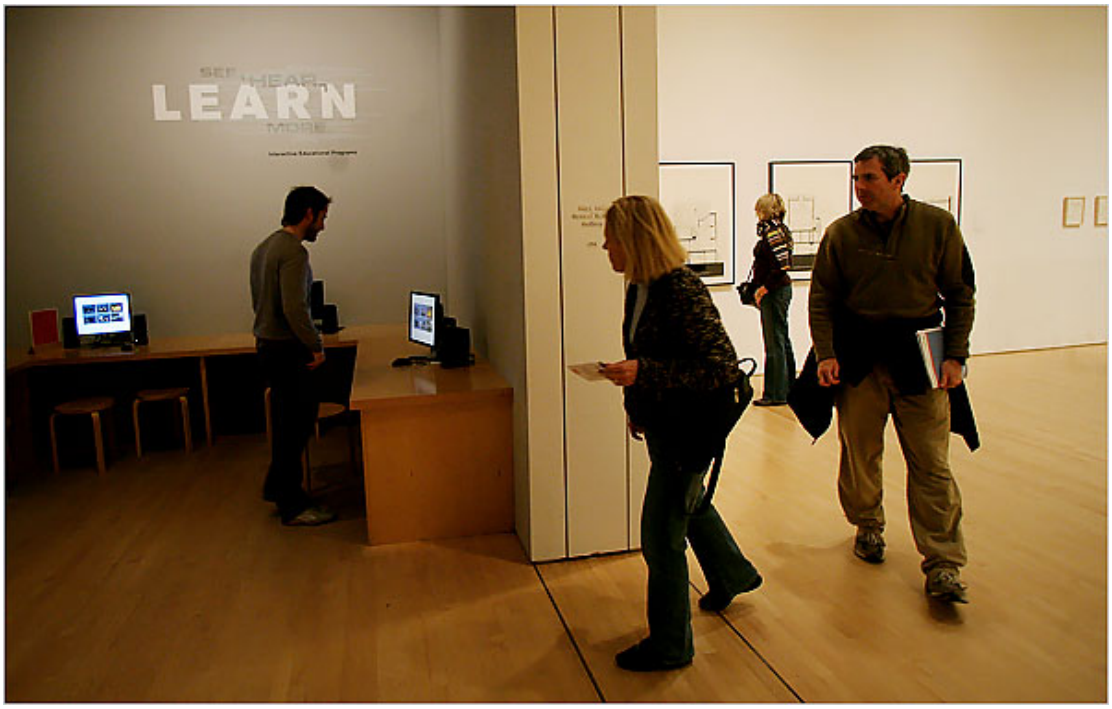
So besides the traditional audio guides the museum has been offering ways of getting information on hand-held devices and cellphones. With some exhibitions, the museum set up small rooms with catalogs and other educational materials.

While serving up what audiences want may be a smart business move, there is a fear by curators that things can go too far, that catering to public opinion could dumb down a museum and supplant curatorial wisdom. Are museums for high culture or low? Places to see Ralph Lauren's car collection and "Star Wars" costumes, props and drawings rather than Vermeer and Renaissance tapestries?

Most institutions stress that the findings from their research have no bearing on plans for exhibitions — that the two are kept apart, a separation of church and state. "It's all about how we present it, not what we show or don't show," said Nancy Price, director of marketing and communications at the Fine Arts Museums of San Francisco.

But at the Museum of Fine Arts, Boston, research does influence the mix of exhibitions presented each year. John S. Stanley, deputy director of programs and services, said the museum conducted on-site written surveys where it presents 50 ideas and lets the public comment on them. "If something scores low, for instance, we will then pair it with a show that tests high so they balance each other out," he said.

A year and a half ago, the museum hired the marketing firm J.D. Power & Associates to try to understand what visitors want. "We found out that the No. 1 thing that gets people to the museum is our collection," Mr. Stanley said.



The research also found that visitors had many different ideas about the best way to learn about the collection, so the museum began testing different presentation elements. "We recently put a touch screen in a Mayan exhibition to see how the public interacts with it," Mr. Stanley said. The screens were positively received. And because museum-goers said they liked choices other than audio guides or formal tours, Boston officials initiated "spotlight talks," informal discussions with instructors in galleries. The museum recently tested different types of seating in the galleries, some that can be moved, some that cannot. "These might be seemingly mundane," Mr. Stanley said. "But they are ways of getting a satisfied visitor."

In Detroit, museum staff conducted "timing and tracking" surveys, where researchers watched to see how much time visitors spent in the galleries and how they looked at art. "That was a real wake-up call that we needed to do things differently," said Matt Sikora, associate educator for evaluation at the museum. "The studies showed people were overwhelmed." So in its new galleries, the museum hung fewer works of art. Wall labels were cut to 150 words from 250. The museum even sought opinions about a video for its 18th century galleries. The video showed a period dinner, replete with Meissen porcelain and 18th century silver. A stylist created a period feast, right down to a roast pig centerpiece. "It was meant to show the opulence of the dinner," Mr. Sikora said. "The problem was the video was too long to engage its audience." So it was cut to five minutes, from eight. "And the pig generated so many questions and was so distracting we left it out," he said. At the San Francisco Museum of Modern Art, officials have been conducting exit surveys three or four times a year for a decade. More recently, they added focus groups and online surveys. In addition to the usual intelligence, officials found that "people want to know that what they're seeing is relevant to their life," said Ms. Price. "This might sound simple, but it's important for us to hear." And something they keep in mind when programming lectures; the museum prefers to invite speakers who are well-known in the community. When they know that an exhibition might be particularly challenging, museum officials introduce "learning lounges, rooms next to the galleries with catalogs and excerpts of artists talking," she said. "And when we had the Matthew Barney show we presented a variety of different ways to access the audio guide, through iPods and cellphones as well as traditional audio guides, tools that were especially familiar to its under-35 audience." Research also showed officials in San Francisco that one of the best ways to reach audiences is by placing banners around the city. "We hear it from tourists and we hear it from folks in town, members and nonmembers," Ms. Price said. Now, as the museum prepares for a Frida Kahlo retrospective in June, it is trying to figure out how to best serve what it anticipates will be an unusually large number of visitors. It will stay open until 10 p.m. on Thursday nights, rather than the usual 8:45 p.m. And curators are grappling with how best to install the show. Do they mount the paintings higher so they will be visible from a distance? And what about the wall labels? How long should they be and where will it be the easiest to see them?

In the end, Ms. Price said, the answers to those and other questions come from research — "studying ways our visitors can best access art and information."

http://www.nytimes.com/2008/03/12/arts/artsspecial/12visitors.html?ref=artsspecial

A Fond Look at Lennon's 'Lost Weekend'

By ALLAN KOZINN

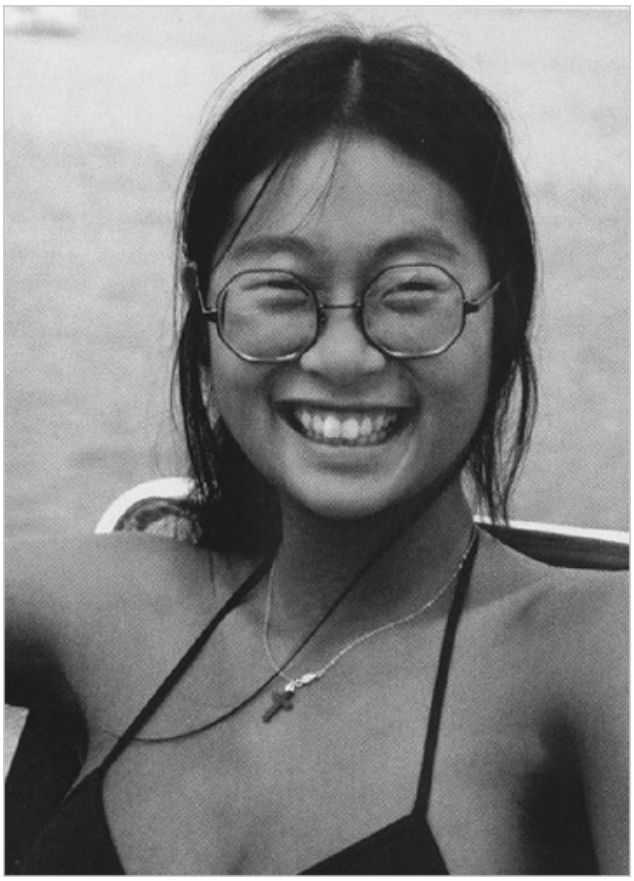
If there's one thing that May Pang has been fighting for the last 28 years, it's the idea that John Lennon was depressed, isolated and out of control during the 18 months she lived with him, from the summer of 1973 to early 1975, when he reconciled with his second wife, Yoko Ono.

Lennon himself fostered that notion by referring to the time as his "Lost Weekend" in interviews he gave in 1980, when he released "Double Fantasy," a joint album with Ms. Ono that was his return to music-making after five years' silence. And lurid, oft-repeated tales of a drunken Lennon's being evicted from the Troubadour, a nightclub in Los Angeles, seemed to support that image.

But to Ms. Pang, now 57, the "Lost Weekend" was a remarkably productive time, during which Lennon completed three albums — "Mind Games," "Walls and Bridges" and "Rock 'n' Roll" — produced albums for Ringo Starr and Harry Nilsson, and recorded with David Bowie, Elton John and Mick Jagger. And having already detailed these experiences (along with the Troubadour expulsions and other dark moments) in "Loving John," her 1983 memoir, Ms. Pang has returned with the photographic evidence.

Her new book, "Instamatic Karma" (St. Martin's Press), is a 140-page collection of casual photos that Ms. Pang took during her time with Lennon. Apart from a handful included in "Loving John" — cropped and in black and white, but mostly printed in full and rich color here — she has kept them in a shoe box in her closet, occasionally pulling them out to show friends.

"I began to think about publishing them just in the last couple of years," Ms. Pang said on Monday at her publisher's office in the Flatiron Building. "A friend of mine kept saying, 'You tell all these stories about John, and when you do, you say, "Wait a minute, I have a photo to go along with that!" How come we never see these photos in a book?' So, I thought maybe it's time to put them out. It would let people see John in that world, through my eyes. And it would get rid of that whole 'Lost Weekend' thing, where everyone says he was always down and looked terrible. I don't think these photos appear that way."



They don't: in the pages of "Instamatic Karma" — the title is a play on Lennon's song "Instant Karma" — Lennon looks relaxed and happy, and is seen spending time with his first son, Julian, as well as with some famous friends, among them Paul McCartney, Ringo Starr, Nilsson and Keith Moon. He is shown working in the recording studio, swimming in Long Island Sound, clowning around in Central Park and visiting Disney World.

"They are personal and unique and very touching," said Cynthia Lennon, Lennon's first wife, who flew to New York from her home in Mallorca, Spain, to be the host of Ms. Pang's publication party at the Cutting Room on Tuesday. Ms. Lennon got to know Ms. Pang when she escorted her son, Julian, on two of his four trips to visit his father while he was living with Ms. Pang.

"It's lovely for me to look back, especially with Julian in these photographs," she said. "But I'm here just because May is a good friend of mine and has been since we met."

Ms. Pang arranged her book by subject instead of chronologically, with four chapters labeled "At Home," "At Play," "At Work" and "Away." To her regret, she did miss a few famous moments. The March 28, 1974, Los Angeles jam session that included Lennon, Nilsson, Mr. McCartney and Stevie Wonder, for example, was not documented.

But Ms. Pang did capture one momentous event: Lennon's signing the agreement that dissolved the Beatles' partnership on Dec. 29, 1974.

After four years' negotiation, the Beatles had agreed — or appeared to have — on the terms governing their formal split, and a meeting had been arranged at the Plaza Hotel in Manhattan on Dec. 19. George Harrison was performing at Madison Square Garden that night; Mr. McCartney had flown in from London; and Mr. Starr, having signed the document earlier, was on the telephone.

At the last minute, Lennon objected to a clause that he felt would create tax problems for him (as the only Beatle living in the United States), and decided not to attend. Harrison, furious, canceled plans for Lennon to join him onstage at Madison Square Garden, but Mr. McCartney turned up at the East 52nd Street apartment that Lennon and Ms. Pang shared to discuss the sticking point.

Ten days later, when Lennon, Julian and Ms. Pang were at Disney World, a lawyer bearing the revised contract turned up, and Lennon asked Ms. Pang to take out her camera. As Ms. Pang describes the scene in "Instamatic Karma," Lennon had a last-minute telephone conference with his own lawyer

"When John hung up the phone," she writes, "he looked wistfully out the window. I could almost see him replaying the entire Beatles experience." Ms. Pang then photographed him signing just beneath the clearly legible signatures of Paul McCartney, George Harrison and Richard Starkey (Mr. Starr's real name), the shutter clicking between the "h" and "n" of his first name.

Given that Lennon had been particularly militant about leaving the Beatles in 1969, it might seem odd to learn that he did so wistfully. Not to Ms. Pang.

"Everybody changes," she said. "With John things changed on a daily basis. It's a question of time. Five years earlier was not the same situation. In 1974 he had just seen everyone. The friendship was still there. They were brothers. There was no animosity. And even though they all felt they had to break up to get to the next level of their musical careers, John had started this band that changed the world. It changed pop culture. It changed how we live and how we dress. And he knew that. So when he sat down to sign, he knew that this was it. His was the last signature. As he had started the group, he was the one to end it."

http://www.nytimes.com/2008/03/12/arts/music/12pang.html?th&emc=th

Virtual child passes mental milestone

- 16:23 11 March 2008
- NewScientist.com news service
- Celeste Biever

A virtual child controlled by artificially intelligent software has passed a cognitive test regarded as a major milestone in human development. It could lead to smarter computer games able to predict human players' state of mind.

Children typically master the "false belief test" at age 4 or 5. It tests their ability to realise that the beliefs of others can differ from their own, and from reality.

The creators of the new character – which they called Eddie – say passing the test shows it can reason about the beliefs of others, using a rudimentary "theory of mind".

"Today's [video game] characters have no genuine autonomy or mental picture of who you are," researcher Selmer Bringsjord of Rensselaer Polytechnic Institute in Troy, New York, told **New Scientist**.

He aims to change that with future games and virtual worlds populated by genuinely intelligent computer characters able to predict and understand players actions and motives.

Bringsjord's colleague Andrew Shilliday adds that their work will have applications outside of gaming. For example, search engines able to reason about the beliefs of a user might allow them to better understand their search queries.

False Beliefs

In real life, the "false belief test" is used by psychologists to help diagnose disorders such as autism. The subject is shown a scene in which a child puts an object in a drawer and leaves the room. While out of sight, the child's mother moves the object somewhere else.

Unable to see the world through the eyes of others, young children – and some people with autism – taking the test predict that the child will look for the object in the place his mother left it. Only at 4 or 5 years old can they understand that the child falsely believes the object is still in the drawer.

Bringsjord's team set up a similar scenario inside the virtual world Second Life. A video shows their character, Eddie, taking and passing the test (15 MB, .mov format).

Two avatars controlled by humans stand with Eddie next to one red and one green suitcase. One human avatar then leaves and while they are gone the remaining human avatar moves the gun from the red suitcase into the green one.

Eddie is then asked where the character that left would look for the gun. The AI software correctly realises they will look in the red suitcase.

Simple logic

Eddie's software maintains a database of facts that is constantly updated, for example, the location of the gun. The reasoning engine uses these facts to make sense of situations.

Eddie can pass the test thanks to a simple logical statement added to the reasoning engine: if someone sees something, they know it and if they don't see it, they don't. The program can reason correctly that an avatar will not know the gun has moved unless it was there to see it.

An "immature" version of Eddie without the extra piece of logic cannot pass the test.

John Laird, a researcher in computer games and Artificial Intelligence (AI) at the University of Michigan in Ann Arbor, is not overly impressed. "It's not that challenging to get an AI system to do theory of mind," he says.

'Necessary step'

He points out that last year, Cynthia Breazeal of the Massachusetts Institute of Technology's Media Lab programmed that ability into a physical robot called Leonardo. A video shows the robot passing the test.

More impressive demonstration, says Laird, would be a character, initially unable to pass the test, that learned how to do so – just as humans do.

But Bringsjord points out his is the first computer character to achieve theory of mind, something necessary if characters are to become smarter, better opponents and collaborators. His team are now attempting to make characters that can lie, which also requires reasoning about other people's mental states.

Shilliday presented the work on Sunday 2 March at the first conference on Artificial General Intelligence in Memphis, Tennessee, US.

Related Articles

- Self-aware robot turns mirror on humankind
- http://technology.newscientist.com/article/mg19426046.300
- 16 May 2007
- Anti-social bot invades Second Lifers' personal space
- http://technology.newscientist.com/article/dn12870
- 02 November 2007
- 'Robot arms race' underway, expert warns
- http://technology.newscientist.com/article/dn13382
- 27 February 2008

Weblinks

- Intelligent Avatars, Rensselaer Artificial Intelligence and Reasoning (RAIR) Laboratory
- http://www.cogsci.rpi.edu/research/rair/asc_rca/
- John Laird, University of Michigan
- http://ai.eecs.umich.edu/people/laird/"

http://technology.newscientist.com:80/channel/tech/dn13446-virtual-child-passes-mental-milestone-.html?feedId=online-news_rss20

Searching For A Tiny New Dimension, Curled Up Like The Universe Before The Big Bang

The Eight-meter-wavelength Transient Array, being set up to search the sky for these radio pulses from explosions up to 300 light years away. (Credit: Image courtesy of John Simonetti / Virginia Tech)

ScienceDaily (Mar. 12, 2008) — The universe as we currently know it is made up of three dimensions of space and one of time, but researchers in the Department of Physics and the Department of Electrical and Computer Engineering at Virginia Tech are exploring the possibility of an extra dimension.

Sound like an episode from the "Twilight Zone?" Almost, but not quite; according to John Simonetti, associate professor of physics in the College of Science and Michael Kavic, graduate student and one of the investigators on the project.

"The idea we're exploring is that the universe has an imperceptibly small dimension (about one billionth of a nanometer) in addition to the four that we know currently," Kavic said. "This extra dimension would be curled up, in a state similar to that of the entire universe at the time of the Big Bang."

The group is looking for small primordial black holes that, when they explode, may produce a radio pulse that could be detected here on Earth. These black holes are called primordial because they were created a fraction of a second after the beginning of the universe.

Black holes are expected to evaporate over time, losing mass and therefore shrinking. A black hole larger than the extra dimension would wrap around it like a thick rubber band wrapped around a hose. As a black hole shrinks down to the size of the extra dimension, it would be stretched so thin it would snap, causing an explosion.

The explosion could produce a radio pulse. Under a National Science Foundation grant, the Virginia Tech group is preparing to set up an Eight-meter-wavelength Transient Array radio telescope in Montgomery County to search the sky for these radio pulses from explosions up to 300 light years away. They have a similar telescope in southwestern North Carolina that has been looking for events for several months.

"We have a number of things in mind that have been predicted to produce radio pulses, which have not been seen," Simonetti said. "One of them is a primordial black hole explosion."

"Basically we're looking for any exotic, high-energy explosion that would produce radio waves," Simonetti said. He said the establishment of the second radio telescope would help the two telescopes validate one another.

"If a pulse is detected in both instruments at about the same time, that's a good indication we're talking about something real as opposed to a pulse from manmade interference," Simonetti said.

Why search for extra dimensions? One reason has to do with string theory, an area of physics that postulates that the fundamental building blocks of the universe are small strings of matter that oscillate much like a guitar string, producing various harmonics.

"String theory requires extra dimensions to be a consistent theory," Kavic said. "String theory suggests a minimum of 10 dimensions, but we're only considering models with one extra dimension."

Some theorists believe the Large Hadron Collider, a giant particle accelerator being constructed near Geneva, Switzerland, might be able to detect an extra dimension. The Virginia Tech group hopes to detect them via radio astronomy, a much less elaborate and costly endeavor.

The Virginia Tech research team plans to run the search for at least five years. Others involved in the project include physics graduate student Sean Cutchin; College of Engineering professors Steven Ellingson and Cameron Patterson; and graduate students Brian Martin, Kshitija Deshpande, and Mahmud Harun.

"If we had evidence there is an extra dimension, it would really revolutionize how we think about space and time," Kavic said. "This would be a very exciting discovery."

Adapted from materials provided by Virginia Tech, via EurekAlert!, a service of AAAS.

http://www.sciencedaily.com/releases/2008/03/080310151949.htm

Breeding Heat-Tolerant Cotton

Plant geneticist Richard Percy and plant physiologist Steven Crafts-Brandner inspect cotton plants for their fruit retention under heat stress conditions. (Credit: Photo by Stephen Ausmus)

ScienceDaily (Mar. 12, 2008) — Some plants like it hot. Cotton with superior heat tolerance can be a profitable crop for warmer climates, so Agricultural Research Service (ARS) scientists are identifying tolerance-specific genetic selection tools to assist breeding efforts.

Unfortunately, it's nearly impossible to differentiate between heat tolerance and heat avoidance simply by examining the quantity and quality of final crop yields. Heat avoidance refers to characteristics that enable a plant to withstand the heat with similar, but less reliable, results—for example, by shifting the bulk of metabolic activity to cooler, evening periods.

At the U.S. Arid-Land Agricultural Research Center in Maricopa, Ariz., ARS scientists are investigating the process known as "dark respiration." This research could make it easier to differentiate between heat-tolerant and heat-avoidant plants.

Dark respiration is a continuous process in which mitochondria within a plant's cells oxidize carbohydrates to create energy. Cotton plants make more starch during the day than they require for growth. The excess starch is stored in plant cells' chloroplasts, where photosynthesis occurs. At night, that starch is broken down via respiration and other metabolic processes and used to support new growth, such as cotton bolls.

To determine the relationship between efficient nocturnal carbon use and heat tolerance, plant physiologist Steven Crafts-Brandner and plant geneticist Richard Percy—now with the ARS Southern Plains Agricultural Research Center in College Station, Texas—selected three upland and three pima cotton cultivars, choosing a mix of heat-tolerant and heat-susceptible plants. They have been monitoring the cultivars' rates of dark respiration and photosynthesis throughout the day.

Percy and Crafts-Brandner have already made some significant observations. For example, the cultivars with the greatest heat tolerance generally have lower rates of dark respiration and more efficient use of carbohydrates. If ongoing studies support these observations, the scientists may be able to use these traits to improve the cotton breeding program.

Adapted from materials provided by US Department of Agriculture.

http://www.sciencedaily.com/releases/2008/03/080307083038.htm

Epigenetic Changes Discovered In Major Psychosis

ScienceDaily (Mar. 12, 2008) — Scientists have discovered epigenetic changes (i.e. chemical changes to a gene that do not alter the DNA sequence) in individuals with schizophrenia and bipolar disorder. This is the first epigenome-wide investigation in psychiatric research, and this groundbreaking data may be a significant step on the journey to fully understanding major psychosis.

Dr. Arturas Petronis, senior scientist in the Krembil Family Epigenetic Laboratory at the Centre for Addiction and Mental Health (CAMH), and his team studied 12,000 locations on the genome using an epigenomic profiling technology developed at CAMH. Approximately one in every two hundred of these genes showed an epigenetic difference in the brains of psychiatric patients. Significantly, these changes were noted on genes involved in neurotransmission (the exchange of chemical messages within the brain), brain development, and other processes linked to disease origins.

Dr. Petronis explains that these epigenetic changes may be the missing link in understanding what causes an illness. "The DNA sequence of genes for someone with an illness like schizophrenia and a for someone without a mental illness often look the same; there are no visible changes that explain the cause of a disease. But we now have tools that show us changes in the second code, the epigenetic code, which may give us some very important clues for uncovering the mysteries of major psychosis and other complex non-Mendelian illnesses."

This proof-of-principle study is the first demonstration of what CAMH epigeneticists have hypothesized for the last 10 years. "Until now, we only had theories that epigenetic changes were important to understanding what causes major psychosis," explains Dr. Petronis. "Now we have the tools and expertise to support our theories and we can look at conducting larger studies, which will hopefully give us an even better understanding of psychiatric illnesses. And once we understand the primary molecular causes of an illness, we can advance diagnosis and treatment approaches, and possibly even prevent illness."

CAMH is fully affiliated with the University of Toronto, and is a Pan American Health Organization/World Health Organization Collaborating Centre.

Journal reference: Epigenomic Profiling Reveals DNA-Methylation Changes Associated with Major Psychosis. The American Journal of Human Genetics, Volume 82, Issue 3, 696-711, 3 March 2008. doi:10.1016/j.ajhg.2008.01.008 http://www.ajhg.org/AJHG/fulltext/S0002-9297(08)00148-1

Adapted from materials provided by Centre for Addiction and Mental Health.

http://www.sciencedaily.com:80/releases/2008/03/080311103908.htm

How The Peruvian Meteorite Made It To Earth

The Carancas Fireball. Planetary geologists had thought that stony meteorites would be destroyed when they passed through Earth's atmosphere. This one struck ground near Carancas, Peru, at about 15,000 miles per hour. Brown University geologists have advanced a new theory that would upend current thinking about stony meteorites. (Credit: Peter Schultz, Brown University)

ScienceDaily (Mar. 12, 2008) — It made news around the world: On Sept. 15, 2007, an object hurtled through the sky and crashed into the Peruvian countryside. Scientists dispatched to the site near the village of Carancas found a gaping hole in the ground.

Peter Schultz, professor of geological sciences at Brown University and an expert in extraterrestrial impacts, went to Peru to learn more. Brown graduate student Robert "Scott" Harris collaborated on the research, joined by Jose Ishitsuka, a Peruvian astrophysicist, and Gonzalo Tancredi, an astronomer from Uruguay.

What Schultz and his team found is surprising. The object that slammed into a dry riverbed in Peru was a meteorite, and it left a 49-foot-wide crater. Soil ejected from the point of impact was found nearly four football fields away. When Schultz's team analyzed the soil where the fireball hit, he found "planar deformation features," or fractured lines in sand grains found in the ground. Along with evidence of debris strewn over a wide area, the shattered sand grains told Schultz that the meteorite had maintained a high rate of speed as it shot through the atmosphere. Scientists think it was traveling at roughly 15,000 miles per hour at the moment of impact.

"Normally with a small object like this, the atmosphere slows it down, and it becomes the equivalent of a bowling ball dropping into the ground," Schultz said. "It would make a hole in the ground, like a pit, but not a crater. But this meteorite kept on going at a speed about 40 to 50 times faster than it should have been going."

Scientists have determined the Carancas fireball was a stony meteorite – a fragile type long thought to be ripped into pieces as it enters the Earth's atmosphere and then leaves little more than a whisper of its journey.

Yet the stony meteorite that struck Peru survived its passage mostly intact before impact. "This just isn't what we expected," Schultz said. "It was to the point that many thought this was fake. It was completely inconsistent with our understanding how stony meteorites act."

Schultz said that typically fragments from meteorites shoot off in all directions as the object speeds to Earth. But he believes that fragments from the Carancas meteorite may have stayed within the fast-moving fireball until impact. How that happened, Schultz thinks, is due to the meteorite's high speed. At that velocity, the fragments could not escape past the "shock-wave" barrier accompanying the meteorite and instead "reconstituted themselves into another shape," he said.

That new shape may have made the meteorite more aerodynamic – imagine a football passing through air versus a cinderblock – meaning it encountered less friction as it sped toward Earth, hitting the surface as one large chunk.

"It became very streamlined and so it penetrated the Earth's atmosphere more efficiently," Schultz said.

Schultz's theory could upend the conventional wisdom that all small, stony meteorites disintegrate before striking Earth. If correct, it could change the thinking about the size and type of extraterrestrial objects that have bombarded the Earth for eons and could strike our planet next.

"You just wonder how many other lakes and ponds were created by a stony meteorite, but we just don't know about them because when these things hit the surface they just completely pulverize and then they weather," said Schultz, director of the Northeast Planetary Data Center and the NASA/Rhode Island University Space Grant Consortium.

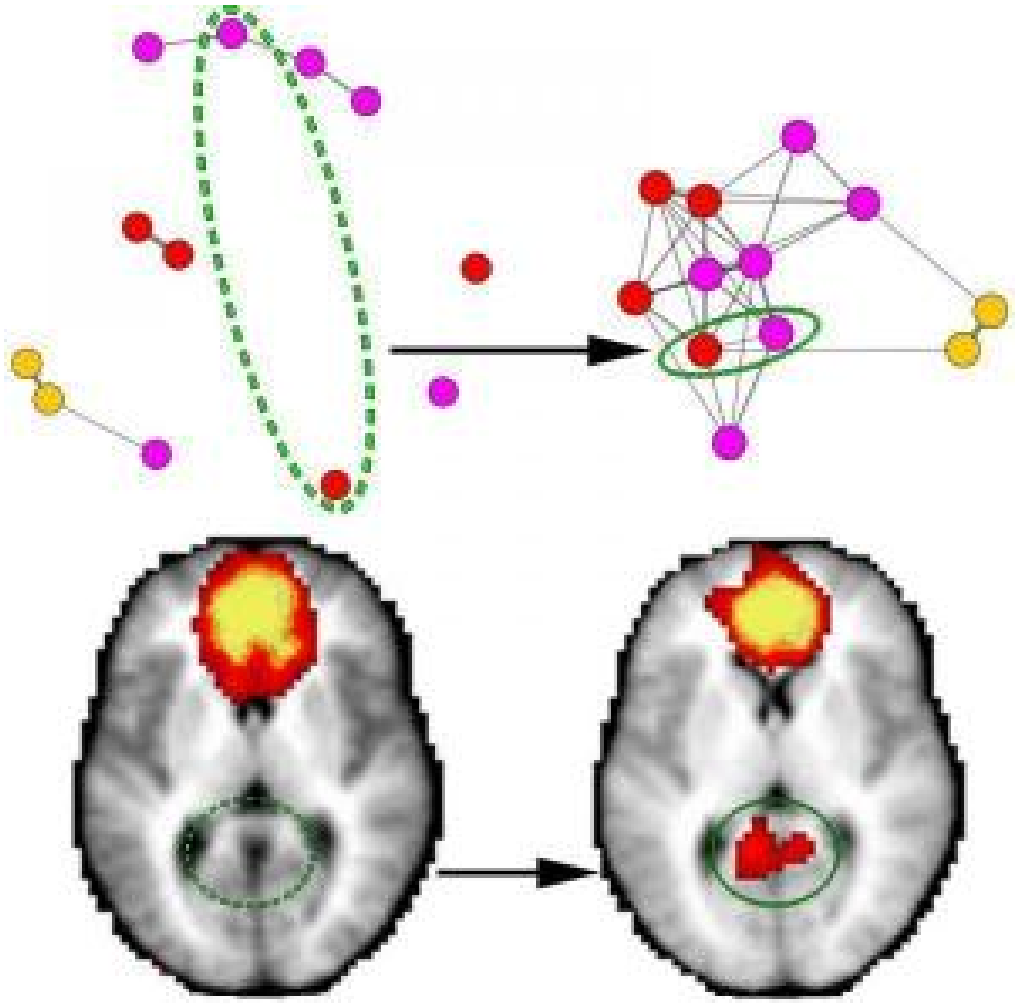
Schultz's research could have implications for Mars, where craters have been discovered in recent missions. "They could have come from anything," he said. "It would be interesting to study these small craters and see what produced them. Perhaps they also will defy our understanding."

These findings will be present at the 39th annual Lunar and Planetary Science Conference in League City, Texas on March 11, 2008.

Adapted from materials provided by Brown University.

http://www.sciencedaily.com:80/releases/2008/03/080311141024.htm

Brain Network Linked To Contemplation In Adults Is Less Complex In Children



Diagrams map the connections between brain regions involved in the default network, a brain network linked to contemplative thought. Results from brain scans of children, on the left, reveal a less intricate, looser network than that found in adults, shown on the right. The green oval encloses a pair of regions important to the network, the medial prefrontal cortex and the posterior cingulate cortex. These two regions are highlighted on the brain slices below the diagrams. (Credit: Image courtesy of Washington University School of Medicine)

ScienceDaily (Mar. 11, 2008) — A brain network linked to introspective tasks— such as forming the self-image or understanding the motivations of others — is less intricate and well-connected in children, scientists at Washington University School of Medicine in St. Louis have learned. They also showed that the network establishes firmer connections between various brain regions as an individual matures.

The scientists are working to establish a picture of how these connections and other brain networks normally develop and interact. They want to use that picture to conduct more detailed assessments of the effects of aging, brain injuries and conditions such as autism on brain function.

"Having this information will not only help us understand what's going wrong in these patients, it will also allow us to better assess whether and how future interventions are providing those patients with effective treatment," says senior author Bradley L. Schlaggar, M.D., Ph.D., associate professor of pediatrics, radiology, neurology and anatomy and neurobiology.

Neuroscientists including co-author Marcus E. Raichle, M.D., professor of radiology, of anatomy and neurobiology and of neurology first identified the network, which is called the default network, in 1996. Since then, scientists have linked it to a number of inward-looking activities, including the creation of the "autobiographical self," a person's internal narrative of their life story; and "mentalizing," the ability to analyze the mental states of others and use those insights to adjust the self's behavior appropriately.

Schlaggar, Raichle and colleagues including Steve Petersen, Ph.D., the James McDonnell Professor of Cognitive Neuroscience and professor of neurology and psychology, have been using a new technique called resting-state functional connectivity MRI to identify brain networks and analyze their functions and development. Instead of analyzing mental activity when a volunteer works on a cognitive task, resting-state connectivity scans their brains after they have been asked to rest and not engage in any specific tasks. The scans reveal changes in the oxygen levels in blood flowing to different areas of the brain. Researchers interpret correlations in the rise and fall of blood oxygen to different brain areas as a sign that those areas likely work together. In neuroscientist's terms, this means the regions have functional connectivity.

Damien A. Fair, a graduate student in Schlaggar's lab, led the new study, which compared functional connectivity in 13 brain regions linked to the default network in children ages seven to nine and adults ages 21 to 31.

"The difference between children and adults is profound," Fair says. "In a graph depicting the strength of connections between the brain regions we studied, children's minds have just a few connections between some regions, while the adult brains have a web-like mesh of many different interconnecting links involving all the regions."

In papers published in recent years, the researchers have used the same techniques to identify two networks that they think control much of the brain activity behind behaviors directed toward "external" goals, including observing and interacting with the environment.

Schlaggar and colleagues plan further study of how the brain networks interact during development and in the mature brain. They also are looking at how network functions differ in patients with brain injuries and conditions such as autism.

"Autism spectrum disorder first manifests earlier than the time period we were studying," Schlaggar notes. "But many of the functions it affects have been associated with the default network, so we're eager to see if analysis of this network and its development can give us new insights into autism."

Journal reference: Fair DA, Cohen AL, Dosenbach NUF, Church JA, Miezin FM, Barch DM, Raichle ME, Petersen SE, Schlaggar BL. The maturing architecture of the brain's default network. Proceedings of the National Academy of Sciences, online edition, in print March 11.

Funding from the National Institutes of Health, the John Merck Scholars Fund, the Burroughs-Wellcome Fund, the Dana Foundation, the Ogle Family Fund, the Washington University Chancellor's Graduate Fellowship, the United Negro College Fund and the Merck Graduate Science Research Dissertation Fellowship supported this research.

Adapted from materials provided by Washington University School of Medicine.

http://www.sciencedaily.com/releases/2008/03/080306193230.htm

How Frequency Of Meals May Affect Health

ARS and National Institute on Aging studies looked into health consequences of eating one meal a day, which some people do, compared to the standard recommendation of eating three meals a day. (Credit: Photo by Peggy Greb)

ScienceDaily (Mar. 11, 2008) — The health consequences of eating one large meal a day compared with eating three meals a day has not been established. Now two recently published journal articles are among the first to report the effects of meal skipping on key health outcomes, based on a study involving a group of normal-weight, middle-aged adults.

The study analyses were authored by scientists at the Agricultural Research Service (ARS) Beltsville Human Nutrition Research Center in Beltsville, Md., and colleagues at the National Institute on Aging (NIA) Intramural Research Program in Baltimore, Md.

For the study, a small group of male and female volunteers participated in two eight-week meal-treatment periods. The study's crossover design meant that each volunteer completed both of the treatment diets, enabling them to serve as their own controls.

Volunteers were divided into one of two groups during each treatment period. They consumed either all of their required weight-maintenance calories in one meal a day or in three meals a day. ARS physiologists David Baer and William Rumpler and NIA neuroscientist Mark Mattson designed the study.

The first study analysis showed that consuming a one-meal-per-day diet, rather than a traditional three-meal-per-day diet, is feasible for a short duration. It showed that when the volunteers were "one-mealers," they had significant increases in total cholesterol, LDL "bad" cholesterol and in blood pressure, compared to when they were "three-mealers."

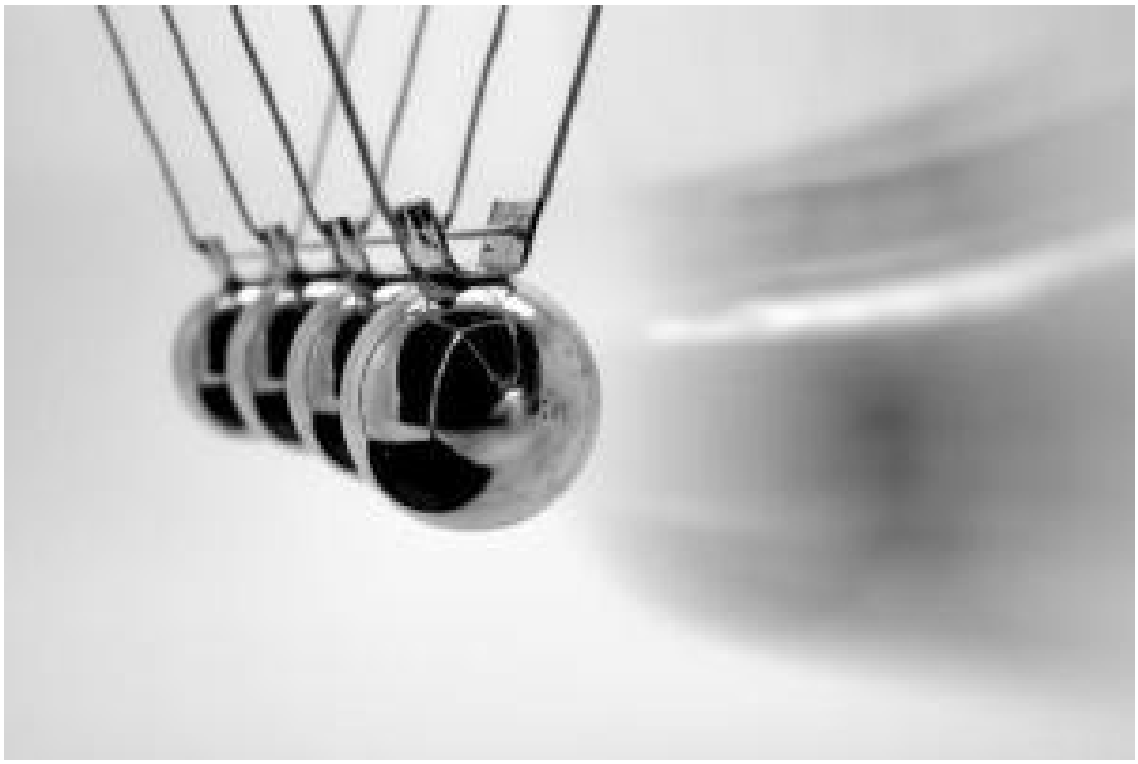
The changes in cardiovascular disease risk factors occurred despite the fact that the one- mealers saw slight decreases in their weight and fat mass in comparison to when they were three-mealers. Those findings were published in the April 2007 issue of the American Journal of Clinical Nutrition.

Further analysis of the study group showed that when the volunteers were one-mealers, they had higher morning fasting blood sugar levels, higher and more sustained elevations in blood sugar concentrations, and a delayed response to the body's insulin, compared to when they were "three-mealers." Insulin is required to lower blood sugar levels. Those findings were published in the December 2007 issue of Metabolism.

Adapted from materials provided by US Department of Agriculture.

http://www.sciencedaily.com/releases/2008/03/080307084626.htm

Real And Virtual Pendulums Swing As One In Mixed Reality State



Using a virtual pendulum and its real-world counterpart, scientists have created the first mixed reality state in a physical system. (Credit: iStockphoto/Frank Boellmann)

ScienceDaily (Mar. 11, 2008) — Using a virtual pendulum and its real-world counterpart, scientists at the University of Illinois have created the first mixed reality state in a physical system. Through bidirectional instantaneous coupling, each pendulum "sensed" the other, their motions became correlated, and the two began swinging as one.

"In a mixed reality state there is no clear boundary between the real system and the virtual system," said U. of I. physicist Alfred Hubler. "The line blurs between what's real and what isn't."

In the experiment, Hubler and graduate student Vadas Gintautas connected a mechanical pendulum to a virtual one that moved under time-tested equations of motion. The researchers sent data about the real pendulum to the virtual one, and sent information about the virtual pendulum to a motor that influenced motion of the real pendulum.

When the lengths of the two pendulums were dissimilar, they remained in a dual reality state of uncorrelated motion and both soon came to rest.

When the lengths of the pendulums were similar, however, they "suddenly noticed each other, synchronized their motions, and danced together indefinitely," said Hubler, who also is affiliated with the U. of I. Center for Complex Systems Research.

In this mixed reality state, the real pendulum and the virtual pendulum moved together as one.

While mechanical pendulums have been coupled with springs to create correlated motion in the past, this is the first time a mechanical system has been coupled with a virtual system. The resulting mixed reality state was made possible by the computational speed of current computer technology.

"Computers are now fast enough that we can detect the position of the real pendulum, compute the dynamics of the virtual pendulum, and compute appropriate feedback to the real pendulum, all in real time," said Hubler, who will describe the experiment and discuss potential ramifications at the annual meeting of the American Physical Society, to be held in New Orleans, March 10-14.

From flight simulators to video games, virtual worlds are becoming more and more accurate depictions of the real world. There could come a point, a phase transition, where the boundary between reality and virtual reality disappears, Hubler said. And that could present problems.

For example, no longer able to determine what is real and what is not, an individual might become defensive in the real world because of a threat perceived in a virtual world.

A better understanding of this potential phase transition is needed, Hubler said. "As virtual systems continue to improve and better approximate real ones, even weak couplings -- like those between real and virtual pendulums -- could induce sudden transitions to mixed reality states."

Funding was provided by the National Science Foundation.

Adapted from materials provided by University of Illinois at Urbana-Champaign.

http://www.sciencedaily.com:80/releases/2008/03/080310131511.htm

Thirsty Hybrid And Electric Cars Could Triple Demands On Scarce Water Resources

Electric and hybrid vehicles could raise water consumption in the United States. Scientists are reporting that cars driven with electricity consume about three times more water than those with gasoline. (Credit: Courtesy of Austin Energy)

ScienceDaily (Mar. 11, 2008) — Eco-minded drivers in drought-prone states take note: A new study concludes that producing electricity for hybrid and fully electric vehicles could sharply increase water consumption in the United States.

In the study, Carey W. King and Michael E. Webber note that policy makers often neglect the impact that fleets of hybrid and electric vehicles could have on already-scarce water resources. They calculated water usage, consumption, and withdrawal during petroleum refining and electricity generation in the United States.

Each mile driven with electricity consumes about three times more water (0.32 versus 0.07-0.14 gallons per mile) than with gasoline, the study found.

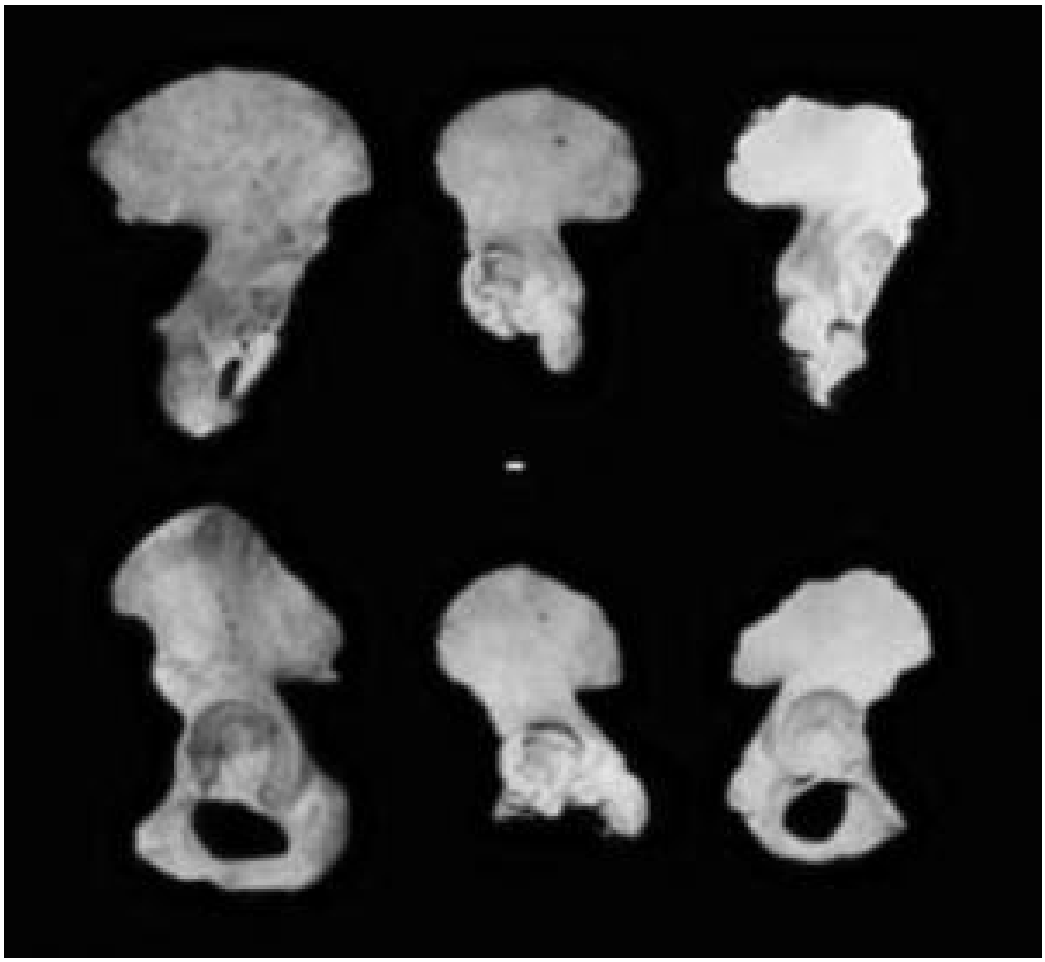
"This is not to say that the negative impacts on water resources make such a shift undesirable," King and Webber emphasized. "Rather this increase in water usage presents a significant potential impact on regional water resources and should be considered when planning for a plugged-in automotive economy."

The article, "The Water Intensity of the Plugged-In Automotive Economy" is scheduled for the June 1 issue ofEnvironmental Science & Technology.

Adapted from materials provided by American Chemical Society, via EurekAlert!, a service of AAAS.

http://www.sciencedaily.com:80/releases/2008/03/080310094555.htm

Micronesian Islands Colonized By Small-bodied Humans



Comparison of the two innominates from Palau to that of a modern adult female of average stature (c162 cm). From left to right -- modern human pelvis (top is from the right, bottom is from the left), B:OR-15:18-009 and B:OR-15:18-087. Top: posterolateral view; bottom: lateral view. (Credit: Berger LR, Churchill SE, De Klerk B, Quinn RL (2008) Small-Bodied Humans from Palau, Micronesia. PLoS ONE 3(3): e1780.)

ScienceDaily (Mar. 11, 2008) — Since the reporting of the so-called "hobbit" fossil from the island of Flores in Indonesia, debate has raged as to whether these remains are of modern humans (Homo sapiens), reduced, for some reason, in stature, or whether they represent a new species, Homo floresiensis.Lee Berger and colleagues from the University of the Witwatersrand, Rutgers University and Duke University, describe the fossils of small-bodied humans from the Micronesian island of Palau. These people inhabited the island between 1400 and 3000 years ago and share some -- although not all -- features with the H. floresiensis specimens.

Palau is situated in the Western Caroline Islands and consists of a main island of Babeldaob, with hundreds of smaller rock islands to the south west, colloquially known as the "rock islands." These rock islands contain caves and rock shelters, in many of which, fossilized and subfossilized human remains have been found. The specimens described by Berger and colleagues came from two such caves, Ucheliungs and Omedokel, which appear to have been used as burial sites.

In both caves, they found skeletons of individuals who would have been small even relative to other such populations and are approximately the size of H. floresiensis or small members of the genus Australopithecus. These fossils were radiocarbon dated to between 1410 and 2890 years ago. The

entrance to Omedokel cave also contained the remains of larger individuals dated to between 940 and 1080 years ago.

These two caves have provided and will continue to provide a wealth of specimens, which will need more intensive study. However, preliminary analysis of more than a dozen individuals including a male who would have weighed around 43 kg and a female of 29 kg, show that these small-bodied people had many craniofacial features considered unique to H. sapiens.

These include: a distinct maxillary canine fossa, a clearly delimited mandibular mental trigone (in most specimens), moderate bossing of the frontal and parietal squama, a lateral prominence on the temporal mastoid process, reduced temporal juxtamastoid eminences and an en maison cranial vault profile with the greatest interparietal breadth high on the vault. Thus, these individuals are likely to be from a human population who acquired reduced stature, for some reason.

It is well established that populations living on isolated islands often consist of individuals of smaller stature than their mainland cousins -- a phenomenon known as island dwarfism. This is true not just for humans but for many animals including extinct mammoths and elephants from islands off Siberia, California and even in the Mediterranean. Alternatively, the island may have been colonized by a few small individuals, between 3,000 and 4,000 years ago who, through extensive inbreeding, and other environmental drivers, produced a small-bodied population, which continued to inhabit Palau until at least 1400 years ago.

As well as having characteristics of H. sapiens, the Palau fossils also have features seen in H. floresiensis, such as their small bodies and faces, pronounced supraorbital tori, non-projecting chins, relative megadontia, expansion of the occlusal surface of the premolars, rotation of teeth within the maxilla and mandible, and dental agenesis. Berger and colleagues do not infer from these features any direct relationship between the peoples of Palau and Flores; however, these observations do suggest that at least some of the features which have been taken as evidence that the Flores individuals are members of a separate species, may be a common adaptation in humans of reduced stature.

Detailed analysis of the Palau specimens is unlikely to settle arguments over the status of H. floresiensis as there are features of Flores man, such as small brain size, not found in the people of Palau. Nevertheless, they do suggest that at least some of the unusual features seen in Flores are a result of environment rather than ancestral heritage. Above all, the skeletons from Palau should greatly increase our understanding of the process of island dwarfism in human populations and of the ancient colonizations of Oceania.

Citation: Berger LR, Churchill SE, De Klerk B, Quinn RL (2008) Small-Bodied Humans from Palau, Micronesia. PLoS One 3(3): e1780. doi:10.1371/journal.pone.0001780
http://www.plosone.org/doi/pone.0001780

This study funded by the National Geographic Society Mission Programs.

Adapted from materials provided by Public Library of Science, via EurekAlert!, a service of AAAS.

http://www.sciencedaily.com:80/releases/2008/03/080310151958.htm

Cassini Spacecraft To Dive Into Water Plume Of Saturn Moon

This is an artist concept of Cassini flying past Enceladus. (Credit: NASA/JPL)

ScienceDaily (Mar. 11, 2008) — NASA's Cassini spacecraft will make an unprecedented "in your face" flyby of Saturn's moon Enceladus on Wed., March 12.

The spacecraft, orchestrating its closest approach to date, will skirt along the edges of huge Old-Faithful-like geysers erupting from giant fractures on the south pole of Enceladus. Cassini will sample scientifically valuable water-ice, dust and gas in the plume.

The source of the geysers is of great interest to scientists who think liquid water, perhaps even an ocean, may exist in the area. While flying through the edge of the plumes, Cassini will be approximately 200 kilometers (120 miles) from the surface. At closest approach to Enceladus, Cassini will be only 50 kilometers (30 miles) from the moon.

"This daring flyby requires exquisite technical finesse, but it has the potential to revolutionize our knowledge of the geysers of Enceladus. The Cassini mission team is eager to see the scientific results, and so am I," said Alan Stern, associate administrator of NASA's Science Mission Directorate, Washington.

Scientists and mission personnel studying the anatomy of the plumes have found that flying at these close distances poses little threat to Cassini because, despite the high speed of Cassini, the plume particles are small. The spacecraft routinely crosses regions made up of dust-size particles in its orbit around Saturn.

Cassini's cameras will take a back seat on this flyby as the main focus turns to the spacecraft's particle analyzers that will study the composition of the plumes. The cameras will image Enceladus on the way in and out, between the observations of the particle analyzers.

Images will reveal northern regions of the moon previously not captured by Cassini. The analyzers will "sniff and taste" the plume. Information on the density, size, composition and speed of the gas and the particles will be collected.

"There are two types of particles coming from Enceladus, one pure water-ice, the other water-ice mixed with other stuff," said Sascha Kempf, deputy principal investigator for Cassini's Cosmic Dust Analyzer at the Max Planck Institute for Nuclear Physics in Heidelberg, Germany. "We think the clean water-ice particles are being bounced off the surface and the dirty water-ice particles are coming from inside the moon. This flyby will show us whether this concept is right or wrong."

In 2005, Cassini's multiple instruments discovered that this icy outpost is gushing water vapor geysers out to a distance of three times the radius of Enceladus. The moon is only 500 kilometers (310 miles) in diameter, but despite its petite size, it's one of the most scientifically compelling bodies in our solar system. The icy water particles are roughly one ten-thousandth of an inch, or about the width of a human hair. The particles and gas escape the surface at jet speed at approximately 400 meters per second (800 miles per hour). The eruptions appear to be continuous, refreshing the surface and generating an enormous halo of fine ice dust around Enceladus, which supplies material to one of Saturn's rings, the E-ring.

Several gases, including water vapor, carbon dioxide, methane, perhaps a little ammonia and either carbon monoxide or nitrogen gas make up the gaseous envelope of the plume.

"We want to know if there is a difference in composition of gases coming from the plume versus the material surrounding the moon. This may help answer the question of how the plume formed," said Hunter Waite, principal investigator for Cassini's Ion and Neutral Mass Spectrometer at the Southwest Research Institute, San Antonio.

This is the first of four Cassini flybys of Enceladus this year. In June, Cassini completes its prime mission, a four-year tour of Saturn. Cassini's next flyby of Enceladus is planned for August, well into Cassini's proposed extended mission. Cassini will perform seven Enceladus flybys in its extended mission. If this encounter proves safe, future passes may bring the spacecraft even closer than this one. How close Cassini will be allowed to approach will be determined based on data from this flyby.

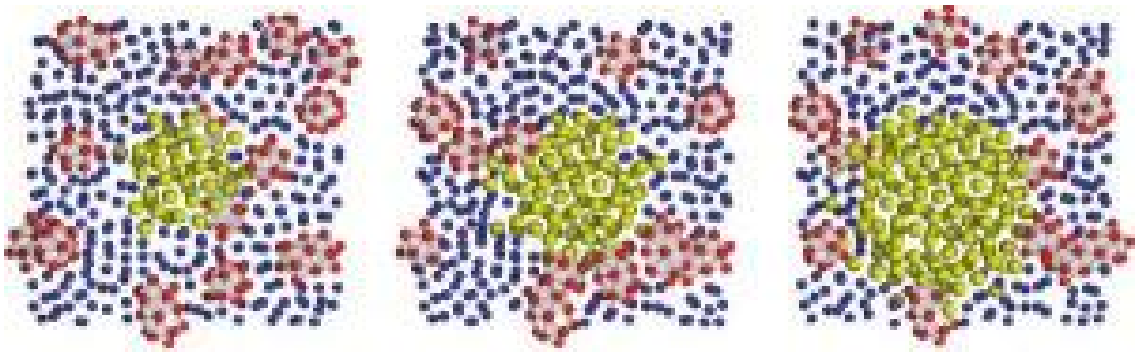
The Cassini-Huygens mission is a cooperative project of NASA, the European Space Agency and the Italian Space Agency. JPL manages the Cassini-Huygens mission for NASA's Science Mission Directorate. The Cassini orbiter was designed, developed and assembled at JPL.

For images, videos and a mission blog on the flyby, visit: http://www.nasa.gov/cassini. More information on the Cassini mission is also available at http://saturn.jpl.nasa.gov.

Adapted from materials provided by NASA/Jet Propulsion Laboratory.

http://www.sciencedaily.com:80/releases/2008/03/080310171102.htm

Quasicrystal Mystery Unraveled With Computer Simulation



Time evolution of growing quasicrystal nucleus (yellow atoms) within a simulated supercooled liquid. Red atoms indicate icosahedral local ordering. (Credit: Aaron Keys, Chris Iacovella and Sharon Glotzer)

ScienceDaily (Mar. 11, 2008) — The method to the madness of quasicrystals has been a mystery to scientists. Quasicrystals are solids whose atoms aren't arranged in a repeating pattern, as they are in ordinary crystals. Yet they form intricate patterns that are technologically useful.

A computer simulation performed by University of Michigan scientists has given new insights into how this unique class of solids forms. Quasicrystals incorporate clusters of atoms as they are, without rearranging them as regular crystals do, said Sharon Glotzer, a professor in the Department of Chemical Engineering and the Department of Materials Science and Engineering.

Crystals form when liquids freeze into solids. When a normal crystal grows, a crystallite nucleus develops first. The atoms in the liquid attach one-by-one to the crystallite, as though following a template. If the atoms have already formed a cluster on their own, they must rearrange in order to fit the template. This is how a repeating pattern forms.

In the case of quasicrystals, though, atoms that have already formed stable shapes away from the crystallite can still bind to it. They don't have to make adjustments. "In our simulations of quasicrystals, we observed that the atoms attach to the crystallite in large groups," said chemical engineering doctoral student Aaron Keys. "These groups have already formed locally stable arrangements, and the growing quasicrystal assimilates them with minimal rearrangement."

Because quasicrystals aren't as regimented as regular crystals, the solid can reach a "structural compromise," where liquid-like molecular arrangements are retained in the solid state. This allows quasicrystals to form more easily than regular crystals.

Quasicrystals are found in certain metal alloys that tend to resist wear and corrosion, and are used in non-stick coatings, for example. They also have high tensile strength, meaning high forces are required to stretch them to their breaking point. "Learning how they grow will help us figure out to how engineer quasicrystalline structures from new building blocks, which could lead to a slew of new materials," Glotzer said.

Glotzer and Keys are authors of a paper on the research, "How do quasicrystals grow?," published in Physical Review Letters. Their paper is featured in an article in the current edition of the journal Nature.Glotzer is also a professor in the Department of Macromolecular Science and Engineering and the Department of Physics.

Adapted from materials provided by University of Michigan.

http://www.sciencedaily.com:80/releases/2008/03/080306190859.htm

Bringing a book back to life

Claire Armitstead

March 11, 2008 10:00 AM

http://blogs.guardian.co.uk/books/2008/03/anne_enrights_book.html

Present and correct... Anne Enright at Colombia's Cartagena Hay Festival. Photograph: Daniel Mordzinski

Earlier this year, at the Cartagena Hay Festival in Columbia, I found a familiar spectacle cast in an unusual light: same organisational principles, same devoted crew, same dinky programmes (though in Spanish, natch), and as many of the same writers as could be persuaded to brave the jetlag. Among this intrepid crowd were two Booker winners, including this year's laureate, Anne Enright, who confessed to finding the whole shebang rather bewildering - not Colombia, but being suddenly elevated to literary royalty and having to behave like the queen. (Standing high up on a balcony drinking G&Ts laid on by the British Council while the Senegalese singer-songwriter Baaba Maal played in the square below, a royal wave wouldn't have felt entirely out of place).

I'd heard that Fiona Shaw spent December recording the audio version of The Gathering (for release by Naxos next month), so I asked Enright how it had gone. "It was fantastic," she said. "She gave my book back to me." As well as being an unusually generous tribute from one artist to another, there's something rather poignant in the idea that translation into another medium by another person could restore to a writer what ceased to be entirely theirs as soon as it went into print.

This postnatal bereftness isn't a new phenomenon. In the 14th century, Chaucer sent Troilus and Criseyde on its way with the words "Go, litel bok, go, litel myn tragedye," But in this age of multimedia exploitation a book doesn't go just once. It goes many times and in many different ways - through the heads of translators, into audio or film, chipped on to metaphorical and literal plaques in the halls of fame.

After I got home, I found myself mulling over what Anne had said and so I emailed her. She replied from Hong Kong, the latest stop on the royal progress.

"In all the hoo-ha before and after the Man Booker, you feel the book itself gets lost - this tender little object that you sent out into the world is hashed over by all and sundry. So when I listened to Fiona Shaw do the recording, I felt that she was giving the book back to me. 'These are the words you wrote. This is how it sounds.' By speaking it, she was liking it and handing it on. It's very crass to be moved by something you wrote yourself, but I was very moved."

There's another point here too, which is that to make a good audio recording, there needs to be some understanding, not just of the bare words, but of the intention that gave shape to them. An author who is involved in the process can once more be a living part of the text in a way that they will never be in a reader's head, or in a film version, where images jostle words willy-nilly into new alignments. In audio, there are no frocks to pull focus from the negotiated word.

http://blogs.guardian.co.uk/books/2008/03/anne_enrights_book.html

US tightens air quality standards
The Environmental Protection Agency (EPA) in the US is tightening air quality standards in an effort to help improve public health.

It is lowering the amount of smog-forming ground-level ozone permitted in the atmosphere for the first time in more than 10 years.

The EPA says the change could save 4,000 lives each year.

However, scientists and health campaigners say the changes have not gone far enough.

Unlike stratospheric ozone, which forms a protective layer high above Earth's surface, ground-level ozone can harm people's lungs and aggravate conditions such as asthma, as well as increase susceptibility to respiratory infections.

Ground-level ozone is formed when nitrogen oxides mix with volatile organic compounds and are heated by sunlight. Man-made sources of these emissions include power plants, motor vehicle exhaust, industrial facilities, gasoline vapours and chemical solvents.

Power plants

The new permitted ozone level has been reduced from 80 parts per billion to 75 parts per billion.

EPA Administrator Stephen Johnson said that by signing "the most stringent" ozone standard ever, the agency was meeting requirements of the Clean Air Act to periodically review limits.

It looks to us like the rationale behind tightening the standard significantly skews and misrepresents the scientific record of ozone's health effects
Dan Ridinger
Edison Electric Institute

The agency said it expected the new standards to be met as a result of programmes for reducing ozone-forming emissions from power plants in the east of the country and reducing similar emissions from diesel engines.

However, the EPA's own clean air scientific advisory committee had unanimously recommended setting a standard no higher than 70 parts per billion.

US-based campaigners Clean Air Watch say the reduction did not go far enough.

"Unfortunately, real science appears to have been tainted by political science," said Clean Air Watch president Frank O'Donnell.

"The Bush Administration is compromising public health to save industry money."

Industry anger

Industry representatives, who had lobbied against the change, disputed the environmental need for the change and said there were concerns that the cost of reducing emissions could hurt the economy.

The American Chemistry Council (ACC) said in a statement that there was "no clear and substantial basis" for tightening the standards, which would impose significant burdens on states.

Dan Ridinger, a spokesman for the Edison Electric Institute which represents 70% of the US electric power sector, said the new regulations were pointless.

"It looks to us like the rationale behind tightening the standard significantly skews and misrepresents the scientific record of ozone's health effects," he told the BBC.

"Ultimately, EPA is promising health benefits that people may never receive, but they will definitely end up paying for those benefits regardless of whether or not they get them at the gas pump and through higher energy bills," he said.

The EPA said the cost of implementing the standards, ranging from $7.6bn to $8.5bn (£3.7bn to £4.1bn), would be outweighed by health benefits, valued at up to $19bn (£9.3bn).

It said those benefits included preventing cases of bronchitis, aggravated asthma, hospital and emergency room visits, non-fatal heart attacks and premature death.

Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/1/hi/world/americas/7293376.stm

Published: 2008/03/13 11:07:53 GMT

Vitamin D 'cuts risk of diabetes'
Giving young children vitamin D supplements may reduce their risk of developing type 1 diabetes later in life, research suggests.

Children who took supplements were around 30% less likely to develop the condition than those who did not.

Type 1 diabetes results from the immune system destruction of pancreatic cells which produce the hormone insulin.

The study, by St Mary's Hospital for Women and Children, Manchester, appears in Archives of Disease in Childhood.

Type 1 diabetes is most common among people of European descent, with around two million Europeans and North Americans affected.

It is becoming increasingly common, and it is estimated that the number of new cases will rise by 40% between 2000 and 2010.

The Manchester team pooled data from five studies examining the effect of vitamin D supplementation.

Not only did the use of supplements appear to reduce the risk, the effect was dose dependent - the higher and more regular the dose, the lower the likelihood of developing the disease.

Sun exposure

Previous research has found that people newly diagnosed with type 1 diabetes have lower concentrations of vitamin D than those without the condition.

Studies have also found that type 1 diabetes is more common in countries where exposure to sunlight - which enables the body to manufacture vitamin D - is lower.

For instance, a child in Finland was 400 times more likely to develop the disease than a child in Venezuela.

Separate research has linked low levels of vitamin D and sunlight to other autoimmune disorders, including multiple sclerosis and rheumatoid arthritis.

Further evidence of vitamin D's role comes from the fact that pancreatic beta cells and immune cells carry receptors or docking bays for the active forms of the vitamin.

It is thought that vitamin D helps to keep the immune system healthy, and may protect cells from damage caused by chemicals which control inflammation.

Dr Victoria King, of the charity Diabetes UK, said: "Much more research, in particular controlled trials which compares the results when one group of people are given vitamin D supplements and one group is not, are needed before we can confirm a concrete association between vitamin D and type 1 diabetes."

Governnment experts recommend vitamin D supplementation for at least the first two years of a child's life, although the Chief Medical Officer for England has suggested supplements for the first five years is a good idea.

Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/2/hi/health/7290423.stm

Published: 2008/03/13 00:01:21 GMT

China as the Antidote to Oppression and Exploitation?

So envisions a new book, never mind the facts

By GREGORY CLARK

A new sun rises in the East. Americans ask themselves, will China's exports gently burnish the warm glow of their comfortable lives? Or will China's dazzling glare burn away the foundations of American prosperity? Can the West coexist in harmony with a Chinese economic colossus? Or will the economic power of Asia become a threatening military and political power?

In *Adam Smith in Beijing* (Verso, 2007), Giovanni Arrighi, an economic sociologist at the Johns Hopkins University, sees the rise of the East as representing an opportunity to escape an international order based on oppression and exploitation. In the Arrighi cosmology, a ruling class of capitalists, first in Britain, then in the United States, has dominated the world since the Industrial Revolution, having their wicked hegemonic way with the weak. The riches of the West were created by the oppression of the rest.

Arrighi, along with Samir Amin, Andre Gunder Frank, and Immanuel Wallerstein, is one of the leaders in world-systems theory. This school has extended Marx's idea of exploitation within societies to international relations. Trade between rich and poor countries is not equal exchange, according to this view, but instead systematic exploitation of the poor. Arrighi's earlier books, particularly *The Long Twentieth Century: Money, Power, and the Origins of Our Times* (Verso, 1994), are widely cited. This latest work, however, illustrates why world-systems theory has found little purchase except in the most intellectually undemanding environments (including, apparently, sociology departments).

In 1800, China, before being overwhelmed by the military might of the West in the 19th century, had attained as high a level of economic development as Europe, Arrighi argues. But unlike Europe, Chinese growth did not depend on the exploitation of subordinate classes and countries. Militarily defeated, however, late imperial China was forced into subordination, and thus impoverishment, by the hegemons.

The Communist Revolution in China eventually created "extraordinary social achievements," as Arrighi puts it, in literacy and health care in the Mao era that laid the foundation for recent economic growth. China has now returned to its earlier, noncapitalist, nonexploitative economic system: "accumulation without dispossession," in Arrighi's parlance. As its income has risen, China has emerged as an economic and political competitor to the United States in international relations. It now offers to poor societies, he says, "attractive alternatives to the trade, investment, and assistance of Northern countries."

The disastrous misadventure of the Iraq war has hastened the "terminal crisis of U.S. hegemony," Arrighi argues. Though the outcome is not decided, the neocon Project for the New American Century, to establish a truly global capitalist empire and contain the Chinese menace, is in severe jeopardy. An international struggle is being waged for the soul of humanity. If the Chinese triumph, then humanity can potentially achieve "the establishment of the kind of commonwealth of civilizations that Smith envisaged," Arrighi writes, and "a socially more equitable and ecologically more sustainable development path than the one that has made the fortunes of the West."

The likely success of the Chinese model, he predicts, will mean that the United States will not be able to "impose coercively upon the world its right to an extravagant way of life." In other words, the rise of China will imply a decline in American living standards as cooperation internationally replaces exploitation.

How does the Adam Smith of the title enter this story? Arrighi wants to show that, ironically, modern Chinese growth represents the true fulfillment of Smith's vision in *The Wealth of Nations.*

In Arrighi's interpretation, Smith, the champion of capitalism and individual freedom, so beloved of the right, turns out to have been an enemy of unfettered liberty, and instead a friend of the Chinese

bureaucratic-capitalism vision of growth. Milton Friedman, the Chicago School, and the whole economics establishment completely misread him. He was not an advocate of limited government and free markets.

Rather, Arrighi would have it, Smith's main concern was the promotion of big government as a constraint on the evils of the market: "The dogmatic belief in the benefits of minimalist governments and self-regulating markets … were completely alien to Smith." Further, Smith saw, even in 1776, "China rather than Europe as a model of the kind of market-based economic development that was most advisable for governments to pursue." The Chinese model was to be preferred because it was a natural, inward-focused growth as opposed to the unnatural trade-driven growth of Europe, which relied on the expropriation of the raw materials of the rest of the world. The recent reforms of the Chinese economy also follow the approved Smithian path, Arrighi writes: "As Smith would have advised, Deng's reforms targeted the domestic economy and agriculture first."

How plausible is Arrighi's interpretation of the current juncture of West and East?

A crucial failure in Arrighi's thinking is his obsessive misconception that all economic growth in the West since the Industrial Revolution has been provided by the brains and brawn of the dispossessed of the developing world. Yet generations of research by economic historians — David Landes, Deirdre McCloskey, and Joel Mokyr, among others — show that the wealth of the West was homegrown, the result of a stream of Western technological advances since the Industrial Revolution. Arrighi, for example, reflexively assumes that in the 19th century "Indian workers were forcibly transformed from major competitors of European textile industries into major producers of cheap food and raw materials for Europe." In fact, technological advances in England, not any compulsion by colonial profiteers, drove out the much cheaper Indian workers from the cotton-textile industry. The East India Company, the ruler of much of India until the end of the Industrial Revolution, had every interest in maintaining the export of Indian muslins, one of the most valuable Indian exports in 1760.

Similarly the United States became an industrial colossus in the early-20th century through advances in techno-logy that included an ability to extract from American soil all the raw materials needed for its growth. Only in the late-20th century did imports of raw materials become of any importance. Arrighi's basic misconception leads him to conclude that growth among the rest must imply decline for the West. But the last 20 years, when significant growth has occurred both in China and in India, have been prosperous ones for the United States as well. Real income per person in America has increased by 50 percent in those years, despite the rise of China and India. That rate of increase is similar to the rise between 1950 and 1987, when China and India stagnated. There is no sign that the rise of the East is clawing back the growth of the West. That is because the overwhelming source of growth in the United States is technological advance within the U.S. economy.

The growth of the Chinese and Indian economies will exert pressure on U.S. incomes through the increased demand in the world economy for commodities — most important, oil. If everyone in the world were to consume as much oil as Americans do now, then world oil output would have to be more than five times greater than at present. As Chinese demand for oil has risen, China has been aggressively seeking supplies of oil in Africa and the Middle East, doing deals with countries hostile to the United States such as Iran and Sudan. But even in that regard, the Chinese impact on American incomes through higher commodity prices will be modest. Even at current prices of roughly $100 per barrel, annual U.S. imports of oil are still less than 4 percent of national income. A further doubling of oil prices, to $200 per barrel, assuming we used just as much oil per person as at present, would consequently reduce U.S. income by less than 4 percent. But since technological advance is increasing income by more than 2 percent per year, that hit to the American economy would be compensated for by less than two years of normal growth.

And there is plenty of room for economizing if oil becomes permanently much more expensive. Currently in America we consume the equivalent in energy of six gallons of gas per person per day. But energy is even now so extravagantly cheap that most of it is squandered. We drive huge distances at the slightest pretext, in giant, gas-hungry vehicles. We live in cavernous houses — the average person in the United States, including each child, has 900 square feet of expensively conditioned, mostly unused space. Towns

sprawl across the landscape so that the only way to get to work or to shops is by car. Sidewalks have disappeared in some locations as useless adornments from a bygone age.

Some countries in Europe, such as Denmark, which have by public policy made energy much more expensive, already use only the equivalent of about three gallons of gas per person, with little cost in terms of living standards. Over the long run, even more substantial reductions in oil usage are feasible at modest cost. So however big the future Chinese impact in world commodity markets, a perfectly satisfactory living standard will be feasible. The rise of China and India, with 2.4 billion people between them, is hastening an energy-scarce future. But that future is not one we need fear.

Arrighi's assessment that China now offers poor societies "attractive alternatives to the trade, investment, and assistance of Northern countries" seems a conclusion that only the most ideologically blinkered could hazard. In recent years, Europe and the United States have switched, at least outwardly, to a policy emphasizing the promotion of democracy, human rights, and transparency in their relations with poor countries. There has been reluctance to draw up agreements with governments for access to raw materials when those countries' ruling cliques will appropriate most of the benefit. China's aid and trade policies in contrast have been exclusively rooted in its own economic interests, which in the case of poor economies typically lie in access to raw materials. There has been minimal concern with who actually benefits from these deals. China has had little scruple in doing deals with corrupt or oppressive governments. It maintains friendly relations with the Myanmar junta, for example, acting as their main arms supplier and trading partner. Myanmar exports raw materials, mainly timber, to China, and it imports manufactured goods. But that pattern of trade is exactly what Arrighi so vigorously laments in the West-rest trade of the previous two hundred years. In Africa, China has been happy to arrange deals with the ruling clique to get the oil and timber of the Congo Republic, even though President Denis Sassou-Nguesso (who came to power most recently in a civil war in 1997), his family, and his entourage are notorious for their extravagance with national resources while the masses live in squalor. Sassou-Nguesso attained notoriety by running up a $285,000 New York hotel tab in 2006 on a trip to deliver a 15-minute speech to the United Nations at the same time his country was begging for debt relief from the International Monetary Fund and the World Bank.

Arrighi's interpretation of Smith is as contentious as his views on the modern world. There are many ambiguities in Smith's writings. Smith's comments on China in 1776 are limited, and his knowledge of conditions there was sketchy. But nothing in *The Wealth of Nations* suggests Smith saw China as a model for Europe to follow. Indeed he saw China as a stagnant society that had exhausted its growth potential. "China seems to have been long stationary, and had probably long ago acquired the full complement of riches which is consistent with the nature of its laws and institutions," he wrote. "But this complement may be much inferior to what, with other laws and institutions, the nature of its soil, climate, and situation might admit of."

In summary, the evidence Arrighi offers for his sweeping cosmology is astonishingly thin. The book indeed is little more than an extended anti-market, anti-capitalism, anti-Western harangue. Statements of dramatic import are proffered with little explanation: "The decisive battle to contain the rising power of China is still being fought in Iraq"; the Iraq War "aimed at using military might to establish U.S. control over the global oil spigot"; "China is not a vassal of the United States, like Japan or Taiwan."

The book offers more insight into the sad state of intellectual development in sociology departments, even at such prestigious institutions as Johns Hopkins, than it does into the realities of wealth and poverty in the world economy.

Gregory Clark is chairman of the department of economics at the University of California at Davis and author of A Farewell to Alms: A Brief Economic History of the World *(Princeton University Press, 2007).*

http://chronicle.com/temp/reprint.php?id=zm1qcnxs5p3v7pwkq58f7hb3jlh8l0fk

Communication and Comfort Across Ethnic Lines

When a state bars affirmative action, as California did in 1996 with Proposition 209, what happens to student interactions at public universities? Does the debate focus so much attention on race that students retreat to their own worlds?

A new study of the University of California system coming from the Center for Studies in Higher Education at UC Berkeley portrays a generally healthy picture of campus life from the standpoint of interaction among different demographic groups. Students surveyed also overwhelmingly reported feeling a sense of belonging, although black students — whose numbers at UC's most competitive campuses have waned — gave the lowest scores in this category.

The report, "Does Diversity Matter in the Education Process? An Exploration of Student Interactions by Wealth, Religion, Politics, Race, Ethnicity and Immigrant Status at the University of California," surveyed nearly 58,000 students from the eight California campuses with undergraduate programs.

Steve Chatman, the report's author and project director of the Student Experience in the Research University Project/University of California Undergraduate Experience Survey, described the system's demographic makeup this way:

"When viewed from the perspective of higher education nationally, the diversity among the University of California student population is striking," he wrote in the report. "The university is richly and remarkably diverse by most standards. ... The University does suffer from a proportional deficit in that it enrolls fewer African Americans and Hispanics than would be expected from population demographics."

Chatman said there's a "surprising lack of evidence" supporting diversity in race, religion, socioeconomic status and political viewpoint as a compelling interest for public higher education, as well as "little direct evidence cited that interpersonal relationships in college are a necessary or sufficient condition for development of the listed skills or that the skills were actually developed."

That's what he wants his report to illustrate. It concludes that the generally healthy level of conversation that takes places among students of different demographic groups increases understanding on campuses.

The students were asked to self-report how frequently they developed a better understanding of a significantly different viewpoint because the other person in the conversation had different religious or political views, or was of a different nationality, race, ethnicity or sexual orientation. (The report notes that students were not reporting that they changed their point of view, only that they better understood the viewpoint of others.)

Student responses to these questions provide "useful, if soft, evidence of diversity benefits," the study points out.

Sixty percent of students reported frequent discussions about race, ethnicity and nationality — the most common topics of conversation. Chatman said that's not surprising, given that those are the most visible demographic differences. More than 40 percent of students said their understanding of others was often improved through personal interactions with students who differed from them in socioeconomic status, religion and politics.

In general, students from smaller demographic groups reported being more likely to have these frequent, informative conversations with those in other groups. Black students, for instance, who represented 1,400 out of the 58,000 students surveyed, reported the highest levels of interactions (73 percent) that resulted in understanding another's point of view. Hispanic students (68 percent) were second on the list.

Students who were foreign-born or first-generation Americans were more likely than their counterparts to report having these type of interactions. Likewise, self-identified Republicans and Republican-leaning independents were more likely to go outside their group to have conversations, which is intuitive, the report notes, given the dearth of these students on some campuses.

On the national scale, the most recent National Survey of Student Engagement showed that about one-fourth of students say they "very often" had a serious conversation with students who are "very

different" from them in terms of religious beliefs, political opinions or personal values, race or ethnicity; and about half said that takes place at least "often."

The same holds true for the question of whether colleges emphasize contact among people of different backgrounds.

Chatman said one reason the UC numbers reflect a somewhat different reality is that there are more full-time students in the system likely to spend significant time on campus, live in dorms and have to go out of their way *not* to come across people of different backgrounds.

Put the two sources together and the information is "reasonably encouraging," said Alexander McCormick, director of NSSE. A slight majority of students surveyed in NSSE reported having frequent interactions across groups, and among the California students who reported having conversations frequently, many said they lead to richer, deeper understanding.

On the question of belonging, low-income students in the UC system were least likely to say they fit in. Second on that list: the most wealthy students. But more than three-fourths of all students reported belonging.

Among religious groups, Muslim and Jewish students reported the highest levels of feeling that they belong. Just under 75 percent of black students agreed with that sentiment, which was under the overall average. The report notes that there was a "dramatic increase" in the percentage of black students saying they belonged when the overall black population was more than 5 percent on a given campus.

Black students make up 3 percent of the university's overall population, but on one campus (which the report doesn't name) where the total is roughly 6 percent, black students reported belonging at a higher rate than the general population.

"This result suggests that the UC's composition of African American students should at least be tripled," Chatman said in the report.

He said the study also shows that the oft-cited necessary critical mass of black students on a given campus might be smaller than has been suggested — as low as 5 to 10 percent could make a significant difference in student perception. "That's encouraging," he said, "because it's more attainable."

Campus climate also plays a role, Chatman said. "You can't assume because you have a mix of students, you'll have a fixed level of interaction."

His hope is that college leaders talk about diversity beyond race, but to also include socioeconomic status, religion and other factors. "Overall, the research suggests there's a compelling interest in admitting students who reflect diverse characteristics," he said.

— Elia Powers

The original story and user comments can be viewed online at
http://insidehighered.com/news/2008/03/13/uc.

New Campus, in New Cairo

Out the window of the construction site office, "I'm actually looking directly out at the back of the playing field where we have our football field, as they call it, a soccer field, I call it (being from Canada), and the track that goes around it.... I can see the tennis court; I can see the back of our indoor facilities. I can't see the pool but I know it's right there beside it." Looking to the left, Paul Donoghue sees a cluster of academic buildings constructed around the new campus's central spine, though his line of sight doesn't extend all the way down to the 400 meter-long University Garden on the other end, all the plants but the date palms propagated and grown at the university's Desert Development Center.

"It's not just an issue of a quantitative difference in space, but also significantly a qualitative difference," says Donoghue, vice president for planning and administration at American University in Cairo. The nearly 90-year-old institution is moving this fall from its historic, yet small and fragmented, location downtown to the new, $400 million, 260-acre campus on the city's eastern outskirts in what's called "New Cairo." "This is going to be a significant leap for us in terms of the opportunity that we have to provide that enriched student experience here at AUC."

As opposed to a campus fragmented by the streets of the city's it's based in, the new campus consolidates the university's offerings and provides a blend of indoor and outdoor spaces meant to encourage conversations outside the classroom. In the crowded campus downtown, Donoghue says, "it can be very frustrating in between classes or a lunch break or whenever you're looking for a space to sit outside and socialize." The current campus, based on four major non-adjacent land parcels, a total of nine acres scattered throughout Cairo's city center, is "gorgeous but it's postage-stamp small," says Robert A. Oden Jr., president of Carleton College and an AUC trustee (and a scholar of Near Eastern languages and literatures). "It would be dishonest to say that there aren't some losses. You have this beautiful little campus in downtown Cairo, 200 yards from the Egyptian Museum and 300 yards from the Nile. It was utterly charming. But the gains from the new campus in my mind hugely outweigh the losses," Oden says.

"The heart of the place has been undergraduate education. That's basically what the 'American' in it means. For our undergraduates, this is going to be a huge plus. It's going to see and look and feel much like the undergraduate education people in the U.S. know."

He continues: "It's a pretty dramatic move to completely move your campus from one location to another."

AUC raised $100 million in private funding and received $100 million from the U.S. Agency for International Development to build the new campus, with the additional $200 million needed coming from a number of other sources, including revenue from expected downtown property sales, Donoghue says. Seven architectural firms designed the new campus, notable for its environmentally conscious design, or "environmental optimization," and incorporation of traditional Arabic architectural features like malkafs, or wind catchers, says Stephen Johnson, the principal architect for the library. The building's four-story exterior screen wall, for instance, was designed as a contemporary, large-scale re-

imagining of the traditional mashrabiya, or wooden screen, commonly found in Old Cairo, Johnson says. The library has two faces and two front doors — one opening to the central plaza and the other to the garden.

"It's not just a bunch of buildings, but it's a platform on which we can do so many other things," Donoghue says of the new campus. The English-language university does have some plans for quantitative, in addition to qualitative, expansion, with plans to grow from about 5,300 to 7,000 students in the next few years. The university will now have enough empty land that it could conceivably double in size within one or two decades.

In addition to a pedestrian-friendly academic center, the campus will include a village of 12 reddish-orange townhouses for the minority of Egyptian students who do not commute as well as international students (89.1 percent of the university's students are from Egypt). It will include a one-stop student services center and of course the athletic facilities, including the Olympic-sized swimming pool. (Downtown, says Donoghue, they've had a small, basement-level gym, a tennis court and something that used to be a tennis court. "That's about it.")

AUC will maintain the School of Continuing Education, law department and management center downtown. It is developing bus service with six routes connecting Cairo with the new campus. University officials see the campus as becoming the anchor of a new, developing suburb.

The city is growing outwards "in leaps and bounds. You have what they call satellite cities, both residential and commercial," says Jim Grabowski, vice president for field operations for America-Mideast Educational and Training Services (AMIDEAST), which just released a book on Egyptian education and training. Grabowski lived in Egypt for 19 years.

Coexisting with massive national universities — Cairo University for instance says it serves more than 160,000 students each year — AUC has "sort of been the gold standard in terms of private higher education in Egypt and the region since they've been there," Grabowski says.

At the time of its founding in 1919, he says, AUC "was one of the only or few English-language universities not only in Egypt but also in the region. Simply by having an investment there at that time, it was able to cater to people who had linguistic abilities, traveled more and yes, you could say, people who had more disposable income to invest in the education of their kids."

"Rightfully so, as they saw Cairo growing, they said we need to identify a space where we can consolidate our offerings," Grabowski says. "I think it's a quantum leap in terms of an investment in their overall educational enterprise as well as really being able to serve and grow what you do in higher education — the research, the learning, the community environment, and what they can give back to Egypt over all as Egypt continues to grow."

— Elizabeth Redden

The original story and user comments can be viewed online at
http://insidehighered.com/news/2008/03/13/cairo

Defining a Ban on Secret Research

When members of the American Anthropological Association gathered for their annual meeting in November in Washington, the subject of the most intense debate was over the ethics of scholars working with the military or national security and intelligence agencies. A special committee released a report that said such relationships needed close scrutiny and that they may sometimes be inappropriate. But the panel stopped short of suggesting a blanket ban on such research.

In response, rank and file members of the association voted to ban all research that is secret — in effect restoring a ban that was in place in the 1971 code of the association.While the proposed ban on secret research wouldn't cut off all work with the military and security agencies, the ban would minimize such work for those seeking to comply with association rules. Further, the ban would limit the work anthropologists could do for corporations, many of which consider the studies they sponsor to be proprietary.

There was one major problem for those pushing for the ban on secret research. Because the proposal wasn't submitted on time, the vote was considered strictly advisory, raising questions about whether the board of the anthropology association would accept it.Now the association's leaders — following a board vote — are drafting language — that would accept a ban on secret research, but specify a few kinds of cases where the ban might not apply. Supporters of this approach say that the association is embracing the principles of the absolute ban sought by members. But some of those members are nervous that the process could have the potential to water down the ban.

Specifically, the anthropology association board asked its ethics committee to draft a revised ethics code that "incorporates the principle" of the total ban on secret research while "stipulating principles ... that identify when the ethical conduct of anthropology does and does not require specific forms of the public circulation of knowledge."What anthropologists familiar with these actions are debating is whether those stipulations will truly be consistent with the ban, or will undercut it.

Dan Segal, the association board member who drafted the language adopted, does not see a conflict, and said he believed it was possible to identify some relatively narrow circumstances where secrecy would not contravene the principles called for by association members. For example, Segal said that many archaeologists work under contracts that bar them from specifying the precise location of digs so that looters can't use the published papers as a guide. That kind of issue, Segal said, is one where "a specific restriction on free circulation of information is merited."

Segal — an anthropologist at Pitzer College — stressed that he personally favored the principles behind the ban on secret research. The proposed ban adopted by members, he said, was "a broadly correct ethical position," but as the example of the archaeologists demonstrates, "the world is a very messy place and ethics can't always rely on absolute bold principles. Sometimes they have to be complexified."

He said he saw the process going on now as one in which the association is identifying anthropologists who might have examples where "there is a reason to have some limits on absolute openness." He said that he viewed such circumstances as "complexifications," not exemptions, and that he did not view these modifications under consideration as any sign of weakness about the general principles of openness.

If the process should result in a "wishy washy policy," Segal said he would become "a bold critic" of the board. Personally, he said he could not see most military or proprietary research fitting into the kinds of situations where the association should declare secrecy to be acceptable.

James L. Peacock, chair of the committee that reviewed the discipline's military ties and a professor of anthropology at the University of North Carolina at Chapel Hill, said he thought it would be possible to keep the spirit of the proposed secrecy ban while carving out a few exceptions. Peacock said that a key part of the anthropology code of ethics is the principle of "do no harm" to those you are studying. As long as that principle is applied to any exemption from the secrecy rule, he said there was little danger of the rule being undercut. He said he saw the association's work at this point as "being pragmatic about the context of research."

Others are more skeptical. At the meeting where anthropologists voted for the ban on secret research, many scholars accused the association leadership of not being strong enough in questioning research that isn't public.Terence Turner, an emeritus professor of anthropology at Cornell University, who introduced the proposal to ban secret research and was its most outspoken advocate, said he was "a bit nervous" that the association's leaders might make changes that "would try to soften" to resolution. Turner said that he agreed with any secrecy — such as the archaeology example — that was needed to protect "the identity or integrity" of research subjects, their homes or villages, or excavation sites. Turner said he thought this was long understood and wasn't needed in the resolution he proposed, but that he didn't object to clarifying language.

But beyond that one issue, he said, the ban on secret research should be absolute. "There is no other valid reason for secrecy in an academic discipline committed to the free discussion of research and ideas," Turner said. "There should be no right either of sponsors of research or governments or whatever to limit the kinds of information and research findings or the purposes of research or any of the aspects. The results of research should not be concealed either from the people they are practiced upon or the public."

Hugh Gusterson, an anthropologist at George Mason University, another supporter of Turner's proposal, said he "wasn't a fundamentalist" and that he was open to modifications that "preserve the spirit" of the ban on secret research. Gusterson is among the leaders of the Network of Concerned Anthropologists, a group that has gathered pledges from more than 800 anthropologists not to do work that supports the U.S. war effort in Iraq or the "war on terror."

Of the process now under way in the anthropology association, Gusterson said, "it entirely depends what the final product is. If they gut the mandate, they'll have a big fight on their hands."

The anthropology board also voted to take a number of other steps to carry out recommendations of the special panel created to study issues related to work with the military, and to extend the mandate of that panel for another two years to develop "modes of dialogue with security, intelligence and military agencies in order to communicate the AAA's perspectives on ethics and in order to better understand those agencies' interest in anthropology."

The board asked its ethics committee to work on identifying possible changes needed to the ethics code that relate to issues of informed consent. The special committee noted the difficulty of obtaining true informed consent when an anthropologist is working in a country experiencing war or occupied by U.S. troops.Another area addressed by the special committee and now by the anthropology association board was advertising by military and security agencies in association publications. One impetus for creating the special committee was anger by some anthropologists over seeing job notices for work for federal agencies doing work that these anthropologists questioned.

The association board adopted the following rules:

That the job placement section of its publications in print and online "contain a header stating that the AAA urges applicants to make sure that job conditions for positions for which they apply allow them to act in ways which conform to the code of ethics and that counseling is available via whatever means the Committee on Ethics sets up."

That federal agencies placing job ads be asked to "affirm that the position in question allows the eventual employee to conduct anthropological activities in ways which are in accordance with the AAA Code of Ethics."

A new board committee will be "charged with vetting potentially problematic recruitment ads, as flagged by AAA staff members." If job postings "place candidates or eventual employees at risk of not being able to act in in accordance with the AAA Code of Ethics," those ads "should be declined, and the reasons for this decision should be communicated to the agency."

— Scott Jaschik

The original story and user comments can be viewed online at
http://insidehighered.com/news/2008/03/13/anthro.

Promising Path on Remediation

Remedial education remains a struggle for many community colleges, which are expected to help students who received inadequate high school educations get ready for college-level work. Legislators hate paying for remedial education; community colleges hate being defined by remedial education; students hate being unable to get into the college-level courses that attracted them to higher education in the first place. A study being released today by MDRC, a research organization, suggests that "learning communities" — in which students take several courses together as a cohort — have the potential to significantly improve students' performance in remedial courses and ability to advance to college-level work. The learning communities also featured special counseling and other support services. The study is particularly significant in that Kingsborough Community College, a part of the City University of New York where the work took place, helped the researchers conduct a true randomized trial — in which students were assigned either to the learning community or a control group. Much education research takes place either after a college has made a change (so there is no control group) or with volunteer pilot projects (in which issues of self-selection may raise doubts about the outcome). The MDRC researchers believe theirs is the first study of its kind to use a true random trial.

The students in the learning communities took, as a group, a remedial English course, an academic course in health or psychology, and a one-credit orientation course. All of the students were entering Kingsborough, seeking to enroll full time. The college serves a diverse population — 38 percent of students are black, 20 percent are Hispanic, and almost three-fourths report at least one parent was born outside the United States. The experimental group and the control group had similar demographics. On a wide range of factors, the students in learning communities had more success than the students in the control group. The learning community group took more courses on average (4.9 vs. 4.4), passed more classes (3.8 vs. 3.2), earned more credits (11.5 vs. 10.4), and had a larger share of students passing all courses (43.1 percent vs. 33.0 percent). Moreover, the students in the learning community had statistically significant increases in the rates at which they passed the English tests necessary to qualify for college-level work and degrees at CUNY.

Susan Scrivener, a senior associate at MDRC and one of the researchers on the project, said that the results are encouraging and significant. Past research has shown that "remedial education is such a hard area to affect, so it's pretty notable that folks are moving through that." Many previous studies have found that students who languish in remedial education year after year are unlikely to move to college-level work, so the fact that significantly more students can finish and move to college-level work is of great importance, Scrivener said. Regina Peruggi, president of Kingsborough, said that as a result of this program, "three semesters out, these students are still taking courses and others aren't." The effort has been so successful that Peruggi said her goal is to have all freshmen in learning communities — the college is already at over 60 percent. Peruggi also said she would like to find ways to apply the concept beyond the first semester. Learning communities become more challenging to set up as students progress, since they may have more specialized courses that they need and putting together a cohort becomes difficult. But Peruggi said that the college is setting up some upper-level learning communities as well. She said that the results made her want to focus more attention on faculty members talking to faculty members in other departments — since that happens in learning communities and is cited by professors as key to their success. Rebecca Arliss, an associate professor of health who teaches in one of the learning communities, agreed. She said that weekly formal meetings, and more frequent informal discussions, took place among the professors who were teaching the same students. The professors worked together to reinforce one another, whether on behavioral issues (students not paying attention) or the curriculum (adding writing assignments to non-writing focused courses). Arliss said she has added writing to many of her class sessions, having students do quick responses to prompts — all designed to reinforce basic writing skills. In the more traditional model, a professor may have no idea how a student is faring in other classes. "We're trying to be mutually reinforcing," she said. "The question is always: How are we going to reach these kids?"

— Scott Jaschik

The original story and user comments can be viewed online at
http://insidehighered.com/news/2008/03/11/learning

Art and the College Administrator

Even a few days later, Branda Miller's voice rises with anger as she recalls what happened in her course Wednesday at Rensselaer Polytechnic Institute. An artist-in-residence — whose presence had been approved through all official channels — was in the middle of a discussion with her students when three administrators arrived, told her they needed to take the artist with them at once, escorted him to another classroom, and refused to let Miller enter or to offer any explanation to her or her students. Shortly after the disruption of her class, RPI ordered the exhibit set up by the artist — a video game based in part on an Al Qaeda video game involving attempts to kill President Bush — shut down pending a review.

"This isn't just shutting down an exhibit," Miller said. "This is an assault on my classroom, an assault on academic freedom and freedom of expression."

As the officials took away her guest, Miller said, "I thought, 'this must be what it feels like to be in Iraq.' A moment of compassion crossed my mind" as she thought about teaching in an environment where officials can show up in class, take someone away, and offer no explanation. "I was imagining professors attempting to teach their students in countries where academic freedom does not exist, where even their lives are at risk."

The furor at RPI is one of several recent incidents involving controversial art in the higher education setting. In all of the cases, issues of safety or security or politics are raised by those questioning or limiting art — while others are in turn raising concerns about academic and artistic freedom.

At Arkansas Tech University last month, administrators shut down a production of the musical *Assassins,* saying it would be too dangerous to put on after the killings at Northern Illinois University. After widespread protests, the show has been rescheduled but with strict rules (bag searches, advance ticket sales only) that many professors say are needless and discouraging.

At Middlebury College last week, some students are angry over the removal of a a student's staged art photograph showing another student with a toy gun in his mouth. At Cuesta College, in California, the faculty union and administration are fighting over a 2005 production of *Cabaret* that offended some donors — and that professors say has been a pretext for going after one of their colleagues who helped lead the show. And at the University of Dallas, administrators are being criticized for *not* removing from an exhibit a print — since stolen — depicting the Virgin Mary as a stripper, *The Dallas Morning News* reported.

To be sure, there is no shortage of cutting-edge or controversial art to be found on college campuses. But it's also true that the combination of art and higher education sometimes has more potential than books or lectures to become a target. The late Robert Mapplethorpe was well known for his sexually charged photography for years prior to an exhibit in 1988 at the University of Pennsylvania's Institute of Contemporary Art, but it was that exhibit (along with one other) that set off years of debate over the National Endowment for the Arts because a small NEA grant provided some support for the show.

Arts experts say that several factors make art in higher education particularly vulnerable when controversy strikes. One is that many people on a campus aren't seeking out an arts experience in the way that would more typically be the case of someone going to a gallery or the theater. One issue at Middlebury, for example, is that the photographs were on display in a space that students would walk by — not necessarily looking for art.

Jonathan Knight, who handles academic freedom issues for the American Association of University Professors, said that "art has a way of triggering stronger responses [than academic articles or books] because it is typically exhibited in places that will be seen not just by members of the academic community, but by the public." As a result, "administrators may have a stronger sense that an exhibition suggests an endorsement of the institution."

Much good art, Knight said, "has an immediacy" and "seeks to trigger a strong reaction," so it should be no surprise that this happens. While the same might be said about many academic articles or books, "it may take quite a few pages of reading" — and more of a time commitment than many critics will make — to hit an "inflammatory argument."

While those factors may explain why administrators who wouldn't ban a book will shut down an exhibit, Knight said that they do not justify doing so. AAUP policy is clear, he said, that academic freedom includes free artistic expression on campuses.

"Works of the visual or performing arts are as much engaged in pursuit of the academic mission of the institution — to expand knowledge, to challenge views — as are public talks by professors, articles professors write in journals, or books that they publish with presses, and therefore should be afforded the same kinds of protections," Knight said.

"The kinds of reactions we are seeing cannot be reconciled with freedom of expression and freedom of creativity which we associate with artistic expression," Knight added.

Nicola Courtright, a professor of fine arts at Amherst College and president of the College Art Association, said that art on campuses — as with good art everywhere — "has to be protected even when it is dealing with controversial and touchy subjects."

While Courtright wasn't familiar with the art at issue at RPI, she noted that there is a long history of artistic portrayals of violent acts in which the art is "to encourage you to reflect," not to do anything violent. She added that many who express periodic concern about violence in art somehow don't focus on violence in television.

Why does art seem to lead to so many censorship battles in higher ed, compared to other forms of scholarly communication of ideas? "Books have covers that can be closed," Courtright said.

From Iraq to RPI

Last week's incidents at RPI focused on art inspired by events in Iraq. Wafaa Bilal, the artist who was escorted from a classroom last week and whose video art was blocked from being shown, was born in Iraq. He fled in 1991, at the age of 23, after objecting to the autocratic rule of Saddam Hussein. An artist who works in many media, Bilal is an adjunct at the School of the Art Institute of Chicago. In an interview Friday, he said that while he uses his art to criticize the U.S. invasion of Iraq, he also opposed Hussein's rule and opposes terrorism in Iraq or elsewhere.

The work that prompted the uproar at RPI is a video game Bilal created called "Virtual Jihadi," inspired by two previous video games produced by others (both of which have since been copied and appear in many forms). In the first, "Quest for Saddam," players tried to capture the deposed and since executed leader of Iraq. That game inspired an Al Qaeda version called "The Night of Bush Capturing," which features players trying to kill the American president. In Bilal's version, "Virtual Jihadi," a player based on his life is part of the Bush game.

Those who view the game as an endorsement of terrorism are missing the point, Bilal said. "I'm trying to show Iraqis become vulnerable to joining terrorist groups, because there is no protection by the United States" and no secure society in which people can live. His idea, Bilal said, isn't that it is good to join terrorist groups, but that the failure of U.S. policy leads Iraqis to make such choices. "These guys feel forced to join groups where they blow themselves up," he said.

When Bilal was questioned about his work by college administrators Wednesday after they removed him from Miller's course, he said that they asked questions about whether he supported terrorism, and that they "didn't seem to understand" how art makes points that aren't necessarily literal. He said that being ordered out of a class and being asked about his art in such a hostile way reminded him of life under Saddam in Iraq.

As soon as the College Republicans heard about the exhibit, they started to complain about it. While Republican leaders did not respond to messages, they have posted on their blog several items criticizing Bilal and his art. One posting is called "The RPI Arts Department: A Terrorist Safehaven," and says of Bilal's art: "This is something RPI should be ashamed to have its name even mentioned with, let alone be sponsoring."

Another post is a copy of a letter from an unnamed alumnus to institute administrators, in which the alumnus said "so long as RPI sponsors these kinds of events, giving absolutely no consideration given to

military alumnus, friends and family of the university, I will not contribute a dime to the school." The letter called Bilal's explanation of his work "absurd."

Wrote the alumnus: "At the very least, the arts department should issue a public apology to all those who are offended by this affront to both reason and morality. I fully support energetic and vocal criticism of America's policy in Iraq, civilian casualties in Iraq, and the veracity of our purpose, but not efforts to sympathize with what is essentially terrorism, whether or not it is carried out by the young, hurt and confused. If Mr. Bilal truly 'seeks to imbue his audiences with a sense of empowerment that comes from hope in the enduring potential of humanity' he would not ask us to look into the heart of a killer, and try to understand what drove him to atrocity. Hope and humanity are not equatable with murder."

Following the criticism of the Republicans, several sources in the art department at RPI said that they were told by institute officials that the Federal Bureau of Investigation was interested in the exhibit, but neither the FBI nor the institute would confirm or deny bureau involvement.

William N. Walker, vice president for strategic communications and external relations at RPI, issued a statement in which he said that the institute welcomed Bilal "to contribute to the intellectual and artistic life of the institute, and we look forward to his continued presence in our classrooms and studios as a visiting artist."

Walker's statement said that RPI has "suspended" Bilal's exhibit because "important concerns surfaced that the work may be based on a product of Al Qaeda, and questions were raised regarding its legality and its consistency with the norms and policies of the institute.... Rensselaer fully supports academic and artistic freedom. The question under review regards the use of university resources to provide a platform for what may be a product of a terrorist organization or which suggests violence directed toward the President of the United States and his family."

The spokeswoman who sent the statement declined to answer such questions as why Bilal had to be removed from a class session and what message that sent to students. She said repeatedly that RPI would not answer any questions beyond issuing the statement.

Miller, the professor whose class was interrupted, said that RPI's handling of the situation makes no sense. She noted that Bilal's artistic credentials are strong and that he is very open about the fact that his work is based on an Al Qaeda video game. "I think this is a very complex discussion," she said. "He's an artist. He's very intelligent, very serious, very kind. He is trying to make a point."

Another key point, Miller said, is that RPI students are hardly fragile innocents about video gaming. "My students play these games. Some of these games are embedded with violence and racism and the ability to dislocate your sense of self when you kill someone," she said. Bilal was trying "to get people to think about the games," she said.

Adding to the tensions at RPI is that many faculty members remain angry that the institute eliminated the Faculty Senate last year after it — against the wishes of the institute's board — decided to give voting right to full-time, non-tenure track faculty members. In 2006, the faculty narrowly rejected a no confidence vote against President Shirley Ann Jackson, who is seen as a national leader on many science and technology issues, but whose priorities have been questioned by many in its Troy, N.Y., home.

Nancy D. Campbell, an associate professor of science and technology studies who was the secretary of the Faculty Senate that RPI abolished, said that the idea that "President Jackson could send henchmen" into a classroom to remove an invited lecturer reflected how bad things had become at the institute. "I think this is yet another example of this president overstepping authority and taking matters into her own hands before she has gathered the wisdom of her faculty," Campbell said. "She cannot conduct any kind of democratic relationship.... We live in a climate of fear."

Photography With a Toy Gun

At Middlebury College, a student's photo exhibit — meant in part to spark reflection on last year's Virginia Tech killings, but going up right after the Northern Illinois University killings — is setting off controversy. The exhibit features a series of photographs of students with a toy gun.

The college removed one photograph, in which a student is shown with a gun in his mouth. (The photo removed is the third in the series that accompanies this article in *The Middlebury Campus,* the student newspaper.)

A college spokeswoman said that Stuart Hurt, a graduate intern at Middlebury's art museum, curated the photo exhibit and made the decision to remove the photo in question, after some complaints came in and based on discussions with a variety of others. Removing one photograph — while also adding an explanatory text for the exhibit — offered a "good compromise," to keep the exhibit up, while also respecting the wishes of others.

The spokeswoman also noted the space where the photographs are on display. "This is a space that people often have to walk through rather than a museum exhibit where they choose to go. This point provokes the question, should art in very public places be different than that found in a museum?" One good thing to come out of this, according to Stuart, is the fact that an art exhibit is the subject of discussion on campus since he thinks that art should be a topic of discussion at Middlebury more often than it currently is."

Aaron Gensler, the Middlebury student whose photographs are on display, said she believed they all deserved to be viewed. "Censorship is never necessary. My piece was about human response and reaction and it has been an interesting process to see what, in each of the various installations, people have chosen to react to," she said. Gensler added, via e-mail: "I also believe that I should also have the chance to introduce art that provokes thought. It is true that my artwork was not intended to cause debate about censorship and the issues of public art; nevertheless, I am excited that it has."

An editorial in the student paper backed Gensler and criticized the decision to remove one of the photographs.

"Gensler's exhibit ... seems to have been intended not to inflame understandably tender feelings stemming from this violence and uncertainty but rather to encourage open and thoughtful dialogue. The photographs of students holding a toy gun are undeniably uncomfortable, but Gensler's photographs challenge visitors to the gallery to think critically about the American relationship to the gun, the role of gun violence on college campuses and the breadth of images and messages about firearms that Americans encounter every day," the editorial said. It added that removing a photograph "set a dangerous precedent for a student's ability to present challenging, startling and even provocative art on campus."

— Scott Jaschik

The original story and user comments can be viewed online at
http://insidehighered.com/news/2008/03/10/art

Coin. Smile. Click!

By JOHN STRAUSBAUGH

ON a recent sunny but frigid morning, I strolled up Broadway through Times Square with Näkki Goranin, a visitor from Vermont making a pilgrimage through the swirling crowds and the sensory overload of all the signage. We stopped on the west side of Broadway between 51st and 52nd Streets. It looked nondescript to me, with the usual fast food, souvenir shop, gym and drugstore.

But Ms. Goranin, a photographer whose book "American Photobooth" (W. W. Norton) has just been published, declared it "a landmark in photo history." Because, she said, in 1926, roughly where the gym is now, a Jewish inventor from Siberia named Anatol Josepho (shortened from Josephewitz) opened a photo-booth concession, the first Photomaton in the world.

An instant hit, the photo booth spread from this spot in Times Square to arcades, amusement parks, state fairs, bus depots and five-and-dimes around the country. Across eight decades it has recorded countless youthful frolics, loving kisses and inebriated indiscretions. Its popularity has survived the Depression, the vanishing of the old arcades and five-and-dimes and the proliferation of disposable, digital and cellphone cameras. Nick Montano, executive editor of the industry monthly Vending Times, estimates that there are still something like 10,000 booths around the country.

But the old-fashioned booths with their "dip 'n' dunk" chemical developing process and breathless wait for the damp strip of black-and-white images to slide out are disappearing into scrapheaps or into the homes of collectors (Tim Burton and Quentin Tarantino among them), giving way to booths with digital, computerized equipment.

On the busy Broadway sidewalk, Ms. Goranin explained how it all began. Mr. Josepho was just one of many inventors striving to perfect a fully automated photo booth in the early 20th century, she said. He was born in 1894 and grew up in Omsk, Siberia, dreaming of the Wild West and learning to use a Brownie camera, which Eastman Kodak introduced in 1900. As a young man he roamed the globe, from Paris and Budapest to Shanghai, finally reaching the Wild West, or Hollywood anyway, in the mid-1920s, then hitchhiked cross-country with his photo-booth schematics. In New York City, he assembled the engineers and mechanics to build the first few Photomatons he unveiled at 1659 Broadway in the fall of 1926.

"When it first opened, there were people standing all the way around the block," Ms. Goranin said. Mr. Josepho kept the Photomaton "studio," as he called it, open 24 hours. In April 1927, Time magazine reported that 280,000 customers had entered his booths in the first six months. They spent 25 cents each to pose and then wait the eight minutes it took to process a strip of eight small photos. Among them was Gov. Al Smith, not the last political figure to step into a photo booth. In 1953, the newlyweds Jack and Jackie Kennedy took glowing self-portraits in one.

In the early years, Ms. Goranin said, using a photo booth was not quite the private affair it would become. At Photomaton, attendants in white smocks and gloves took patrons' money, suggested poses, cut the strips into individual photos and sold extras like frames and color tinting. Curtains were added later, inviting romantic and sometimes risqué behavior.

Photomaton was such a sensation that in March 1927 a business consortium headed by Henry Morgenthau Sr., the former United States ambassador to Turkey and a founder of the American Red Cross, paid Mr. Josepho $1 million for the American rights. The deal made the front page of The New York Times.

Competitors soon sprang up. A few doors up from Mr. Josepho's studio, at 1671 Broadway, a place called Photomovette appeared, followed over the years by Photomatic, Auto-Photo, the Photo-Strip Junior, Photo-Me and others. Some booths weren't as automated as they seemed. In storage in Vermont, Ms. Goranin has an old booth in which a hidden employee would quickly develop the strips and push them out the slot to unsuspecting patrons.

Farther down Broadway, between 47th and 48th Streets, on a block now dominated by Morgan Stanley's headquarters, the 3,000-seat Strand movie theater once stood. Two doors away, a Photomaton concession opened in 1932. It was run by a man named John Slack, and it was so popular that he kept a large extended family employed there through the Depression.

In the course of researching her book, Ms. Goranin tracked down Slack's son, Jeffrey, on Long Island. He told her he had just thrown several decades' worth of old photos, family business records and even camera lenses into a Dumpster.

"I got moderately hysterical," she recalled. "I started crying." The next morning she received a phone call from Jeffrey, who had climbed into the Dumpster and fished out the treasures. Many of the images are included in her book.

Crossing 47th Street, we found a modern digital photo booth in the Times Square Information Center, housed in the former Embassy movie theater at 1560 Seventh Avenue, between 46th and 47th Streets. The photo booth offers digital images in a variety of formats, from a standard head shot to a Photoshop version of your face on the body of a surfer or a cartoon character. A disembodied female voice, the 21st-century descendant of those white-smocked attendants, led us through the steps. She had a British accent; the booth came from Photo-Me, a distributor based in England.

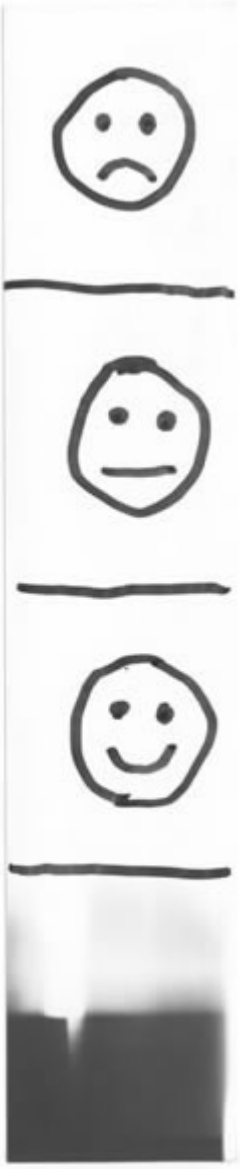
Tim Tompkins, the president of the Times Square Alliance, which operates the center, said that both the photo booth and the peep-show booth appeared first in Times Square and noted that clothes were known to come off in both. "Times Square has always been about this particular mix of narcissism, exhibitionism and voyeurism," he said, adding that on New Year's Eve, the information center's booth was dressed up as a kissing booth "where you could practice your New Year's Eve kiss."

"It was a huge hit," he added.

At the International Center of Photography (1133 Avenue of the Americas, at 43rd Street), Brian Wallis, the chief curator, described how a couple of famous artists made creative use of photo booths. In 1928, Photomaton installed booths on the Champs-Élysées in Paris. The Surrealist André Breton, whose novel "Nadja" was published that year, "rounded up his Surrealist crew and took them there to pose for portraits," Mr. Wallis said.

The photography center's archives contain photo-booth portraits of Breton, a young Salvador Dalí and Luis Buñuel. They all posed with their eyes closed, as though dreaming, because Breton believed that "the dream was the key to the unconscious," Mr. Wallis explained.

In the 1960s, Andy Warhol often used photo booths to take portraits, including his own, which he incorporated into his art. Mr. Wallis showed us photo-booth strips of Edie Sedgwick and the art dealer Holly Solomon.



Before she died in 2002, Ms. Solomon reminisced with Mr. Wallis about a visit with Warhol to a 42nd Street arcade. "They had to try several photo booths so he could find the one that had the right combination of chemicals to produce the best imagery," he said. "She had a sack of about 30 or 40 strips. She said he was there all day with rolls of quarters, and he was quite choosy about the poses."

Mr. Wallis said Warhol's use of photo booths was consistent with his appreciation of mug shots, snapshots and news photos. "Warhol was such a great connoisseur of these vernacular types of photography," he said. "He wasn't making judgments. He understood that it doesn't have to be a work of art to be a great image."

Looking for an old-fashioned chemical booth, Ms. Goranin and I went down to Lakeside Lounge, a bar in the East Village (162 Avenue B, between 10th and 11th Streets). A '60s-era Auto-Photo booth, a model prized for its durability, Ms. Goranin said, stood at the end of the bar, near vintage fortune-telling and test-your-grip machines.

Trixie Salke, who owns that booth and the similar model at the nearby bar Otto's Shrunken Head (538 East 14th Street, between Avenues A and B), opened it to show us the machinery inside, a Rube Goldbergian contraption of metal arms and springs and chemical baths, with grippers that dunk the photo strip in a lazy susan of developing tubs before sliding it out, still damp, to the waiting patron. The images print directly onto the specially treated paper strip, so no film or potentially embarrassing negatives are involved. The images you hold in your hand are the only ones that exist. (The same is generally true of digital booths.)

With the number of vintage booths dwindling, Ms. Salke said, finding spare parts for the antique machinery has become difficult. Worse, no one is producing the treated paper anymore, so owners of older booths like hers are working their way through existing stock.

Up on East Gun Hill Road in the Bronx neighborhood of Baychester I met Allen Weisberg, president of Apple Industries and owner of Face Place, who distributes new digital photo booths throughout North America. He led me around the crowded workshop where his employees prepare and crate booths for shipment. The booths come in a variety of models, from a new fold-up version that can be easily transported to events to one that looks like a giant walk-in camera. Some do a fair job of reproducing the look of old black-and-white photo strips, which nostalgic users prefer.

No Goldbergian contraptions here: the inner workings of these models entailed merely a small computer and printer, not much different from anyone's home-office equipment.

Mr. Weisberg, 50, was more or less born into the business. His father repaired coin-operated amusement machines and jukeboxes around the city and took him on the rounds.

Tenth Avenue from 41st to 43rd Street "was the coin-op world at that time," he recalled. "Every coin-op vending machine that was sold in the tri-state area went through the distributors there."

A distributor took the young Mr. Weisberg to a basement workshop where photo booths were assembled. “He said, ‘Kid, this is the business to be in,’ ” he continued. “I didn’t do anything about it until I was 35 years old, but that’s the story of how I got into the photo-booth business.”

In New York City, Mr. Weisberg said, he has sold new booths to several bars, like Bleecker Street Bar in the East Village (between Broadway and Lafayette Street) and BB&R on the Upper East Side (1720 Second Avenue, near 89th Street); movie multiplexes like Atrium Cinemas on Staten Island; and bowling centers like Maple Lanes in Brooklyn. Because digital booths are more easily transported and set up than the old chemical models, he added, many event planners now rent them out for weddings, parties and corporate affairs.Back in Times Square, the artist Raul Vincent Enriquez is using the intimacy of the photo booth to make very public art. He installed a homemade digital booth at the storefront Chashama gallery (112 West 44th Street, between Avenue of the Americas and Seventh Avenue). Through April 26, you can take a quick series of portraits in the booth, then see your giant self projected on the Lumacom display screen 48 stories up atop the Condé Nast building (4 Times Square, Broadway between 42nd and 43rd Streets).

“I think if I had set up a portrait studio people would have been intimidated to pose,” Mr. Enriquez said. “But everybody has used a photo booth. People like to sit down, hit the button and make silly faces.”

Booth Views

READING

“American Photobooth” (W. W. Norton, 2008) Näkki Goranin’s in-depth illustrated history.

“Andy Warhol Photography” (Andy Warhol Museum, Pittsburgh/Hamburg Kunsthalle/Edition Stemmle, 1999) A comprehensive overview of Warhol’s photo-booth portraits, with numerous illustrations.

“The Devil’s Playground: A Century of Pleasure and Profit in Times Square” (Random House, 2004) James Traub’s elegantly written cultural history of the area.

photobooth.net An excellent Web site of photo-booth history, news, art and chemical-booth locations around the country.

WATCHING

“A Hard Day’s Night” (1964) John, Paul, George and Ringo cram themselves into a vintage photo booth to duck a horde of adoring fans.

“Modern Marvels: Times Square” (2001) A History Channel overview of the area.

“Un Chien Andalou” (1929) Salvador Dalí and Luis Buñuel’s 17-minute film is a crash course in Surrealist imagery.

http://www.nytimes.com/2008/03/14/arts/14expl.html?_r=1&th&emc=th&oref=slogin

'ANATOMY OF A MASTERPIECE'
The Art Is in the Detail

By HOLLAND COTTER

From his terrace, the world is blue and green — mountains and trees — or almost green. Spring is on the way; the geese are back. One, then two, alight on the river, with more still invisible but close behind. Pavilion living! The only way. With the city somewhere down there, and nature everywhere up here, he watches mist rise. River meets sky.

The calm watcher is the fourth-century scholar-artist Wang Xizhi, father of classical calligraphy and model for living an active life in retreat. He is depicted by the painter Qian Xuan, another connoisseur of reclusion, in a 13th-century handscroll at the Metropolitan Museum of Art. The scroll is in "Anatomy of a Masterpiece: How to Read Chinese Paintings," a spare, studious show that offers, along with many stimulations, a retreat from worldly tumult — the religious fervor, the courtly pomp, the expressive self-promotion — that fills much of the museum.

This exhibition is also a refuge from the hurly-burly of Asia Week in New York, which is now in session and has mushroomed into three weeks this year. Dealers are in town from abroad with special shows; others arrive next week. Two art fairs are returning. Add a passel of events devoted to contemporary Asian art, along with the auctions, and the situation is clear: a marathon stretch of looking, judging, sorting, tsk-tsking and oh-mying, not to mention wheeling and dealing. Naturally, the urge to get away from it all can be strong.

I mean, isn't part of the point of our Western passion for Asian art to find a serenity that we can't seem to cook up on our own, a metabolic slow-down, a less-is-more state of grace? One 15th-century Chinese writer recorded such an ideal in a lifestyle wish list that includes: "A nice cottage. A clean table. A clear sky with a beautiful moon. A vase of flowers. No cares of the world." He was describing the optimum environment for looking at art, but also for living artfully.

"Anatomy of a Masterpiece" has all the elements on his list, and one more: instruction. The curator, Maxwell K. Hearn of the Met's Asian art department, has given the museum's lofty Chinese painting and calligraphy galleries the intimacy of a teaching collection, with a limited number of objects accompanied by short labels and photographic enlargements of details. The labels are thematic and ruminative, approaching paintings through ideas rather than dynasties. The photographs are a revelation.

To many visitors Chinese brush-and-ink painting, with its faint images on time-darkened silk, has a generic look; entire galleries register as a soft brown blur. Close and repeated looking slowly reveals those images and brings them to life in a startling way; partly this is a matter of individual vision evolving, sharpening. But photographs speed the process, cutting through obscuring patinas, clarifying what is otherwise hard to see, and in dramatic ways.

I can easily imagine Mr. Hearn's photo-supplemented show creating converts to Chinese painting; it is museology as consciousness-raising. (Yale University Press is publishing an accompanying book.)

Mr. Hearn has the immense advantage of working with some of the most famous Chinese paintings in existence, and he opens with one of them, “Night-Shining White,” a picture of a spirited horse by Han Gan, who lived in the ninth century during the Tang dynasty. By that point the criteria for a successful painting had been established, and the first was the ability to convey a subject’s vitality, or life-energy.

Han was a master of this, bringing an animal to life with contour lines and calligraphic strokes that look almost joltingly vibrant. And if that dynamism escapes us, the testimony of generations of connoisseurs is there to confirm it: the horse is hedged in by a halo of seals applied by scholars and artists over the centuries. Each is a stamp of approval; together they are a storm of applause.

During the Tang dynasty, figure painting was the prestige genre, and landscape subsidiary. With time this hierarchy was reversed. Landscape became the big picture, figures mere dots to establish scale. And the scale was tremendous: towering mountains, limitless vistas, sourceless rivers, as befitted an image of nature that was an emblem of creation itself, a vision of matter forever consolidating and evaporating .

The uses of that vision varied. In “Summer Mountains,” attributed to the Southern Song painter Qu Ding, the landscape is descriptive, a pileup of painstakingly rendered details, from minute curved bridges to an elaborate temple tucked in a notch. By contrast, in Guo Xi’s water-soaked “Old Trees, Level Distance,” emotion reigns. The landscape looks as shadowed with regret as a Mahler song. Two old men, tiny figures, meet for a parting meal before one begins a journey. Where is he going? Will he return? Or is this a last goodbye? They men are dwarfed by a landscape seen through tears.

Several generations later, in Zhao Mengfu’s “Twin Pines, Level Distance,” something new appears. No more realism; no more romanticism; in a sense, no more painting. Now the landscape image is an extension of writing, a form of embodied thought, an essence of landscapeness, a text to be read. In the contemporary West we have a term for this: conceptual art.

And my guess is that if certain Chinese artists in the Met show could leap the centuries, they would feel at home in the concept-intensive environment of the current Whitney Biennial, with Carol Bove’s towering driftwood sculpture, or Charles Long’s skeins of river debris, or even the text-based art of Dexter Sinister (Stuart Bailey and David Reinfurt) snaking down a computer screen.

Not that Chinese painting ever abandons sheer visual punch. Liang Kai’s “Poet Strolling by a Marshy Bank,” with its vision of the natural world gashed open and turned inside out, is a shock to the system no matter how often you see it. So is Zude’s painting of an old man’s face as a fissured topography of rock and earth. And Wu Bin’s depiction of Buddhist saints as a cavalcade of rubber-limbed freaks.

Then there is the peculiar vivacity of calligraphy. If Zhao's "Twin Pines, Level Distance" is the pictorial equivalent of writing, the show's great example of his actual script, "Four Anecdotes From the Life of Wang Xizhi," seems to have an aural dimension, like a dramatic reading. So expressive are the linear twists and turns of the brush, the pressure and weights of ink, the spatial punctuations, that you can practically hear his voice.

No doubt that voice often spoke in isolation. In his later years, Zhao alternated life in the quotidian world, with its markets and politics, with periods of withdrawal. And the passage he copied in calligraphy at the Met is a story from the life of Wang Xizhi, the man with the vista of blue and green, the man who loved geese.

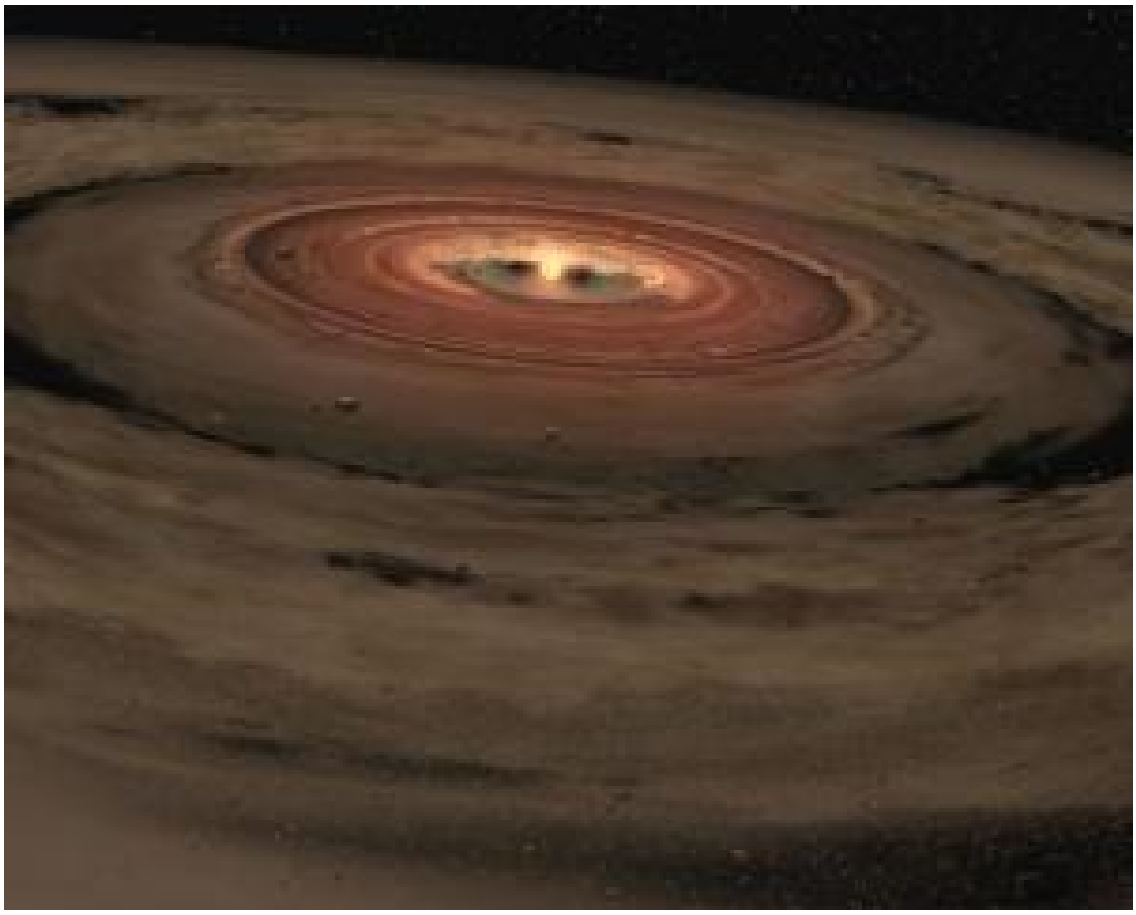
In the story, Wang is visiting a Daoist monk who owns a flock of geese, exceptionally beautiful ones. Sell them to me, Wang begs the monk, who replies that he will not. They argue; they wrangle; they spar. It's exhausting. At last they swing a deal. The monk says that if Wang, such a famed calligrapher, will copy two chapters of Laozi's Daoist scripture for him, he will give him the birds. Wang makes the copy, which takes all afternoon. Then the geese are his and he returns home, jubilant.

Home, one assumes, is the high terrace in Qian Xuan's painting. And there, one likes to imagine, Wang Xizhi set the birds free. The legend is that his calligraphic style, the one that shaped so much later Chinese art, was inspired by watching geese fly, observing the bend of their wings, the curve of their necks as they descended to the river. Such are the benefits of the pavilion life: fresh ideas and a sharpened eye. You can acquire both in the Met's pacific Chinese painting galleries and carry them to the hubbub that is Asia Week outside.

"Anatomy of a Masterpiece" runs through Aug. 10 at the Metropolitan Museum of Art, (212) 535-7710, metmuseum.org.

http://www.nytimes.com/2008/03/14/arts/design/14asia.html?th&emc=th

Spitzer Finds Organics And Water Where New Planets May Grow



This artist's concept shows a very young star encircled by a disk of gas and dust, the raw materials from which rocky planets such as Earth are thought to form. (Credit: NASA/JPL-Caltech)

ScienceDaily (Mar. 13, 2008) — Researchers using NASA's Spitzer Space Telescope have discovered large amounts of simple organic gases and water vapor in a possible planet-forming region around an infant star, along with evidence that these molecules were created there. They've also found water in the same zone around two other young stars.

By pushing the telescope's capabilities to a new level, astronomers now have a better view of the earliest stages of planetary formation, which may help shed light on the origins of our own solar system and the potential for life to develop in others.

John Carr of the Naval Research Laboratory, Washington, and Joan Najita of the National Optical Astronomy Observatory, Tucson, Ariz., developed a new technique using Spitzer's infrared spectrograph to measure and analyze the chemical composition of the gases within protoplanetary disks. These are flattened disks of gas and dust that encircle young stars. Scientists believe they provide the building materials for planets and moons and eventually, over millions of years, evolve into orbiting planetary systems like our own.

"Most of the material within the disks is gas," said Carr, "but until now it has been difficult to study the gas composition in the regions where planets should form. Much more attention has been given to the solid dust particles, which are easier to observe."

In their project, Carr and Najita took an in-depth look at the gases in the planet-forming region in the disk around the star AA Tauri. Less than a million years old, AA Tauri is a typical example of a young star with a protoplanetary disk.

With their new procedures, they were able to detect the minute spectral signatures for three simple organic molecules--hydrogen cyanide, acetylene and carbon dioxide--plus water vapor. In addition, they found more of these substances in the disk than are found in the dense interstellar gas called molecular clouds from which the disk originated. "Molecular clouds provide the raw material from which the protoplanetary disks are created," said Carr. "So this is evidence for an active organic chemistry going on within the disk, forming and enhancing these molecules."

Spitzer's infrared spectrograph detected these same organic gases in a protoplanetary disk once before. But the observation was dependent on the star's disk being oriented in just the right way. Now researchers have a new method for studying the primordial mix of gases in the disks of hundreds of young star systems.

Astronomers will be able to fill an important gap--they know that water and organics are abundant in the interstellar medium but not what happens to them after they are incorporated into a disk. "Are these molecules destroyed, preserved or enhanced in the disk?" said Carr. "Now that we can identify these molecules and inventory them, we will have a better understanding of the origins and evolution of the basic building blocks of life--where they come from and how they evolve." Carr and Najita's research results appear in the March 14 issue of Science.

Taking advantage of Spitzer's spectroscopic capabilities, another group of scientists looked for water molecules in the disks around young stars and found them--twice. "This is one of the very few times that water vapor has been directly shown to exist in the inner part of a protoplanetary disk--the most likely place for terrestrial planets to form," said Colette Salyk, a graduate student in geological and planetary sciences at the California Institute of Technology in Pasadena. She is the lead author on a paper about the results in the March 20 issue of Astrophysical Journal Letters.

Salyk and her colleagues used Spitzer to look at dozens of young stars with protoplanetary disks and found water in many. They honed in on two stars and followed up the initial detection of water with complementary high-resolution measurements from the Keck II Telescope in Hawaii. "While we don't detect nearly as much water as exists in the oceans on Earth, we see essentially only the disk's surface, so the implication is that the water is quite abundant," said Geoffrey Blake, professor of cosmochemistry and planetary sciences at Caltech and one of the paper's co-authors.

"This is a much larger story than just one or two disks," said Blake. "Spitzer can efficiently measure these water signatures in many objects, so this is just the beginning of what we will learn."

"With upcoming Spitzer observations and data in hand," Carr added, "we will develop a good understanding of the distribution and abundance of water and organics in planet- forming disks."

NASA's Jet Propulsion Laboratory, Pasadena, Calif., manages the Spitzer Space Telescope mission for NASA's Science Mission Directorate, Washington. Science operations are conducted at the Spitzer Science Center at Caltech, also in Pasadena. Caltech manages JPL for NASA. For more information about Spitzer, visit http://www.spitzer.caltech.edu/spitzer and http://www.nasa.gov/spitzer .

Adapted from materials provided by NASA/Jet Propulsion Laboratory.

http://www.sciencedaily.com/releases/2008/03/080313141418.htm

Life's Building Blocks From Space? Meteorites A Rich Source For Primordial Soup

A small sample of meteorites from the Antarctic. (Credit: NASA)

ScienceDaily (Mar. 13, 2008) — The organic soup that spawned life on Earth may have gotten generous helpings from outer space, according to a new study. Scientists at the Carnegie Institution have discovered concentrations of amino acids in two meteorites that are more than ten times higher than levels previously measured in other similar meteorites. This result suggests that the early solar system was far richer in the organic building blocks of life than scientists had thought, and that fallout from space may have spiked Earth's primordial broth.

Amino acids are organic molecules that form the backbone of proteins, which in turn build many of the structures and drive many of the chemical reactions inside living cells. The production of proteins is believed to constitute one of the first steps in the emergence of life. Scientists have determined that amino acids could also have formed in some environments on the early Earth, but the presence of these compounds in certain meteorites has led many researchers to look to space as a source.

The meteorites used for the study were collected in Antarctica in 1992 and 1995 and held in the meteorite collection at the NASA Johnson Space Center in Houston, Texas. Antarctica is the world's richest hunting ground for meteorites, which are naturally concentrated in so-called blue ice regions and held in cold storage by the ice.

Dr Zita Martins, of Imperial College London's Department of Earth Science and Engineering, explains: "We know that approximately 3.8 to 4.5 billion years ago the Earth underwent heavy bombardment from meteorites which brought molecules to our planet, just before life emerged on Earth. However, there is a gap in knowledge about how life came into being. Our work has shown that it may have been meteoritic amino acids and other biologically useful compounds that spurred life into existence."

For the amino acid study, the researchers took small samples from three meteorites of a rare type called CR chondrites, thought to contain the oldest and the most primitive organic materials found in meteorites. CR chondrites date from the time of the solar system's formation. During an early phase of their history

the meteorites were part of a larger "parent body," such as an asteroid, which later was shattered by impacts.

The analysis revealed that while one sample showed a relatively low abundance of amino acids, the other two meteorites had the highest ever seen in primitive meteorites--180 and 249 ppm (parts per million). Other primitive meteorites that have been studied generally have amino acid concentrations of 15 ppm or less. Because organic molecules from extra-terrestrial sources have ratios of carbon isotopes different from those of Earthly biological sources, the researchers were able to rule out contamination as a factor in their result.

"The amino acids probably formed within the parent body before it broke up," says Alexander. "For instance. ammonia and other chemical precursors from the solar nebula, or even the interstellar medium, could have combined in the presence of water to make the amino acids. Then, after the break up, some of the fragments could have showered down onto the Earth and the other terrestrial planets. These same precursors are likely to have been present in other primitive bodies, such as comets, that were also raining material onto the early Earth."

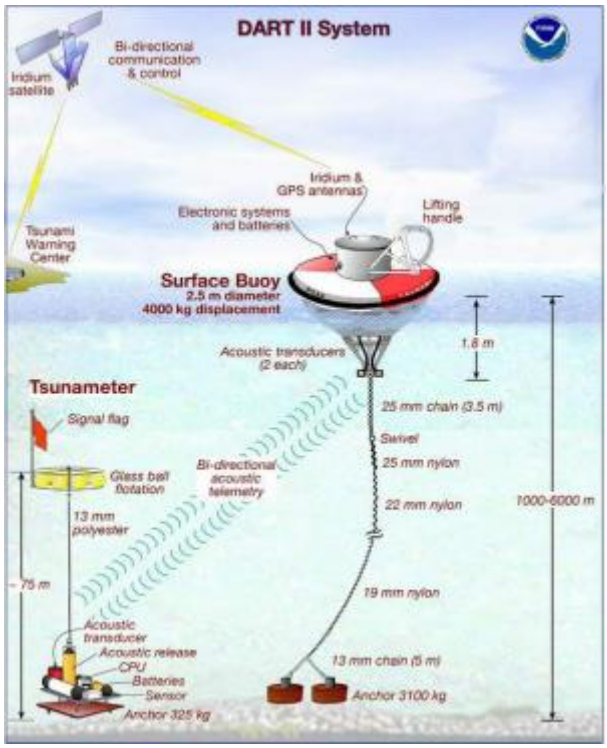
The study, "Indigenous amino acids in primitive CR meteorites. Meteoritics and Planetary Science" by Marilyn Fogel of Carnegie's Geophysical Laboratory and Conel Alexander of the Department of Terrestrial Magnetism with Zita Martins of Imperial College London and two colleagues, will be published in Meteoritics and Planetary Science. Z. Martins, C. M. O'D. Alexander, G. E.Orzechowska, M. L. Fogel, and P. Ehrenfreund also contributed.

Funding for Fogel and Alexander provided in part by NASA's Origins of Solar Systems program and the NASA Astrobiology Institute.

Adapted from materials provided by Carnegie Institution.

http://www.sciencedaily.com/releases/2008/03/080313095623.htm

NOAA Launches Final Two Buoys To Complete U.S. Tsunami Warning System



NOAA DART II buoy system. (Credit: NOAA)

ScienceDaily (Mar. 13, 2008) — NOAA deployed the final two tsunami detection buoys in the South Pacific this week, completing the buoy network and bolstering the U.S. tsunami warning system. This vast network of 39 stations provides coastal communities in the Pacific, Atlantic, Caribbean and the Gulf of Mexico with faster and more accurate tsunami warnings.

These final two deep-ocean assessment and reporting of tsunami (DART) stations, deployed off the Solomon Islands, will give NOAA forecasters real-time data about tsunamis that could potentially impact the U.S. Pacific coast, Hawaii and U.S. Pacific territories. Tsunami sensors are now positioned between Hawaii and every seismic zone that could generate a tsunami that would impact the state and beyond, including the U.S. West Coast. Buoys already in the western Atlantic, Gulf of Mexico and Caribbean have been keeping watch over the U.S East and Gulf coasts.

"Completing the U.S. Tsunami Warning System is truly a monumental triumph that includes the advancement of the science, the development and testing of cutting edge technology, and the large scale project management skills that brought it all together on a global scale," said retired Navy Vice Adm. Conrad C. Lautenbacher, Ph.D., undersecretary of commerce for oceans and atmosphere and NOAA administrator. "As a young scientist who researched tsunamis and built early models of their effects, I never imagined that we could come so far in our ability to understand, to detect, to model and to warn on such a scale as we have just achieved."

DART stations consist of a bottom pressure sensor anchored to the seafloor and a companion moored surface buoy. An acoustic link transmits data from the bottom pressure sensor to the surface buoy, and then satellite links relay the data to NOAA tsunami warning centers. The DART network serves as the cornerstone to the U.S. tsunami warning system.

Other components of the tsunami warning system include NOAA's tsunami warning centers, a network of tide and seismic stations, forecast models for at-risk communities, and TsunamiReady™, a public preparedness and education program.

Since the Indonesian tsunami of December 2004, NOAA has made significant upgrades to the U.S. tsunami warning system, including:

- Installing 49 new or upgraded tide gages
- Installing or upgrading eight seismic stations
- Expanding the network of DART buoys from six (exclusively in the eastern Pacific) to 39 (from the western Pacific to the Atlantic)
- Growing the number of TsunamiReady communities from 16 to more than 50 today
- Developing 26 inundation forecast models and implementing a new Tsunami Warning System
- Extending the operations of the Pacific and West Coast/Alaska Tsunami Warning Centers to 24 hours a day
- Assisting Australia and Indonesia with installing tsunami warning systems off their coasts.

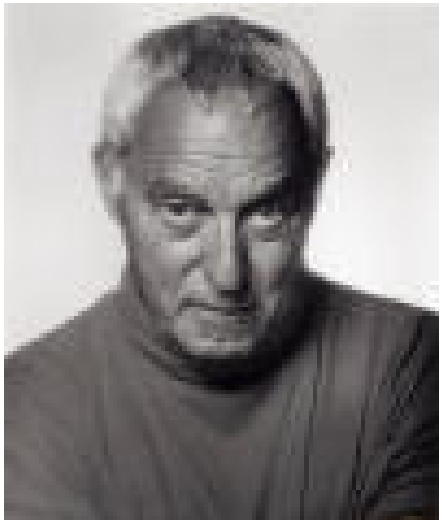
NOAA encourages state and local communities to improve their resiliency to tsunamis by participating in the TsunamiReady program. This program serves to educate the public about the threat of a tsunami and ensure people know what to do when NOAA issues a tsunami warning. Through active research, NOAA is working to detect tsunamis and issue warnings more rapidly. These efforts will enhance NOAA's ability to protect the American people from the potentially devastating hazard of a U.S.-bound tsunami.

Adapted from materials provided by National Oceanic And Atmospheric Administration.

http://www.sciencedaily.com/releases/2008/03/080311090733.htm

Gus Giordano, 84, Innovator of Modern Jazz Dance, Is Dead

By JENNIFER DUNNING



Gus Giordano, an early and tireless popularizer of American jazz dance who organized the first Jazz Dance World Congress, died on March 9 in Chicago. He was 84.

The cause was pneumonia, according to his daughters, Nan and Amy Giordano.

Mr. Giordano was best known through the performing of his company, Giordano Jazz Dance Chicago, founded in 1962 and based in Evanston, and through his teaching at dance conventions throughout the United States. The company, now directed by Nan Giordano, his daughter, is said to have been the first dance troupe to dedicate itself solely to jazz dance.

The company's programs featured pieces by Mr. Giordano and later, as he grew older, included dances by guest choreographers including Mia Michaels and Davis Robertson. The performers became known for their strong training, energy and hard-driving, precise way of moving.

"Their sleek lines and high, silent jumps had the feel of a well-oiled 1958 Chevrolet Impala, a pure expression of another era and something we remember as historically sexy," Erika Kinetz wrote in 2005 in The New York Times, reviewing "Giordano Moves," a tribute presented at the 14th annual Jazz Dance World Congress in Chicago.

Mr. Giordano organized the first congress in 1990, bringing jazz dance companies together for a week of master classes and performance in annual conventions held not only in the United States but also in countries including Japan, Germany and Mexico. He also wrote several books, including the 1975 "Anthology of American Jazz Dance," published by Orion Publishing House in 1975, and "Jazz Dance Class: Beginning Thru Advanced," published by Dance Horizons in 1992.

He was born in St. Louis and became interested in dance as a child. As a marine in World War II, he was assigned to perform in shows at military bases. He performed on Broadway after the war in musicals including "Paint Your Wagon" and "On the Town." He moved to Chicago in 1953. In 1980, he won an Emmy for the television special "The Rehearsal."

In addition to his daughters Nan and Amy, he is survived by two sons, Patrick and Marc, and eight grandchildren, all of Chicago.

http://www.nytimes.com/2008/03/13/arts/dance/13giordano.html?ref=arts

Obesity Study Sheds Light On How Genetics Affect Risk And Onset Of Common Diseases

Overall risk for disease has a significant inherited component that can be linked to specific versions of genetic markers. (Credit: iStockphoto/Eliza Snow)

ScienceDaily (Mar. 19, 2008) — In a paper published in the journal Nature, a team of deCODE scientists detail a major mechanism through which genetic factors contribute to major public health problems. In its work on the inherited components of dozens of common diseases, deCODE has discovered gene variants that significantly affect individual susceptibility or protection against disease. In the common forms of these conditions – such as obesity, type 2 diabetes and cardiovascular diseases – deCODE has previously shown that genetic variants confer increased or decreased risk by upregulating or downregulating the activity of major biological pathways. As a result, these variants place individuals on a spectrum of risk, with most of the population clustered at roughly average risk and a smaller number of people at either significantly higher or lower risk.

In the new paper, the deCODE team and collaborators from Merck demonstrate one of the principal ways in which the activity of biological pathways is functionally perturbed in a quintessentially complex condition: obesity. Through analysis of adipose tissue from some 1700 Icelandic participants in obesity research cohorts, the deCODE team showed in data derived from primary human tissue that variations in gene expression – in the up-regulation or downregulation of how genes are translated into proteins – have a major impact on several parameters of clinical obesity. The deCODE team then used its unique resources for genome-wide linkage and association analysis to demonstrate that variability in gene expression, like overall risk for disease, has a significant inherited component that can be linked to specific versions of genetic markers. "One of the observations we have made in our work on the isolation of disease genes is that the genetic risk of common diseases is often conferred by variations in the sequence of the genome that affect expression of genes. Hence, one of the ways to approach the study of common diseases is through the analysis of gene expression. This paper provides a substantial contribution towards the understanding of gene expression in man and one example of how it can be used to expand our knowledge of one disease, namely obesity," said Kari Stefansson, CEO of deCODE.

The paper, "Genetics of gene expression and its effect on disease," is published March 16 on Nature's website, and will appear in a subsequent print edition of the journal.

Adapted from materials provided by deCODE Genetics.

http://www.sciencedaily.com:80/releases/2008/03/080318200625.htm

Tiny Wasp Used To Wipe Out Major Agricultural Pest In Tahiti

Glass-winged sharpshooters on leaves. (Credit: Hoddle lab, UC Riverside)

ScienceDaily (Mar. 19, 2008) — A research team led by Mark Hoddle, a biological control specialist at UC Riverside, has nearly eradicated the glassy-winged sharpshooter, a major agricultural pest, from the island of Tahiti and several other French Polynesian islands in the South Pacific Ocean. To achieve total pest suppression, the researchers used biological control, an inexpensive method that provides permanent control and can be applied to areas where the sharpshooter has become a nuisance.

The method involves introducing Gonatocerus ashmeadi, a microscopic parasitic wasp, into an ecosystem under siege from the glassy-winged sharpshooter. The tiny stingless wasp attacks glassy-winged sharpshooter eggs by drilling a tiny hole in the egg through which the parasite lays its own egg. The wasp larva that hatches from the egg then eats the inside of the glassy-winged sharpshooter egg, killing it. The wasp larva completes its development inside the host egg and then emerges as a tiny winged parasite that searches for more glassy-winged sharpshooter eggs to kill.

"We had the technology to do the job cheaply and in a way that brought about permanent control of the glassy-winged sharpshooter in Tahiti and its neighboring islands," said Hoddle, an extension specialist in the Department of Entomology and the director of the Center for Invasive Species Research. "When biological control -- the use of a pest's natural enemies to keep the pest's population growth in check -- works, it is very effective and safe in most cases. The parasites spread naturally and on their own, and they fly, requiring little, if any, continuous human assistance over a wide geographic area."

With no type of natural control in Tahiti, the excessive number of glassy-winged sharpshooters was a major social, economic, and agricultural nuisance on the island. The pest was especially present in high numbers in urban areas along the coast where it was severely affecting the health of trees and bushes upon which massive numbers of pests were feeding. When the island's government scientists approached Hoddle for guidance in 2003, he agreed to assist.

After safety evaluations, Hoddle and his colleagues released nearly 14,000 parasitic wasps at 27 sites in Tahiti between May 2005 and October 2005, resulting in rapid parasitism of glassy-winged sharpshooter eggs. By December 2005, the wasp had colonized the entire island of Tahiti, and glassy-winged sharpshooters decreased in number at all study sites to less than 5 percent of their original population density.

As a result of the rapid and dramatic reduction in the population of the glassy-winged sharpshooter in Tahiti, several problems associated with the pest diminished, such as excessive feeding on plants, high levels of sharpshooter excrement raining from trees, and home and shop invasions by hundreds of sharpshooters at night due to the pests' attraction to lights.

"Populations of the glassy-winged sharpshooter have been successfully maintained at a very low level in Tahiti for over two years, the time our experiments ended," Hoddle said. "Tahitian farmers have said their fruit production has improved in comparison to years when the sharpshooter was in abundance. The success of biological control with host-specific natural enemies demonstrates that alternative technologies that are not chemically driven can be very effective in suppressing invasive species."

Native to the southeastern U.S and northeastern Mexico, the sharpshooter is a half-inch long leaf hopper, dark brown in color, that has threatened the wine, table grape, and raisin industries in California since the 1980s because of a lethal bacteria that it spreads when feeding on plants.

The glassy-winged sharpshooter is a vector of Xylella fastidiosa, a bacterial pathogen that has potential to wipe out the grape, peach and almond industry, as well as many ornamental bushes and trees. Xylella fastidiosa causes Pierce's disease that can kill a grapevine in just two years.

Xylella kills plants by blocking the water conducting system, or xylem. The blockages reduce water flow to leaves. Water stress is visible as scorched leaves, which quickly dry and drop. Plants often die when these symptoms become obvious.

Because of its ability to spread a plant pathogen, the sharpshooter threatens native biodiversity and agriculture, In addition to grapes, the bacteria it spreads kills almonds, peaches, plums, olives, oleanders, and liquidambar.

A voracious eater, the sharpshooter can consume up to 100 times its body weight per day in plant fluids, and produces copious amounts of watery excreta that often "rains" down from trees, causing a social and recreational nuisance.

The glassy-winged sharpshooter, which invaded Tahiti in 1999, is also proving to be a nuisance in Easter Island (arrived 2005) and the Cook Islands (arrived 2007). It was also a pest in Hawai'i (arrived 2004) until G. ashmeadi, which controlled glassy-winged sharpshooters in Tahiti, accidentally arrived in Hawai'i.

Hoddle was joined in the study by Julie Grandgirard, Jerome N. Petit, George K. Roderick and Neil Davies of UC Berkeley. The French Polynesian government provided financial and logistical support for the project in French Polynesia.

Next in his research, Hoddle will work on a variety of pest species in their home countries to explore what controls their local populations.

"We are being proactive in our research by understanding these pests in their home environments," Hoddle said. "That way we will be better prepared for these new pests should they arrive unexpectedly one day at our doorstep."

Study results appear in the February issue of Biological Invasions.

Adapted from materials provided by University of California - Riverside.

http://www.sciencedaily.com/releases/2008/03/080314130426.htm

Arctic Sea Ice Still At Risk Despite Cold Winter, NASA Says

Sunset over the Arctic. (Credit: Jeremy Harbeck)

ScienceDaily (Mar. 19, 2008) — Using the latest satellite observations, NASA researchers and others report that the Arctic is still on "thin ice" when it comes to the condition of sea ice cover in the region. A colder-than-average winter in some regions of the Arctic this year has yielded an increase in the area of new sea ice, while the older sea ice that lasts for several years has continued to decline.

On March 18 the scientists said they believe that the increased area of sea ice this winter is due to recent weather conditions, while the decline in perennial ice reflects the longer-term warming climate trend and is a result of increased melting during summer and greater movement of the older ice out of the Arctic.

Perennial sea ice is the long-lived, year-round layer of ice that remains even when the surrounding short-lived seasonal sea ice melts away in summer to its minimum extent. It is this perennial sea ice, left over from the summer melt period, that has been rapidly declining from year to year, and that has gained the attention and research focus of scientists. According to NASA-processed microwave data, whereas perennial ice used to cover 50-60 percent of the Arctic, this year it covers less than 30 percent. Very old ice that remains in the Arctic for at least six years comprised over 20 percent of the Arctic area in the mid to late 1980s, but this winter it decreased to just six percent.

According to Walt Meier of the National Snow and Ice Data Center at the University of Colorado, Boulder, as ice ages it continues to grow and thicken, so that older ice is generally also thicker ice. This winter the ice cover is much thinner overall and thus in a more vulnerable state heading into the summer melt season. NASA's ICESat satellite has contributed to understanding of the changes in ice thickness. To get a better understanding of the behavior of sea ice, NASA is planning a follow-on satellite mission, ICESat II, to launch in 2015.

Arctic sea ice grows and declines seasonally, ranging from an average minimum extent in September of 2.5 million square miles to an average winter maximum extent of 5.9 million square miles in March. This March, instruments on NASA's Aqua satellite and NOAA and U.S. Defense Department satellites showed the maximum sea ice extent slightly increased by 3.9 percent over that of the previous three years, but it is

still below the long-term average by 2.2 percent. Increases in ice extent occurred in areas where surface temperatures were colder than the historical averages. At the same time, as a result of the export of ice from the Arctic, the area of perennial ice decreased to an all-time minimum.

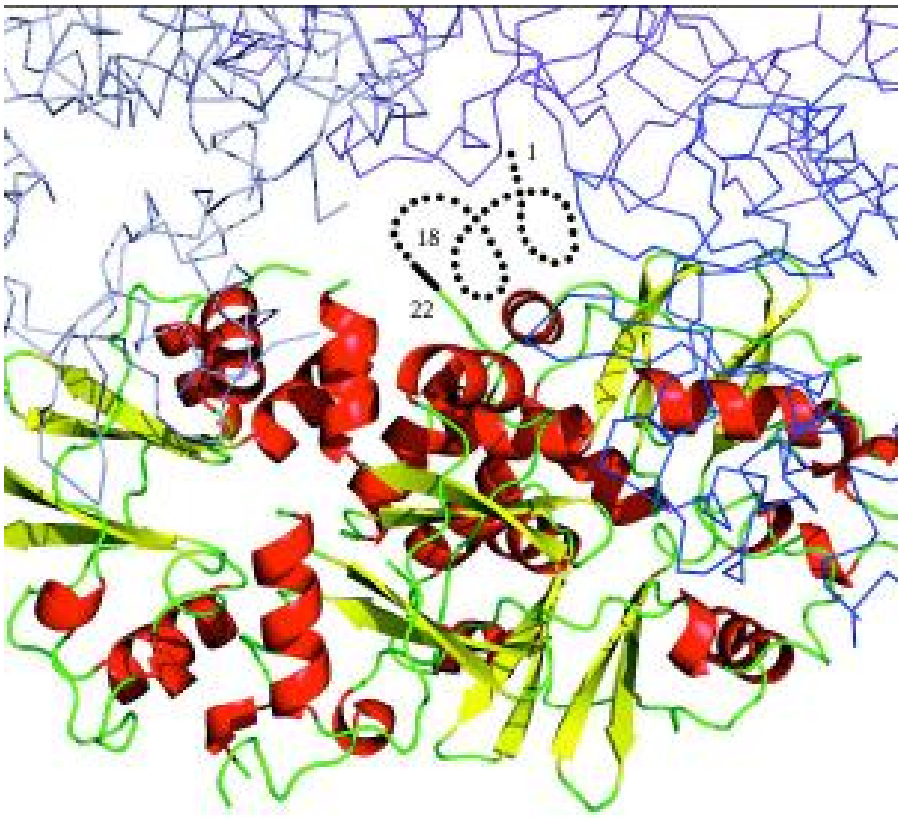
Joey Comiso of NASA's Goddard Space Flight Center in Greenbelt, Md., the lead author of a 2007 related study, used data from NASA's passive microwave data set to establish that the perennial ice cover at the summer Arctic ice minimum in 2007 was about 40 percent less than the 28-year average. According to the latest observations from the National Snow and Ice Data Center (an organization partially funded by NASA), perennial sea ice dropped from about 40 percent of the total ice pack last year to 30 percent of total ice this winter. The perennial ice is also growing younger, meaning that it is thinner and will be more vulnerable during the summer melt period.

In light of the Arctic's cold spell this winter, NASA satellites and scientists will continue to carefully watch conditions in the Arctic Ocean as summer settles in to better determine the extent of the perennial sea ice.

Adapted from materials provided by NASA/Goddard Space Flight Center.

http://www.sciencedaily.com/releases/2008/03/080318151743.htm

New Crystallization Method To Ease Study Of Protein Structures



Ribbon representation of NE2398, a protein from the Nitrosomonas europaea bacterium. Dotted lines represent the parts of the protein digested with protease. Blue molecules represent other molecules in the crystal lattice. (Credit: Image courtesy of DOE/Argonne National Laboratory)

ScienceDaily (Mar. 19, 2008) — Researchers at the Midwest Center for Structural Genomics (MCSG), the Structural Genomics Consortium (SGC) and the Structural Biology Center (SBC) at the U.S. Department of Energy's Argonne National Laboratory have developed a new technique for crystallizing proteins that will ease experimentation into protein structures.

In order to study protein structures, biologists must turn what is essentially a soup of purified protein into crystals that have a consistent and ordered structure. Each protein consists of a chain of amino acid subunits that twists into helices, ribbons and loops. Some proteins have less tidy molecular structures than others; in these, disordered amino acid chains dangle off the protein like split ends.

Crystallizing proteins that contain many of these flexible regions takes much more work and patience than working with more organized ones, said Argonne senior biologist Andrzej Joachimiak, who led the Argonne research effort. "We've tried to find a way to remove the disordered parts using computer modeling, but that's been a challenging process," he said. "This new experimental method is fast, inexpensive and can be applied to many different targets, from bacterial pathogens to human proteins."

In order to try to boost the efficiency of the crystallization process, Joachimiak and his colleagues at the MCSG and SGC inserted a protease—a certain type of enzyme that breaks down the bonds that connect a protein's amino acids.

Once added, the protease preferentially bound to the proteins at the disordered regions, snipping off the loose ends like a molecular barber. The researchers successfully crystallized and examined nine of these newly shorn proteins that previously had resisted attempts to study them using X-ray crystallography.

"This simple technique offers an opportunity to uncover and characterize the structures of dozens of proteins that up until now we had to study using much more laborious and expensive approaches," Joachimiak said.

This process, known as "limited in situ proteolysis," represents one of several potential "salvage pathways" that biophysicists could use to create more usable protein crystals and reduce waste, Joachimiak said. Currently, scientists' efforts to manufacture and then study a workable crystal on Argonne's Advanced Photon Source yield structural data only about 15 percent of the time. By using proteases to digest part of the protein sample, the Argonne scientists achieved a six percent boost in efficiency.

Joachimiak cautioned that scientists do not have a way to successfully crystallize every protein, even with the use of proteolysis. "There will still be some that are resistant," he admitted, "but we are making enormous strides in our understanding of how exactly these essential substances work."

A research paper, "In situ proteolysis for protein crystallization and structure determination," that detailed the study appeared in the December 4 issue of Nature Methods. The study's X-ray data were collected at the SBC beamlines at the Advanced Photon Source. The MCSG and SGC represent a collaboration of Argonne scientists as well as scientists from Canada and Europe.

Argonne National Laboratory brings the world's brightest scientists and engineers together to find exciting and creative new solutions to pressing national problems in science and technology. The nation's first national laboratory, Argonne conducts leading-edge basic and applied scientific research in virtually every scientific discipline. Argonne researchers work closely with researchers from hundreds of companies, universities, and federal, state and municipal agencies to help them solve their specific problems, advance America 's scientific leadership and prepare the nation for a better future. With employees from more than 60 nations, Argonne is managed by UChicago Argonne, LLC for the U.S. Department of Energy's Office of Science.

Adapted from materials provided by DOE/Argonne National Laboratory.

http://www.sciencedaily.com/releases/2008/03/080314140038.htm

Gold Scroll Discovered: Earliest Evidence Of Jewish Inhabitants In Austria

The 2.2-centimeter-long gold scroll represents the earliest sign of Jewish inhabitants in present-day Austria. (Credit: Copyright University of Vienna, Institute of Prehistory and Early History)

ScienceDaily (Mar. 18, 2008) — Archaeologists from the Institute of Prehistory and Early History of the University of Vienna have found an amulet inscribed with a Jewish prayer in a Roman child's grave dating back to the 3rd century CE at a burial ground in the Austrian town of Halbturn.

This amulet shows that people of Jewish faith lived in what is today Austria since the Roman Empire. Up to now, the earliest evidence of a Jewish presence within the borders of Austria has been letters from the 9th century CE. In the areas of the Roman province of Pannonia that are now part of Hungary, Croatia and Serbia, gravestones and small finds attest to Jewish inhabitants even in antiquity.

Jews have been settling in all parts of the ancient world at the latest since the 3rd century BCE. Particularly following the second Jewish Revolt against the Roman Empire, the victorious Romans sold large numbers of Jews as slaves to all corners of the empire. This, coupled with voluntary migration, is how Jews also might have come to present-day Austria.

Child's grave

The one or two year old child, which presumably wore the silver amulet capsule around its neck, was buried in one of around 300 graves in a Roman cemetery which dates back to the 2nd to 5th century CE

and is situated next to a Roman estate ("villa rustica"). This estate was an agricultural enterprise that provided food for the surrounding Roman towns (Carnuntum, Györ, Sopron).

The gravesite, discovered in 1986 in the region of Seewinkel, around 20 kilometres from Carnuntum, was completely excavated between 1988 and 2002 by a team led by Falko Daim, who is now General Director of the Roman-German Central Museum of Mainz, with the financial backing of the Austrian Science Fund FWF and the Austrian state of Burgenland. All in all, more than 10,000 individual finds were assessed, most notably pieces of glass, shards of ceramic and metal finds. The gold amulet, whose inscription was incomprehensible at first, was only discovered in 2006 by Nives Doneus from the Institute for Prehistory and Early History of the University of Vienna.

The inscription on the amulet is a Jewish prayer is: ΣΥΜΑ ΙΣΤΡΑΗΛ ΑΔΩΝΕ ΕΛΩΗ ΑΔΩΝ Α

Hear, O Israel! The Lord is our God, the Lord is one.

Greek script, Hebrew language

Greek is common with amulet inscriptions, although Latin and Hebrew and amulet inscriptions are known. In this case, the scribe's hand is definitely familiar with Greek. However, the inscription is Greek in appearance only, for the text itself is nothing other than a Greek transcription of the common Jewish prayer from the Old Testament (Deuteronomy, 6:4): "Hear, O Israel! The Lord is our God, the Lord is one."

Amulet to protect against demons

Other non-Jewish amulets have been found in Carnuntum. One gold- and three silver-plated amulets with magical texts were found in a stone sarcophagus unearthed west of the camp of the Roman legion, including one beseeching Artemis to intervene against the migraine demon, Antaura. Amulets have also been found in Vindobona and the Hungarian part of Pannonia. What is different about the Halbturn gold amulet is its Jewish inscription. It uses the confession to the center of Jewish faith and not magic formulae.

The gold-plated artefact from Halbturn can be viewed from 11 April 2008 onwards as part of the "The Amber Road – Evolution of a Trade Route" exhibition in the Burgenland State Museum in Eisenstadt.

Adapted from materials provided by University of Vienna.

http://www.sciencedaily.com/releases/2008/03/080316124416.htm

New Hope For Regenerating Damaged Human Retina: Sleeping Stem Cells Successfully Awakened

Neovascular age-related macular degeneration. (Credit: National Eye Institute, National Institutes of Health)

ScienceDaily (Mar. 18, 2008) — Scientists at Schepens Eye Research Institute have discovered what chemical in the eye triggers the dormant capacity of certain non-neuronal cells to transform into progenitor cells, a stem-like cell that can generate new retinal cells. The discovery, published in the March issue of Investigative Ophthalmology and Visual Science (IOVS), offers new hope to victims of diseases that harm the retina, such as macular degeneration and retinitis pigmentosa.

"This study is very significant. It means it might be possible to turn on the eye's own resources to regenerate damaged retinas, without the need for transplanting outside retinal tissue or stem cells," says Dr. Dong Feng Chen, associate scientist at Schepens Eye Research Institute and Harvard Medical School, and the principal investigator of the study. "If our next steps work in animal disease models, we believe that clinical testing could happen fairly quickly."

Scientists have long been aware of Müller cells (which exist in great abundance in the eye) and have generally assumed that they were responsible for keeping retinal tissue protected and clear of debris. In recent years, however, researchers have reported that these cells sometimes exhibit progenitor cell behavior and re-enter the cell cycle (dividing and differentiating into other type of cells). Progenitor cells are similar to stem cells but are more mature and are more limited in the number of cells types they can become.

But until this study, scientists have not understood what triggers the transformation. In their study, Chen and her team observed that when the naturally occurring chemicals known as glutamate and aminoadipate (which is a derivative of glutamate) were injected into the eye, the Müller cells began to divide and proliferate. Not certain if these chemicals directly signaled the transformation, they tested them in the laboratory and in mice.

They added each chemical separately to cultures of pure Müller cells and injected each into the space below the retina in healthy mice. In both cases, the cells became progenitor cells and then changed into retinal cells. And with aminoadipate, the newly minted retinal cells migrated to where they might be needed in the retina and turned into desirable cell types. Specifically, they showed that by injecting the chemical below the retina, the cells give rise to new photoreceptors -- the type of cells that are lost in retinitis pigmentosa or macular degeneration, as a result, leading to blindness.

The team's next step will be to test this process in animals that have been bred to have diseases that mimic macular degeneration and retinitis pigmentosa. The goal would be to learn if damaged retinas regenerate and vision improves. The team will likely use just aminoadipate because it only binds with Müller cells without the side effects of glutamate, which can actually harm retina cells in large doses.

"We believe that a drug created from the chemical aminoadipate or a similar compound has great potential for healing damaged retinas," says Chen.

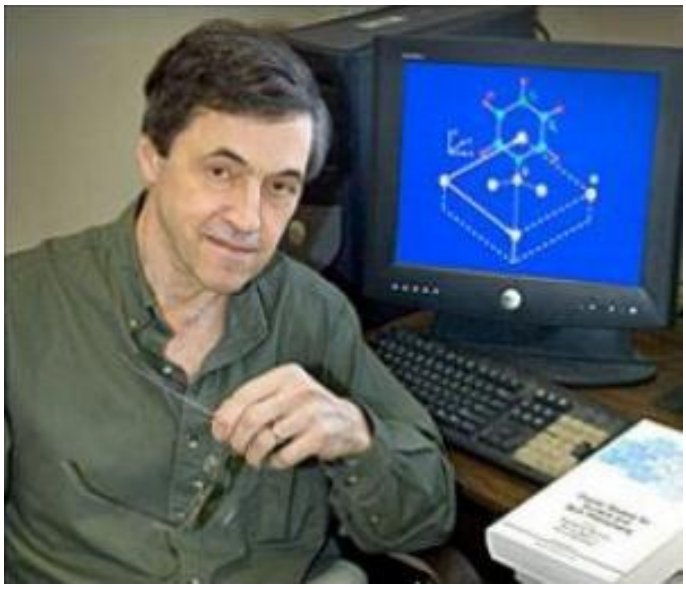
Other authors of the study include: Masumi Takeda, Akira Takamiya, Jian-wei Jiao, Kin-Sang Cho, Simon G. Trevino, Takahiko Matsuda and Dong F. Chen.

Schepens Eye Research Institute is an affiliate of Harvard Medical School and the largest independent eye research institute in the nation.

Adapted from materials provided by Schepens Eye Research Institute, via EurekAlert!, a service of AAAS.

http://www.sciencedaily.com/releases/2008/03/080318113517.htm

Modeling How Electric Charges Move



Marshall Newton. (Credit: Image courtesy of DOE/Brookhaven National Laboratory)

ScienceDaily (Mar. 18, 2008) — Learning how to control the movement of electrons on the molecular and nanometer scales could help scientists devise small-scale circuits for many applications, including more efficient ways of storing and using solar energy. Marshall Newton, a theoretical chemist at Brookhaven Lab has been researching theoretical techniques used to understand the factors affecting electron movement.

"Electron transfer plays a vital role in numerous biological processes, including nerve cell communication and converting energy from food into useful forms," says Newton. "It's the initial step in photosynthesis, as well, where charges are first separated and the energy is stored for later use - which is one of the concepts behind energy production using solar cells."

Newton will describe how combining electronic quantum mechanical theory with computational techniques has led to a unified, compact way to understand the nature of charge transfer in complex molecular aggregates.

"In essence," he explains, "the research has led to understanding electronic transport in terms of quantitative answers to a few basic mechanistic questions: namely, how far, how efficiently, and by which route (or molecular 'pathway') a charge moves from a 'donor' to an 'acceptor' in the molecular assembly." The answers come from detailed molecular quantum calculations of the energy gaps separating the relevant electronic states, and the strength of coupling between adjacent molecular units along the "pathways."

"This new approach may yield ways to predict and control electronic transport behavior by 'tuning' the molecular components, resulting in capabilities that can be used to design new solar-based energy schemes," Newton said.

This research was presented at The March 2008 American Physical Society Meeting in New Orleans, La., March 10 -14.

Adapted from materials provided by DOE/Brookhaven National Laboratory.

http://www.sciencedaily.com/releases/2008/03/080313203209.htm

Memory Of One In Three People Over 70 Is Impaired, Study Shows

More than a third of people over age 70 have some form of memory loss according to a national study. (Credit: iStockphoto/Eric Gerrard)

ScienceDaily (Mar. 18, 2008) — More than a third of people over age 70 have some form of memory loss according to a national study by a team of researchers at Duke University Medical Center, the University of Michigan, the University of Iowa, the University of Southern California and the RAND Corporation. The group performed the first population-based study to determine the number of people who have some form of cognitive impairment, with and without dementia.

While an estimated 3.4 million Americans have dementia, defined as a loss of the ability to function independently, the researchers estimate that another 5.4 million over age 70 have memory loss that disrupts their regular routine but is not severe enough to affect their ability to complete daily activities.

"These findings illustrate that nearly every family will be faced with the challenges of caring for a family member with some form of memory impairment," said Brenda Plassman, Ph.D., associate research professor of psychiatry at Duke and the study's lead author. "Even among the people age 71-79, a sizeable number had cognitive impairment. This is an age at which most people expect to have many productive years ahead."

The frequency of memory loss without dementia increased with advancing age and with fewer years of education – similar to the trends seen in dementia.

Plassman explained that throughout the course of the study, individuals with cognitive impairment without dementia progressed to dementia at a rate of about 12 percent per year. On average, the mortality rate for the study group was 8 percent annually but varied across the subtypes of cognitive impairment without dementia.

"While the overall rate of progression to dementia is in line with findings from other studies, the surprising finding here is that some subtypes of cognitive impairment without dementia progressed to dementia at much higher rates, around 20 percent, within one year," Plassman said.

Nearly a quarter of those with memory loss without dementia also had a chronic medical condition, such as diabetes or heart disease, that appeared to be the cause of the cognitive impairment. The researchers speculate that this group is one of the most underdiagnosed subtypes of cognitive impairment because doctors are likely focusing on the primary health issue.

"Given how common cognitive impairment without dementia is, physicians should be alert to this problem as they evaluate and treat the patient for other medical problems," said Robert B. Wallace, M.D., the study's senior author from the University of Iowa. "This may have significant ramifications because it means that patients may not be able to accurately portray their symptoms and may not retain important information about their treatment."

The data, published in the Annals of Internal Medicine, is from the Aging, Demographics and Memory Study, which is part of the larger Health and Retirement Study conducted by the University of Michigan Institute for Social Research and funded by the National Institute on Aging.

"As the population ages and works longer, understanding the extent of cognitive impairment in the older population is critically important," notes Richard Suzman, Ph.D., director of the NIA's Behavioral and Social Research Program. "Research is now beginning to suggest that interventions – such as controlling hypertension and diabetes or perhaps cognitive training – might help maintain or improve mental abilities with age. As such interventions are tested and widely applied, we should be able to track their impact through this type of research."

A total of 856 study participants were assessed by a healthcare team in their home. During the assessment, the participants completed a neuropsychological examination and family members were asked to evaluate their loved one's memory, ability to complete daily activities and medical history.

A team of experts reviewed the information and assigned a diagnosis based on the general pattern and severity of the symptoms. This information was used to group patients together into subtypes for further analysis. Participants were followed from July 2001 through March 2005.

"With such a sizable number of Americans with some form of cognitive impairment, many of whom will get dementia; it's imperative to increase research funding that could lead to breakthroughs in Alzheimer's diagnosis, prevention and treatment," said William Thies, Ph.D., vice president of Medical and Scientific Relations for the Alzheimer's Association.

Co-authors on the study include Kenneth M. Langa, Gwenith C. Fisher, Steven C. Heeringa, David R. Weir, Mary Beth Ofstedal, James R. Burke, Michael D. Hurd, Guy C. Potter, Willard L. Rodgers, David C. Steffens, John McArdle and Robert J. Willis.

Adapted from materials provided by Duke University Medical Center.

http://www.sciencedaily.com/releases/2008/03/080318124436.htm

Pollution Visible From East Asia To North America In New Satellite Image

In a new NASA study, researchers taking advantage of improvements in satellite sensor capabilities offer the first measurement-based estimate of the amount of pollution from East Asian forest fires, urban exhaust, and industrial production that makes its way to western North America. (Credit: Image courtesy of NASA/Goddard Space Flight Center)

ScienceDaily (Mar. 18, 2008) — In a new NASA study, researchers taking advantage of improvements in satellite sensor capabilities offer the first measurement-based estimate of the amount of pollution from East Asian forest fires, urban exhaust, and industrial production that makes its way to western North America.

China, the world's most populated country, has experienced rapid industrial growth, massive human migrations to urban areas, and considerable expansion in automobile use over the last two decades. As a result, the country has doubled its emissions of man-made pollutants to become the world's largest emitter of tiny particles called pollution aerosols that are transported across the Pacific Ocean by rapid airstreams emanating from East Asia.

Hongbin Yu, an associate research scientist of the University of Maryland Baltimore County working at NASA's Goddard Space Flight Center in Greenbelt, Md., grew up in China and taught there as a university professor, where he witnessed first-hand and studied how pollution from nearby power plants in China affected the local environment. Early this decade, scientists began using emerging high-accuracy satellite data to answer key questions about the role tiny particles play in the atmosphere, and eventually expanded their research to include continent-to-continent pollution transport. So Yu teamed with other researchers to take advantage of the innovations in satellite technology and has now made the first-ever satellite-based estimate of pollution aerosols transported from East Asia to North America.

The new measurements from the Moderate Resolution Imaging Spectroradiometer (MODIS) instrument on NASA's Terra satellite substantiate the results of previous model-based studies, and are the most extensive to date. The new study will be published this spring in the American Geophysical Union's Journal of Geophysical Research-Atmospheres.

"We used the latest satellite capabilities to distinguish industrial pollution and smoke from dust transported to the western regions of North America from East Asia. Looking at four years of data from 2002 to 2005 we estimated the amount of pollution arriving in North America to be equivalent to about 15 percent of local emissions of the U.S. and Canada," Yu said. "This is a significant percentage at a time

when the U.S. is trying to decrease pollution emissions to boost overall air quality. This means that any reduction in our emissions may be offset by the pollution aerosols coming from East Asia and other regions."

Yu and his colleagues measured the trans-Pacific flow of pollution in teragrams, a unit of measurement of the mass of pollution aerosol (1 teragram is about 2.2 billion pounds). Satellite data confirmed 18 teragrams -- almost 40 billion pounds -- of pollution aerosol was exported to the northwestern Pacific Ocean and 4.5 teragrams -- nearly 10 billion pounds -- reached North America annually from East Asia over the study period.

Yu points out, however, that the matter of pollution transport is a global one. "Our study focused on East Asian pollution transport, but pollution also flows from Europe, North America, the broader Asian region and elsewhere, across bodies of water and land, to neighboring areas and beyond," he said. "So we should not simply blame East Asia for this amount of pollution flowing into North America." In fact, in a model study published last November in the Journal of Atmospheric Chemistry and Physics, Mian Chin, also a co-author of this study and an atmospheric scientist at NASA Goddard, suggests that European pollution also makes a significant contribution to the pollution inflow to North America.

"Satellite instruments give us the ability to capture more accurate measurements, on a nearly daily basis across a broader geographic region and across a longer time frame so that the overall result is a better estimate than any other measurement method we've had in the past," said study co-author Lorraine Remer, a physical scientist and member of the MODIS science team at NASA Goddard. The MODIS instrument can distinguish between broad categories of particles in the air, and observes Earth's entire surface every one to two days, enabling it to monitor movement of the East Asian pollution aerosols as they rise into the lower troposphere, the area of the atmosphere where we live and breathe, and make their way across the Pacific and up into the middle and upper regions of the troposphere.

Remer added that the research team also found that pollution movements fluctuate during the year, with the East Asian airstream carrying its largest "load" in spring and smallest in summer. The most extensive East Asian export of pollution across the Pacific took place in 2003, triggered by record-breaking wildfires across vast forests of East Asia and Russia. Notably, the pollution aerosols also travel quickly. They cross the ocean and journey into the atmosphere above North American in as little as one week.

"Using this imaging instrument, we cannot determine at what level of elevation in the atmosphere pollution travels. So, we do not have a way in this study to assess the degree of impact the pollution aerosols from China have on air quality here once they cross over to North America. We need improved technology to make that determination," said Remer. "Nevertheless, we realize there is indeed impact. For example, particles like these have been linked to regional weather and climate effects through interactions between pollution aerosols and the Sun's heat energy. Since pollution transport is such a broad global issue, it is important moving forward to extend this kind of study to other regions, to see how much pollution is migrating from its source regions to others, when, and how fast," said Remer.

Adapted from materials provided by NASA/Goddard Space Flight Center.

http://www.sciencedaily.com/releases/2008/03/080317164336.htm

Majestic Lesser Flamingos Survive In Contaminated Indian Waters

A University of Leicester ecologist is setting out to discover why flamingos are so in the pink of health - in the poo! (Credit: Image courtesy of University of Leicester)

ScienceDaily (Mar. 18, 2008) — A University of Leicester ecologist is setting out to discover why flamingos are so in the pink of health - in the poo!

Dr David Harper, of the Department of Biology at the University of Leicester, has been studying lesser flamingos for nine years.

His research has been carried out in the lakes of East Africa but new investigations he has carried out for the first time in India have- by his own admission -- given him 'rather a shock.'

He said: "Lesser flamingos are graceful, majestic, birds. They are not the ones you can see at the zoo, because they are very difficult to maintain in captivity, but the ones that you see on television in their hundreds of thousands, crowded into a few specialist lakes in East Africa.

"I have been studying them, on these lakes in Kenya and Tanzania, but earlier this month I returned from India, having carried out a preliminary investigation of the population there, and I had rather a shock.

"In Africa the lesser flamingo, with its beautiful pink plumage, stands for everything that is pure and pristine. Many of the lakes where it feeds, occasionally with a million birds crowded together when the food is good, are almost untouched by man's activities.

"In complete contrast to Africa, where lesser flamingos only live on inland soda lakes and are never seen at the coast, in India I watched 20,000 lesser flamingos happily feeding on tidal mudflats in front of an oil

refinery, a petrochemical plant and creeks bringing untreated waste from millions of people in the slums of Bombay.

"In Porbandar, the city which is the birthplace of Mahatma Ghandi, in Gujarat to the north of Bombay, I watched 8,000 standing knee deep and happily filtering-feeding in the water alongside rubbish, cowpats and wastewater running in from surrounding houses and factories.

"In western India and Gujarat in particular, people love flamingos -- it is the state's national emblem."

Dr Harper was funded by the Darwin Initiative and now plans to write a full grant proposal to link with Indian universities and conservation groups to better understand how flamingos can thrive in waste water and how the peoples' love of these birds can be turned into a love of everything natural.

Dr Harper added: "Bombay is on very low-lying land that once was just a few islands in the estuary, but now about 20 million people are crammed into this city. They need the estuary and all its ecology to help clean up their wastes and even protect them against flooding. We are planning to use the flamingo to help people understand the benefits of mud and mangroves -- less pretty but far more useful to them"!

In Africa, Dr Harper and members of his team have satellite-tagged birds to find exactly where they go, studied their feeding and their behaviour and why sometimes several thousand die suddenly. His wife, Maureen, has used them as a teaching theme in schools near their lakes and written stories about them for the pupils. They have been funded by the UK Darwin Initiative, part of the British Government, which sends specialists from this country to help other countries, richer in biodiversity, protect their priceless natural heritage.

Dr Harper said: "The deaths of lesser flamingos in East Africa over the past 15 years have sometimes been blamed on poisoning from mankind's industries or the consequence of too much fertiliser or human wastes in the lakes.

"But people who blame human wastes should go to India to see how well lesser flamingos thrive and how pink they grow, when they are surrounded by heavy industry and by water so polluted I could smell it a mile away!"

###

NOTE TO NEWSDESK:

Images available from: pressoffice@le.ac.uk

Adapted from materials provided by University of Leicester.

http://www.sciencedaily.com/releases/2008/03/080311123417.htm

Inhaled Tuberculosis Vaccine More Effective Than Traditional Shot, Study Suggests

David Edwards. (Credit: Photo by Jon Chase/Harvard News Office)

ScienceDaily (Mar. 18, 2008) — A novel aerosol version of the most common tuberculosis (TB) vaccine, administered directly to the lungs as an oral mist, offers significantly better protection against the disease in experimental animals than a comparable dose of the traditional injected vaccine, researchers have reported in the Proceedings of the National Academy of Sciences.

The aerosol vaccine -- under development through a collaboration between Harvard University and the international not-for-profit Medicine in Need (MEND) -- could provide a low-cost, needle-free TB treatment that is highly stable at room temperature.

"Rising rates of tuberculosis and drug-resistant disease in developing countries have amply illustrated the need for more effective vaccines," says David Edwards, the Gordon McKay Professor of the Practice of Biomedical Engineering in Harvard's School of Engineering and Applied Sciences. "While most new TB vaccines continue to call for needle injection, our vaccine could provide safer, more consistent protection by eliminating these injections and the need for refrigerated storage. We see great promise for this new treatment."

Says Barry R. Bloom, dean of the Harvard School of Public Health: "Tuberculosis is one of the most resistant and challenging diseases to protect against, and the successful results of aerosol delivery using nanoparticle technology offers a potentially new platform for immunization. Were the animal results here confirmed in human studies, this technology could be used not only for TB vaccines, but those protecting against other infectious diseases as well."

The current PNAS paper by Edwards, Bloom, and colleagues at the University of North Carolina-Chapel Hill, the Aeras Global TB Vaccine Foundation, MEND South Africa, the Harvard School of Public

Health and School of Engineering and Applied Sciences, and Manta is based on studies involving guinea pigs, a species of rodent highly sensitive to TB.

Among guinea pigs vaccinated with the aerosol treatment and subsequently exposed to TB, less than 1 percent of lung and spleen tissue showed effects of the disease. By contrast, in animals treated with the same dose of the traditional injected vaccine, some 5 percent of lung tissue and 10 percent of spleen tissue showed symptoms following TB exposure.

Administered to 100 million infants annually, the current Bacillus Calmette-Guérin (BCG) vaccine for TB is the world's most widely administered childhood vaccine. Dried into a powder by freezing and delivered by needle injection, the vaccine requires refrigerated storage and has shown variable degrees of protection against tuberculosis in different parts of the world. These limitations have prompted calls from public health experts and physicians for alternative treatments.

The rapid-drying process by which the aerosol vaccine is made resembles the technique used in the manufacture of powdered milk. In the aerosol vaccine, particles form at micrometer and nanometer scales and in spherical and elongated shapes, a combination that appears to improve dispersal in the mouth.

While commonly used with food, cosmetics, and pharmaceuticals, this spray drying of small and large molecules is seldom used for drying cellular material. The new technique enables TB vaccines, and potentially other bacterial and viral-based vaccines, to sidestep the traditional problems associated with keeping vaccines chilled.

"Spray drying is lower-cost than BCG, easily scalable for manufacturing, and ideal for needle-free use, such as via inhalation," says Edwards, an international leader in aerosol drug and vaccine delivery. "Its greater stability at room temperature could ultimately provide a better means of creating and delivering vaccine throughout the world."

Edwards and Bloom's co-authors are Anthony Hickey, Lucila Garcia-Contreras, Pavan Muttil, and Danielle Padilla, all of UNC-Chapel Hill; Yun-Ling Wong, Jessica DeRousse, and Katharina Elbert of Harvard's School of Engineering and Applied Sciences; Jerry Sadoff of the Aeras Global TB Vaccine Foundation; Willem Andreas Germishuizen and Bernard Fourie of MEND South Africa; Sunali Goonesekera of the Harvard School of Public Health; and Rich Miller of Manta. The research was supported by a Grand Challenge Grant from the Bill and Melinda Gates Foundation.

Adapted from materials provided by Harvard University.

http://www.sciencedaily.com/releases/2008/03/080312154835.htm

Neurotic Who Makes Scary World Her Banquet

By WILLIAM GRIMES

A BRIEF HISTORY OF ANXIETY

... Yours and Mine

By Patricia Pearson

198 pages. Bloomsbury. $23.95.

For a brief but intense period in 2006, Patricia Pearson logged on daily to Flu Wiki. This is a Web site (fluwikie.com) devoted to the concerns — the very deep concerns — of people convinced that a worldwide outbreak of influenza is imminent, and that it will make the ravages of the Black Death seem like a mildly unpleasant interlude.

"Here could be found a great milling together of fiercely articulate and freaked-out people from around the world, posting to discussion topics like 'What Will We Do With the Bodies?' Ms. Pearson writes in "A Brief History of Anxiety." Visitors to the site offered suggestions on how to turn back the infected, zombie-like hordes who, in a desperate search for food, will try to invade the fortified homes of the healthy.

Ms. Pearson, the author of the highly amusing "Area Woman Blows Gasket," sees the humor in Flu Wiki, but she too worries about pandemics. A lot. She also obsesses about sudden liver failure, possibly cancerous moles, flying insects, the supervolcano underneath Yosemite National Park and the possibility that her car will blow up. All of this seems potentially hilarious, but the humor quickly freezes as Ms. Pearson describes a lifetime of absurd but crippling fears.

Like 40 million Americans, Ms. Pearson suffers from anxiety, which she pithily calls "fear in search of a cause." Her own case fascinates her, and quite rightly. It presents her with the opportunity to examine modern civilization and its discontents, as well as her own miseries, which she does, thoughtfully and incisively.

Her subject is elusive. Unnamed until Freud coined the term "anxiety neurosis," the uninvited stranger lurks at the margins of history. When King David, in the Bible, says that "fearfulness and trembling are come upon me," is he suffering an anxiety attack? Ms. Pearson cites an 18th-century English treatise blaming city living for "a class and set of distempers, with atrocious and frightful symptoms, scarce known to our Ancestors," that is, "nervous disorders" afflicting a third of the population. Could this be it?

Everywhere and nowhere, anxiety, Ms. Pearson writes, is "unbearably vivid yet insanely abstract." In many cases it is the fear of fear itself, a free-floating, nebulous entity that, like a mutant virus, feeds on any available host. Reason is powerless against it. Ms. Pearson argues, in fact, that rationalism, intended to banish superstition and fear, has instead removed one of the most effective weapons against anxiety, namely religious faith and ritual.

Even worse, the worship of reason and science, by encouraging the notion that human beings can control their environment, has created a terrible fault line in the modern psyche, although not all societies suffer equally. Mexicans have lots to worry about but don't. The World Mental Health Survey, conducted in 2002, found that only 6.6 percent of Mexicans had ever experienced a major episode of anxiety or depression. Meanwhile, to their north, 28.8 percent of the American population has been afflicted with anxiety, the highest level in the world. Mexicans who move to the United States adapt, becoming more anxious.

In searching for the roots of her affliction, Ms. Pearson finds a common thread connecting her traumas and her phobias, the fear of losing control, of being unable to cope. As a child, caught up in the India-Pakistan war in 1971, she cowered in her family's house in New Delhi, waiting for bombs to fall. She was terrified of the dark. At 23, she suffered a nervous breakdown after her boyfriend casually informed her, on a visit to her family's summer house in Canada, that he was seeing another woman. A diagnosis of "generalized anxiety disorder" ensued.

Ms. Pearson never finds satisfactory answers to her self-interrogations, but the professionals do not do much better. The angriest pages in her book are devoted to the psychiatrists who put her on a regimen of anti-anxiety medications, which dulled the static in her brain but left her "in an emotional half-light," secure but disengaged.

"I'd watch movies without being stirred by them, listen to music without real interest," she writes. "In truth, I began to feel faintly sociopathic." She became addicted to Effexor, and late in the book drops the small bombshell that, as she writes, she has been off an antidepressant called Lexapro for only six weeks.

Ms. Pearson married and had children. She has a successful writing career. But the woman she describes can barely hold her life together. One night she dreams that she is lying on a cushioned bench admiring the Grand Canyon. Suddenly she realizes that the bench is attached at one end to a cliff face but is otherwise suspended in midair.

"If I moved even an inch in any direction, I would fall for miles," she writes. "The choking panic that I felt was extraordinary. I felt a perfect — a Platonic — sense of terror."

That, in a nutshell, is her situation, one that she addresses through therapy, pull-up-your-socks willpower and a blend of religion and the insights of writers like the cultural geographer Yi-Fu Tuan. It all seems touch and go — but give her major points for wit and flair. The author biography on the dust jacket reads: "She lives in Toronto with her husband, her two children and her dread."

http://www.nytimes.com/2008/03/19/books/19grim.html?_r=1&th&emc=th&oref=slogin

A Dark and Stormy Night and a Crucible of Emotions

By JENNIFER DUNNING

If a single image had to stand in for the program presented by the Kazuko Hirabayashi Dance Theater at the Merce Cunningham Studio on Sunday night, it would be a dark, swirling maelstrom. Storms abounded, filling the stage with big emotions and, in the closing "Bereft," with churning ranks of dancers.

There were lighter and more delicate moments, as in "Les Rêves d'Après-Midi" and "Song of Sorrows." But Ms. Hirabayashi, an influential teacher in New York for many years, likes to test her dancers in stormy crucibles.

She has always had an eye for unusual performers. Sarah Stackhouse provided one of the program's highlights in "Song of Sorrows," a solo set to music by Henryk Gorecki. Ms. Stackhouse was a leading dancer in the late 1950s and the 1960s with José Limón, whose work she stages today. She also performed with Daniel Nagrin and Annabelle Gamson. Her gifts have been forged in the fire of dance history, and one, simplicity, was a very welcome addition to an evening jammed with themes and stimuli.

But "Song" is a simple dance too, in which a drably dressed woman registers grief and horror mostly through the tilt of her body. The solo said much more about those emotions than Ms. Hirabayashi's "Guernica," an extravagant group piece that was also on the program, though the uncredited projections of details from that Picasso mural were ingeniously designed.

Dancers provided the evening's other major revelations, among them Jill Echo, as the blithe creature from another world who nearly persuades the driven businessman danced by Takehiro Ueyama to live a little more in "Les Rêves," set to the Debussy score "L'Après-Midi d'Un Faune."

Rika Okamoto was an adorable Eve figure in "Bereft," paired with Koji Mizuta as her Adam, and Mr. Ueyama as the beast who rapes her. Ms. Okamoto's rise from a huge bubble, which glowed in lighting designed by Christopher Young, was a pretty surprise.

Ms. Okamoto, a chameleonlike interpreter of emotions, was also a mostly solemn, jagged-bodied mystery in "Masks," a dance about the fluidity of identity, in which Martin Lofsnes was a terrific, surging monster in a fine cast completed by Nana Tsuda.

http://www.nytimes.com/2008/03/18/arts/dance/18hira.html?ref=dance

A Giant's Roaring, Faintly Echoed

By EDWARD ROTHSTEIN

At the climax of Milton's epic "Paradise Lost," Satan is ecstatic in triumph. He has not only freed himself from the bonds tying him to hell, he has also disrupted heaven's great human experiment, lured Eve into tasting the forbidden fruit, sabotaged any hope for Adam's untainted virtue and mapped a path between hell and earth that he and his minions can freely travel. When he stands before the devilish throng in his dark kingdom, he proclaims his victory, promising a "glorious march" that will lead his congregation "triumphant out of this infernal pit." He is freeing it from the "Dungeon of our Tyrant."

"Up and enter now into full bliss," he exhorts his listeners with cadences that, in the political world, are signals for clamorous acclaim. And so he waits, "expecting/Their universal shout and high applause." But instead "On all sides from innumerable tongues," he hears "A dismal universal hiss, the sound/Of public scorn."

What? At the moment of freedom and triumph, his polity is rejecting him? No, he discovers. For his legs are forcibly entwining, his arms clinging to his sides, and he falls to the ground on his belly. Like all of the other fallen demons, he is being transformed, by divine sentence, into a writhing serpent. And "dreadful was the din/Of hissing through the hall ..."

No hissing did Milton, the subject of a new exhibition at the New York Public Library, hear in 1667, when having gone blind, been twice widowed and once imprisoned, he completed his poem that did for Christian theology and biblical narrative what Homer did for Troy, and Virgil did for ancient Rome. Within 30 years, editions of "Paradise Lost" included extensive commentary and notes; within 50 years, at least seven biographies of Milton had been published. Samuel Johnson gave the poem first place "among the productions of the human mind."

But it is now the quadricentennial of Milton's birth in 1608, and it is startling that this work, once central to the literary and religious experience of the English-speaking world, is so much a curiosity, sentenced to the margins by its preoccupations with biblical interpretation, condemned by the density of its prosody, which does not instantly seduce but, instead, commands the reader to give way before it, persisting until no resistance is possible.

So perhaps the most we can expect is the library's modest, one-room exhibition "John Milton at 400: A Life Beyond Life." If only this fine display, selected from its extraordinary collection of Miltoniana, had a significant fraction of the space now devoted by the library to a show about Jack Kerouac! If only there was at least some measurable portion of attention given him here as in England, where the exhibitions are legion!

But there is enough in this show, organized by William Moeck, who teaches English literature at Nassau Community College, to hint at Milton's extraordinary life, and an even more overwhelming afterlife. There are some rarities here: a 1667 first edition of "Paradise Lost"; two copies of a 1688 edition, illuminated with stark extravagance; Alexander Pope's copy of Milton's early poetry; one of four extant copies of William Blake's "Milton"; 19th-century illustrations for a French copy of the poem; even a first edition of Mary Shelley's "Frankenstein" with its epigram from "Paradise Lost." (Its monster, after all, was home-schooled on the poem, and wondered whether he should see himself as an Adam ... or a Satan.)

There are also samples of music playing — some of the many settings of Milton's texts, their composers ranging from Handel and Haydn to Penderecki and the heavy-metal band Cradle of Filth.

And though Samuel Johnson, in the midst of praise, famously said of "Paradise Lost" that "None ever wished it longer," it might be said of this exhibition that none could wish it smaller, and many could wish it larger. There is enough here about every aspect of Milton's life, work and legacy to spur further inquiry.

An exhibition could be devoted to the political ramifications of Milton's work alone. It is no accident, say, that in Satan's speech after the Fall, echoes from England's political realm could be heard, for that was where much of Milton's mature life was spent.

He was a passionate pamphleteer, an advocate of liberty, a skeptic about the trappings of royalty. In 1642, just before civil war broke out in England, he married a 17-year-old whose family was made up of ardent Royalists; she abandoned him soon after the wedding. His public response was a pamphlet, on display here, radically arguing for expanding the "doctrine and discipline of divorce."

But the pair reconciled in 1645, and she gave birth to four children, including three daughters who grew to adulthood, two of whom appear in a number of illustrations here reading, with varied degrees of devotion, to their difficult, blind father.

But the blindness was to come later. First, in Milton's 30s and 40s, came the intoxications of revolutionary politics. He justified the beheading of Charles I in 1649, welcomed the Reformation with its promised transformation of English life (comparing it to the liberation of the Israelites from Egypt), served that government and watched, with his dimming sight, as it went awry, the rebel becoming, in his words, an "old Priest writ large."

Rebel orthodoxies were themselves overturned with the Restoration, as Charles II was enthroned, and revenge exacted. In 1661 the corpses of the Reformation leader, Cromwell, and two judges who condemned Charles I were exhumed and beheaded, the skulls placed on public display. An amnesty excluded Milton, who first was hidden by friends and then imprisoned; a copy of the 1660 proclamation calling for the destruction of two of Milton's publications is displayed here.

Think of all this taking place during the gestation of "Paradise Lost," and it is impossible not to hear in it the echoes of so many temptations, betrayals, seductions and expectations. Milton must have heard his own past voices in its conflict between authority and rebellion, loyalty and violation. At one time he sounded like an ardent deity, writing in 1641, for example, that his enemies "shall be thrown down eternally into the darkest and deepest gulf of hell." But he also understood the lure of iconoclasm; though far from Satanic, he anticipated his antihero by objecting to the trappings of royalty as a form of popery, and denouncing the Tyranny, if not of Heav'n — as the Devil did — then of the King.

Milton's earliest critics recognized something uncanny in his portrait of Satan, whose twists of rhetoric, self-justifications and caterwauling imagination haunt the reader far more than the stolid pronouncements of God. But the poem is no political allegory assigning one side or the other to the Devil's Party. Instead, Milton seems to be drawing on his experience of the political and the mundane, examining the lure of revenge, the attractions of rebellion, the continued drive for liberty and what, in this all-too-fallen world, might really be hoped for.

Even putting aside the Christian faith with which the poem means to comfort Adam and Eve as they are ejected from Eden, that hope remains palpable in the poem. It was meant, Milton writes, "to justify the ways of God to man." But in its sternness, horror and empathy, "Paradise Lost" also reveals the ways of man, as if to God.

"John Milton at 400" is on view through June 14 at the New York Public Library; (212) 592-7730 or nypl.org.

http://www.nytimes.com/2008/03/15/arts/design/15muse.html

We need a new alternative to indie

Laying another buzzword to rest, at last

Jian Ghomeshi, National Post Published: Monday, March 17, 2008

Peter Redman/National Post

Saying goodbye is never easy. And I haven't supported the death sentence in the past. But I hope we can collectively confirm the first casualty of the new millennium lexicon: Let's mercifully retire the word "indie."

The time has come. Have you considered "indie" of late? It's a sad sight. Staggering around on its last legs, finding employment to describe just about anything in the cultural sphere. It's ubiquitous and meaningless. Brutalized and disfigured. Omnipresent and bereft of any, let's see, independence. Let's euthanize it. Brace yourselves, dear hipsters, publicists and corporate marketeers. No more "indie kids," "indie rock," "indie approach," "indie sound," "indie lifestyle" or "indie film." Surely the true do-it-yourselfers will soldier on without an increasingly empty moniker co-opted to buy cred and the mirage of integrity. The "indie" myth needs to hang up its skates.

Disclaimer No. 1: My intent is not a lack of deference to artists or entrepreneurs who are actually creating and controlling their own career path -- quite the opposite. It's the authentic autonomous types that can get drowned in the widespread ersatz claims to the "indie" mantle.

Disclaimer No. 2: There's nothing wrong with an interesting young filmmaker partnering with a large Hollywood company to help distribute her work. Nor a self-made musician signing to a major label that ostensibly understands his art. Nor a mom and pop coffee shop deciding it needs Second Cup assistance. Let's just stop the masquerading that any of this is still "indie."

My sister -- the "smart child" and professor of linguistics -- informs me that the linguistic community applies the term "semantic bleaching" to refer to a word that through high frequency of usage has lost its original meaning or intent. Remember the heartbreaking semantic bleaching of "alternative" in the 1990s? Once meant to earnestly describe art and culture that was outside of the mainstream of corporate influence, "alternative" went from an artistic movement in the early '90s to a corporate brand in less than a decade. Not only did "alternative" lose its original meaning, it came to represent the very opposite of its

origins. Alternative rock, for example, is the term used for a type of new music generally bankrolled and manufactured by corporate interests. "Alternative" has been diluted to the point that Tom Cochrane is nominated in the adult "alternative" category at the forthcoming Junos. Tom is a nice man. He's written classic songs and puts valuable time and energy into helping the developing world. But Mr. Cochrane is not "alternative." Or is he? Who knows? The term means nothing.

In the 1980s, the measure of success for a young band was to get signed to a major label. Today, the badge of honour is to be self-made. This generalizes for film, publishing, television and coffee (the list goes on). But as most eight-year-olds can attest, the entertainment industry is still largely the domain of giant corporations. So now the giants engage in a game of promotional Twister to support the veneer of "indie" for their clients. Sometimes it's simply a matter of using the word. "Indie rock" is a musical genre. Clothing chains promote "indie culture" and captains of industry claim to have an "indie attitude."

Leslie Feist is one of the best Canadian musical treasures around these days and she received two "Indie" music awards last weekend. Does it not matter that her records are largely promoted in America by Interscope, a huge corporation? Simple Plan are one of the top "indie" bands on MySpace right now, but their career is shaped by Atlantic. Juno won Spirit indie films awards but was released through Fox Searchlight. The quarrel is not with the quality of the art. It's just, how is any of this indie? Is it simply about an attitude?

I wrote this piece with my own hands using my own brain. This paper is so indie. It's over.

-Jian Ghomeshi is the host of Q on CBC Radio One, Monday to Friday at 2 p.m. and 10 p.m.

http://www.nationalpost.com/arts/story.html?id=380185

Trumpeter to help New Orleans libraries

Posted by kmarszal March 18, 2008 06:37AM

Jazz trumpeter Irvin Mayfield has traveled the world playing for audiences in smoky bars and buttoned-up concert halls, and he knows the sounds, tastes and sights of this city are unlike those anywhere else.

So, he says, the city's library system should be just as unique.

Mayfield intends to unveil a plan Tuesday for a multimillion-dollar library system that reflects the city's identity. It would start with a jazz-themed branch housing early recordings and reviews.

"We don't just want to have a library system," said Mayfield. "We want it to be us. We want it to be our style, our identity."

Other branches planned for the next five to 10 years, he said, include a culinary branch based on the city's unique cuisine, and an architecture branch that pays homage to the city's woodworkers and ironworkers.

The plan will be spread over more than two decades but will begin in the next two years with the construction of the jazz branch, which will cost about $10 million, $2 million of which will come from the Bush-Clinton Katrina Fund, Mayfield said.

The rest of the money will come from private donations and fundraisers, as well as storm recovery money from the Louisiana Recovery Authority, the Federal Emergency Management Agency, the city and the state, he said.

When Katrina struck in August 2005, nine of the library system's 13 branches were damaged. Although all branches are again in operation, some are in portable trailers or makeshift branches set up in temporary venues.

Mayfield, chairman of the board of the New Orleans Public Library System, said jazz libraries and music aren't all that different.

"A library is democracy inside four walls, the freedom to information," he said. "Jazz is democracy we hear."

Mayfield says music continues to help him deal with the loss of his father, Irvin Mayfield, Sr., who drowned during Katrina, and has kept him positive through an exhaustingly slow recovery for the city.

On April 1, he will release an album that he started recording with jazz pianist Ellis Marsalis and the New Orleans Jazz Orchestra before Katrina struck, flooding out the Basin Street Records recording studio. The opening track is titled "Yesterday."

"Going through Hurricane Katrina teaches you something about yesterday," he said. "Every moment becomes yesterday."

Still, Mayfield said it's important to look at what has gone right since the storm. For one, at almost any school in the city -- no matter how dilapidated -- the students are playing music, he said. He says music is still in every part of the city, from the clubs, to the streets to the universities, and there's no reason why it shouldn't be part of the city's library system.

"A library is the only place that brings everybody together," he said. "An immigrant can go there. Homeless people can go there. Anyone from any age can go there and they can all receive what they're looking for."

http://blog.nola.com:80/entertainment/2008/03/trumpeter_to_help_new_orleans.html

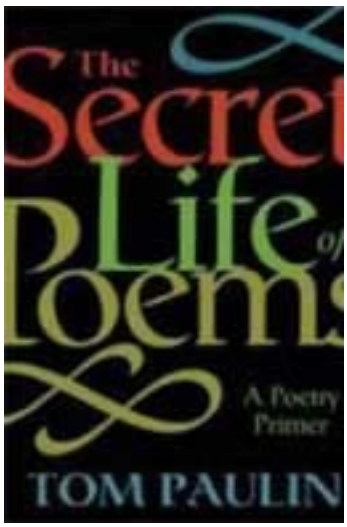
A puritan at play

Literature Terry Eagleton spots a familiar political agenda in a passionate account of poetry

Terry Eagleton
Saturday March 15, 2008

Guardian

The Secret Life of Poems: A Poetry Primer
by Tom Paulin
320pp, Faber, £17.99



Poetry is the most subtle of the literary arts, and students grow more ingenious by the year at avoiding it. If they can nip around Milton, duck under Blake and collapse gratefully into the arms of Jane Austen, a lot of them will. Besides, unlike Sense and Sensibility, Paradise Lost hasn't been on television. With fiction, you can talk about plot, character and narrative, whereas a poem brings home the fact that everything that happens in a work of literature happens in terms of language. And this is daunting stuff to deal with. Most students of literature can pick apart a metaphor or spot an ethnic stereotype, but not many of them can say things like: "The poem's sardonic tone is curiously at odds with its plodding syntax." They would greet this with the kind of sheepish silence one reserves for those who ask whether you have been washed in the blood of the Lamb.

Tom Paulin's new book is the latest in a series of bluffer's guides to poetry which have recently fallen from the press, one of them, I must confess, by myself. Paulin has a passion for language and a marvellously sensitive ear for its textures and cadences. In fact, he reads so closely, slowing a poem down to a sort of surreal slow-motion, that it becomes in his hands a strange cacophony of plosive, guttural and sibilant noises. He is wondrously nimble at tracking a pattern of sound through a text, though the process rapidly become repetitive and over-technical: "There are three ih sounds in the next stanza, two in the next stanza, along with two i sounds. Then in the last stanza there are a total of nine ih sounds and three i sounds ..."

You can, in short, read too closely, just as you can squash your nose up against a canvas until the painting fades to a blur. In a legendary analysis of a Baudelaire poem, the French structuralist Claude Lévi-Strauss found all sorts of ingenious combinations of phonemes in the text. It took another critic to point that most of these sound-patterns were far too intricate to be perceptible to a reader. Which raises the question: how far back from or close up to a work of art should we be standing? Would a reader pick up, even unconsciously, some of the acoustical effects Paulin identifies, and would they contribute to the poem's meaning?

In any case, there is more to poetic form than sound. Paulin has a masterly way with dentals and fricatives, but he pays too little attention to tone, pitch, pace, volume, timbre, grammar and syntax. Behind his acoustics lies a politics. Paulin favours harsh, gritty language, which as a Northern Irish Protestant he associates with lower-middle-class Dissent, and has it in for smoothness and elegance, which to his Puritan mind suggests a bunch of effete upper-class Cavaliers camping it up. The later Auden is just such a camp Cavalier, whereas the knotty, muscular Ted Hughes (right), who was reared as a religious Dissenter, is a fully paid-up Roundhead. There have been subtler distinctions in literary history.

There is a myth of Englishness lurking behind this prejudice. When Paulin writes of the 17th-century poet John Oldham as revealing "all that is robust, bold and liberty-loving in the English language", he could be quoting some early Oxbridge professor defending the newfangled study of English literature. "English" was allowed to take its place beside Classics because pure, strong Anglo-Saxon blood beat vigorously through the arteries of the language. It is both a racial and sexual myth, which crops up in a different guise in FR Leavis. All that gnarled, virile, rugged language was a sign of the cross-grained idiosyncrasy of the freeborn Englishman, as opposed to the insidious smoothness of the effeminate French. It is disturbing to find the myth rearing its head once again.

Paulin's own idiosyncrasies are both endearing and alarming. He can be brilliant at unpacking a single word or phrase into a prodigal treasure trove of meaning; but he can also free-associate to a point where even Freud might call a panic-stricken halt. A single mention of "pace" in a Larkin poem evokes "a faraway cricket match", though there is no cricket match in the poem at all. "Mucker fog", a phrase from Patrick Kavanagh, contains a trace of "mother fucker", in case you hadn't noticed. There is "the ghost of a fart" in Seamus Heaney's phrase "windy boortrees", while another Heaney piece evokes a truly bizarre flight of fancy about rhubarb. The word "stiff" in a Ted Hughes poem is said to echo both "fistful" and "splintered". The dominant o and l sounds of a Yeats piece "are attractive, they enhance [the house's] aristocratic owners and they enhance the neoclassical mansion". One might note here Paulin's own flatfooted literary style, which would rather be convicted of clunkiness than gracefulness.

Paulin can be hobbyhorsical as well as wildly subjectivist. Just as Mr. Dick in David Copperfield cannot rid his head of the execution of Charles I, so Paulin keeps finding politics (including the civil war) in the most improbable places. A drifting cloud in Philip Larkin suggests the poet's grief at the loss of empire, though in fact it is just a drifting cloud. Some splitting ice in Wordsworth's Prelude "is another image of the [French] revolutionary crowd". There are times when this remarkably humourless book reads like a hilarious parody of vulgar Marxist criticism. Or, indeed, vulgar Freudianism: a Robert Frost allusion to a "notch" in some mountains sends Paulin spinning off into psychobabble: "the effect is vaginal, though dry and negative (the word contains 'not', which we can also read as 'knot', representing marriage ...)"

Paulin is a hedgehog not a fox. He knows about a few big things, like poetic form and the history of Protestantism. But his scorn of grace and wit is also a lack of tact and proportion: he doesn't know when to stop, or where to draw the line, or how to distinguish between the truly perceptive and the ludicrously fanciful. The true Protestant has only his own soul to trust in here, and the inner light is never the most judicious of tribunals. The Secret Life of Poems is a tender, eccentric, passionate, absurd, illuminating primer. It will show students some things they never thought possible, and a number of impossible ones as well.

· Terry Eagleton's The Meaning of Life is published by OUP

http://books.guardian.co.uk/review/story/0,,2265415,00.html

The Art Review

When Cool Turns Cold

The Whitney Biennial, chockablock with bloodless M.F.A. product, is a little too smart for its own good.

By Jerry Saltz

- Published Mar 13, 2008

While Enhancing a Diminishing Deep Down Thirst, the Juice Broke Loose (the Birth of a Soda Shop) (2008), at the Whitney. Courtesy of the Whitney Museum of American Art)

At the Whitney, 2008 is the year of the Art School Biennial. Not because the art in the new Biennial is immature or because the artists all went to art school—although I bet they did—but because it centers on a very narrow slice of highly educated artistic activity and features a lot of very thought-out, extremely self-conscious, carefully pieced-together installations, sculpture, and earnestly political art. These works often resemble architectural fragments, customized found objects, ersatz modernist monuments, Home Depot displays, graphic design, or magazine layouts, and the resultant assemblage-college aesthetic, while compelling in the hands of some, is completely beholden to ideas taught in hip academies. It's the style du jour right now. (It also promises to become really annoying in the not too distant future, but that's another column.)

Perhaps the show is so inclined toward the current art-school moment because its curators, Henriette Huldisch, 36, and Shamim M. Momin, 34, were in part selected for their youth. I was thrilled that the Whitney was prepared to give itself over to young curators. No sooner had they been named, however, than Whitney director Adam Weinberg pulled back the reins, announcing that the two would be "overseen" by the museum's chief curator, Donna De Salvo, and that they'd "worked with" the advisers Thelma Golden, Bill Horrigan, and Linda Norden. If you're going to entrust young curators with your signature show, you ought to give them enough rope to do it. (Plus enough time: Huldisch and Momin had all of thirteen months to pull this show together.)

But never mind the institutional politics. Like many young curators, Huldisch and Momin are more cerebral than they are visual, and this show feels very, very controlled. The art and its presentation are orderly and methodical. Viewed over time and on repeated visits, the works develop interesting interrelated cross-conversations. But the circumspectness and consistency mean there are few moments that stop you in your tracks, confuse, delight, set your nerves on end, or provide moments of "What is this?" There's little that's overtly sexual, shocking, angry, colorful, traditionally beautiful or decorative, almost no madness or chaos. The show doesn't alchemically add up to more than the sum of its parts.

Huldisch and Momin assert that current art is exploring what Samuel Beckett called "lessness," and that it's in a "do-over" phase. Huldisch writes that artists are working in modes of "anti-spectacle" and "ephemerality," and employing "modest, found, or scavenged materials." Momin adds that the do-over "creates an unfixed arena of past possibilities," and that artists "think viral, act viral." I'm not sure what

that means, but it may be her curatorspeak way of saying that artists are working together and off one another, and that they're making use of the open-source systems, self-replicating strategies, and decentralized networks of our YouTube-MySpace world. These things are changing the look of art, and of cattle calls like the Biennial.

Or they're starting to, anyway. It's clear the curators only have eyes for installation, sculpture, and video. There are 81 artists in this show, only seven of them painters by my count. Four of them—Olivier Mosset, Robert Bechtle, Mary Heilmann, and Karen Kilimnik—have been lauded for years. The youngest painter, Joe Bradley, 32, contributes three works that are boring, puckered versions of Ellsworth Kelly. These curators seem to think that painting is incapable of addressing the issues of our time or that it's passé. I suspect Momin and Huldisch didn't want to include painting at all. Although that kind of academic orthodoxy is moth-eaten—a medium has potential until the ideas it addresses are exhausted—it's a shame they didn't go all the way with that notion. A No Paintings Biennial would've at least made everyone hysterical.

On the upside, Momin and Huldisch should be congratulated for mounting a thoughtful show that, while academic, is neither dogmatic (painting/photography dis notwithstanding) nor sprawling (recent biennials have been crammed with over 100 artists) nor sexist (about 40 percent of the artists are women, which may be a Biennial record). Critics have already called this show both pro-market and anti-market. It's neither, and it takes the position that most artists take: The market isn't the point.

Given that the consistency of the show means that the art tends to blend together, the things that stand out do so because of qualities like color, scale, or outright oddness, rather than for their preapproved art-world signifiers. For me a striking moment came in Mika Rottenberg's dilapidated installation that looks like a beaver dam or wooden shack. Inside, video images depict women with fetishistically long hair (one is reportedly a porn star who does nothing but wave her hair at men; who knew?). These women reach into the earth, milk goats, and make cheese. Rottenberg's palette, sound, materials, and timing combine to make something like an animal language of images. You don't know whether to think about grooming, barnyards, the means of production, or mythic beings' doing bizarre things. This lets you escape the art-world conventionality of so much of the show. Phoebe Washburn takes a similar chance in her sprawling sculpture/termite tower/ greenhouse. It has its own irrigation system of Gatorade pumped into aquariums that grow flowers in tanks of golf balls. Like Rottenberg's, Washburn's art throws viewers "don't ask" visual curveballs.

Cheese (2007–2008).
Courtesy of the Whitney Museum of American Art)

This kind of caught-napping relish dawned on me in front of Cheney Thompson's almost-monochromes that are meticulously painted patterns that are themselves hard to identify. It's a welcome change to be lowered into the trapdoors of perception this way. Those doors crack open as well in Jedediah Caesar's Larry Bell–meets–Donald Judd–meets–Lynda Benglis block of iridescent Styrofoam—another work with an unpredictable surface and hard-to-determine reasoning.

That kind of engaging strangeness is at work in the best films and videos on view. It becomes tragic in Omer Fast's outstanding dual-screened projection of an American solider recounting stories of dating a German girl and his accidental killing of an Iraqi civilian. We see the relationship and the shooting reenacted on separate screens, blending together. A death has rarely seemed more pointless; the end of empire, so sad. This sadness turns outlaw in Natalia Almada's *Al Otro Lado (To the Other Side),* a stunning 66-minute work documenting the Mexican music known as *corrido,* a style that has gone from telling stories of troubadours to recounting tales of drug-runners and "coyotes"; as one musician bitterly sings, "I didn't cross the border; the border crossed me." A subtler rupture permeates Amie Siegel's excellent exploration of the former East Germany.

The three most effective films in the show are the craziest. In them you sense humanity tugging on the bit, mired in uncontrolled emotions. These are Coco Fusco's indoctrination into the interrogation techniques of the U.S. military; Olaf Breuning's treatise on hapless American ecotourism; and Harry Dodge and Stanya Kahn's wild woman walking around L.A. with Viking horns on her head and a hunk of fake cheese under her arm. The best chance viewers have of escaping the art-school gravity is to see the show in reverse. Start by visiting the performances and installations at the glorious Armory on Park Avenue. And go at night (the place is pretty empty during the day). It's possible that the looser and more experimental atmosphere, the hanging out, the free tequila, and the amazing architecture will give your experience a boost. So far, among others, I've seen outstanding performances by the legendary "loser" Michael Smith in which he dressed in a baby diaper and interacted with audience members, Gang Gang Dance playing a twenty-minute set of tribalistic trance music from behind a huge mirror, and, best of all, Marina Rosenfeld's *Teenage Lontano,* in which she had 40 teenagers from New York public schools stand in a long line as they sang the vocal section of György Ligeti's 1967 *Lontano,* a piece of modernist music from the *2001: A Space Odyssey* era. Watching this piece, I felt the opening of a portal between a failed utopian

past and the possibility that the more real present is already something to love. I was transported.

This show comes at a restless, discontented moment. Institutional critique has become an institutional style, and the socioartistic movement known as "relational aesthetics"—that is, art that's all about your own relationship to being in public with it—has gone mainstream. Most in the art world want more than that. They're longing for art to be more than just a commodity or a comment on art history. They yearn for a less quantifiable, more vulnerable essence, perhaps what Lawrence Weiner called, "the eternal little surprise of *Well, is it art?*" I still have faith in Momin and Huldisch, but while some of the art in their biennial has this essence, much of it simply looks like what art looks like these days.

The Whitney Biennial
The Whitney Museum of American Art.
Through June 1.

E-mail:jerry_saltz@newyorkmag.com.

Find this article at:
http://www.nymag.com/arts/art/reviews/45084

Twombly in the Land of Michelangelo

By MICHAEL KIMMELMAN

ROME

YOU wouldn't know it from wandering around the crowded art fair in Bologna a few weeks ago, or from seeing Larry Gagosian's new gallery in Rome, where some of the moneyed, antiseptic air of the Chelsea of New York reaches the neighborhood around the Spanish Steps. But Italy has become the basket case of Western Europe.

So everybody says. It is still tourist heaven, of course, if you're not paying in dollars. In political terms, though, it's forever chasing its own tail. This winter the government, chronically geriatric, fell for the umpteenth time. Decades of festering indecision caused rotting garbage to pile up in the streets of Naples.

But then there's the contemporary art scene.

A new museum is under construction in Rome, nicknamed Maxxi, designed by Zaha Hadid. A museum opened not long ago in Bologna called Mambo. (Italians love their acronyms.) The Prada Foundation has just bought an exhibition space in the south of Milan; Rem Koolhaas will be that architect. And in the north of Milan there's Hangar Bicocca, a vast former Pirelli factory devoted to gigantic installations; Anselm Kiefer's, an awesome series of towers built of tottering concrete blocks, has justly become a pilgrimage site.

In Naples, Madre, a contemporary museum, does first-rate shows. Now it has a new place. So does the Maramotti family, which owns Max Mara, a clothing company. This winter the Maramotti children opened a foundation in a converted factory on an improbable stretch of loveless industrial and office buildings in Reggio Emilia to house the collection of their late father.

More is happening in Turin, where the Castello di Rivoli has long reigned as the premier museum of contemporary art in Italy. And after years of dawdling, Venice has recently turned its customs house over to François Pinault, the French billionaire who already has the Palazzo Grassi and says he will use them both to show off his collection. That's hardly the best way for any city to take up new art, but it says something about Italy that Pinault chose Venice over Paris, which wanted him.

To get perspective, I dropped in on Lorcan O'Neill, a dealer who moved from London to Rome several years ago and now runs one of the best high-end galleries in town. He's a lanky Irishman with a roster of

big-name artists and a modest space on a side street in Trastevere. We sat in the back room, surrounded by stacks of the many art magazines published here.

“Foreigners feel free to make fun of Italy and complain that it’s creaky and corrupt,” he said. “For whatever reason, they think it’s charming to insult Italians, never mind that then they go off and buy Prada, eat Italian food and covet Ferraris.” In terms of new art, he added, Italy is in some ways livelier than England, where outside London it’s pretty much a wasteland.

So the art scene here is booming, I said.

He laughed at my ignorance: “It’s complicated. It would be bizarre if Italy didn’t benefit like everyone else.” He was talking about the global art boom being a tide lifting all boats.

Many public art institutions here are like the Italian government, he went on. They’re dysfunctional. The state still thinks of culture almost exclusively in terms of antiquities, so that’s basically where all the money goes, what there is of it, “on top of which,” he said, “there’s historically a very complex and often antagonistic relationship between the public and private spheres,” which is why a city like Milan has no public museum of modern art, but it has all sorts of private initiatives by people who think they can get things done more efficiently. ...

I confessed to being, suddenly, a little confused.

“See for yourself,” he said, giving me what you might call an Italian shrug and sending me off into the drizzly night.

“IT’S medieval,” the veteran curator Germano Celant said. He’s the Richelieu of contemporary art in this country. Now he sounded more like an avenging angel. “All these different villages, city against city, museum against museum — every institution is a one-person project; otherwise nothing happens. There’s no structure, no official culture of expertise.”

A recent whirlwind tour of various contemporary art museums and collections, girded by the obligatory pit stops for bucatini, turned up plenty that’s going on, much of it excellent. But Mr. Celant is right.

Responsibility for contemporary art here clearly falls, as it long has, on regions and cities and, above all, on private entrepreneurs, who at least since the war have recognized that Italy's future prestige rests on its artisanal past.

But whereas the Museum of Modern Art, the Tate and the Pompidou have emerged in the United States, Britain and France during that time as the big institutions around which smaller museums and private foundations have arisen as complements and alternatives, there's no MoMA here. No cohesion. All dispersed energy. Talk over the years about accumulating a modern art collection out of the Venice Biennale — a ready-made source that over decades, wisely culled, could have produced a first-class museum — typically came to nothing.

So private collectors like Prada in Milan and Sandretto Re Rebaudengo in Turin and regional museums like Rivoli have been left to pick up the slack, for which they're not really suited. The Italian tax system further burdens them. In the United States, collectors give to museums and earn a tax break. Not here. There's no guarantee that gifts will even be accepted. Francesco Semmola is a private art insurer I ran across one afternoon at the Bologna fair. With a tight smile fixed on his face, he told me he insures private Italian collectors and foundations but won't ever deal with the government. "The sad reality is that most art in museums in Italy is not insured," he said.

He read my expression and gave me that same shrug.

Mr. Semmola went on: A university near Urbino, he said, which 20 years ago received an important library of thousands of volumes, has recently had to return the gift because nobody ever got around to unpacking the books. "And also a very important collector of contemporary art died, and when his family tried to pay inheritance tax with part of the collection, nobody working for the state would dare say how much it was worth," he added. "So the heirs kept the pictures, paid the tax, then sold the art at auction for vastly more money. Like I said, nobody in the state wants to take responsibility."

Carlo Bach was wandering around the fair, too. He oversees Illy's art program, which commissions artists to design the company's coffee cups, then uses money raised through sales for scholarships for young artists and catalogs for art shows. "In Italy, owners of big industries are connected with culture, even though there's no tax advantage, as in America, because entrepreneurs here love their country, and when they see the government losing the faculty to sustain art, they're inclined to do it themselves."

Love or vanity. Credit them for doing something. I found Lia Rumma, who as a young collector opened a gallery in Naples in 1971, then a second one in Milan 18 years later. Her husband, Marcello Rumma, published art books and worked on groundbreaking shows. He died in 1970. "I wanted to defend the legacy of my husband and open up Italy, as he had tried to do, to the international scene," Ms. Rumma

said. At the beginning her gallery showed Minimalism and Conceptualism when they were nearly unknown here. Gradually she nurtured a coterie of young collectors.

“But the market can’t substitute for what really sustains artists, meaning museums, public support and recognition,” she said. “Prada and other private places substitute here for the state, but they will never take the place of public institutions.” I mentioned Madre, the museum in her city, Naples, and she nodded.

“Yes, but one swallow doesn’t mean it’s spring.”

Turns out the country is full of fine but lonely swallows. The Fondazione Maramotti is a handsome homage to a serious, mainstream collector, Achille Maramotti, who may be excused if in later years, save for occasional works by Philip Taaffe, Peter Cain and others, he bought with somewhat less distinction. The rooms of early Kounellis and Pino Pascali and Manzoni and Pistoletto are lovely.

In Turin, Patrizia Sandretto Re Rebaudengo, working closely with Francesco Bonami (like Mr. Celant, he is one of Italy’s celebrity curators), oversees a foundation that has staged a variety of world-class shows. Mrs. Sandretto Re Rebaudengo and her husband own a villa in town packed with art. “When I started to collect and visited Germany and London, I was shocked to see contemporary Italian artists who were nowhere to be found in Italy,” she recalled. “The focus here on antiquity is a way not to be involved more in this moment. But I think things are changing.”

They clearly have changed in Turin, which had to redefine itself as Fiat floundered. “The city realized that contemporary art was a way to build a new identity,” she said, which is what helped to get the Castello di Rivoli Museum of Contemporary Art off the ground in the ’80s, with backing by the Piedmont region. Rivoli occupies a Savoy castle perched outside Turin. The collection now totals maybe 300 works, mostly large installations, said Marcella Beccaria, the curator. Lothar Baumgarten has painted the walls of one room an electric blue and added bird feathers. Sol LeWitt did murals in another room. A show of paintings from the Hayward in London arrived the other day. About 100,000 people visit Rivoli each year.“It’s only recently that people in Italy have begun to recognize contemporary art as a cultural value, which other countries use, for economic purposes,” Ms. Beccaria said. “Italians have been slow to see there’s a whole economic world out there that rotates around it.”

BUT Turin is one case, Rome another. The American artist Joseph Kosuth was riding the train one recent morning. He recalled moving here in the ’90s. He liked having room to work and think, and, well, “It was Rome.” That’s what Larry Gagosian has been saying, too. Never mind that skeptics think he’s here to court Cy Twombly, the most lucrative expatriate. “Larry came exactly not for the reasons people think but for the most banal reason,” Pepi Marchetti Franchi, who manages Gagosian’s gallery, insisted. “When he first saw Rome long ago, he fell in love with the city, and now he can afford to be extravagant, and he thinks artists he’s interested in will feel the same way about exhibiting here. It’s not for the market. There hardly is any market.” The gallery opened with an exhibition of Twomblys, by the way.

Whatever. Romance does account for much of Rome’s attraction. It’s what brought Cornelia Lauf here years ago. She was married to Mr. Kosuth. A veteran curator, she ticked off names of galleries like Monitor, Magazino, S.A.L.E.S. and 1/9, which have brought a fresh vibe to the city. “It’s definitely livelier,” she said. She introduced Paola Capata, who runs Monitor. We met before a large floor sculpture in compartments filled with what looked like tools and hay: the work of Kostis Velonis, she said, pointing nearby to a young doe-eyed man in skullcap and baggy jeans.

He smiled hopefully.

“I can’t say Rome is fabulous,” Ms. Capata said. “It’s not like in Holland or France or Britain, where museums support their own young artists. But it’s a good place to work, and in the last few years it has certainly started to change.” Where it ends up will depend partly on Maxxi, the state’s modern art museum. A building is under construction. Anna Mattirolo, who has worked in the government arts administration for years, directs it. She sat at a tiny table in the cafe next door and described how tricky it had been, over the years, getting Culture Ministry bureaucrats, steeped in older art, to approve contemporary acquisitions. But it has gotten better, she said. Attitudes are evolving.But, I said, the government has collapsed. The building is half-built. There’s no real budget to grow the collection. How can she be sure the next government won’t quash the whole project?“It’s our culture,” Ms. Mattirolo said. “There’s no point in fighting it. It’s impossible to say what will happen. All I know is that if we call great international artists and ask them to do exhibitions, they will come.”

She added, “This is Italy,” and shrugged.

http://www.nytimes.com/2008/03/16/arts/design/16kimm.html?ref=arts

Crashed probe yields Sun secrets

By Paul Rincon
Science reporter, BBC News, Houston

Scientists have measured the composition of oxygen at the birth of the Solar System.

The discovery is a vital piece of data for reconstructing the evolution of our cosmic neighbourhood.

Nasa's Genesis spacecraft spent more than two years collecting oxygen from the outermost layers of the Sun.

These layers reflect the composition of the gas and dust cloud, known as the solar nebula, from which the Solar System formed 4.6 billion years ago.

The results were presented here at the 39th Lunar and Planetary Science Conference.

Researchers had feared their data would be lost when Genesis' sample-return capsule crashed in the Utah desert in 2004. But scientists have been working hard to recover the precious information held in the capsule's collector arrays.

Key task

The researchers found that the Sun was enriched in the most common form, or isotope, of oxygen - oxygen-16 - relative to the Earth and to meteorites.

"We have a very clear signal," said Genesis team member Kevin McKeegan, from the University of California, Los Angeles (UCLA).

> **One would not normally characterise the Genesis mission as being lucky, but in this case we were**
> Kevin McKeegan, UCLA

"It's still early days and these data are not very old; but the experiment has worked."

The Earth, Moon and meteorites have widely differing proportions of the three oxygen isotopes: oxygen-16, oxygen-17, and oxygen-18. But the cause of these variations in different parts of the Solar System is unknown.

Measuring this primordial oxygen composition establishes an important baseline for understanding how the planets later evolved their different compositions of oxygen.

"This was the highest priority science objective for Genesis," said Professor McKeegan.

The $264m (£151m) mission spent more than two years gathering ions, or charged atoms, flung out from the Sun. This material is known as the solar wind.

Deep storage

It captured these charged atoms from the solar wind on five collecting plates hung outside the spacecraft for more than 800 days in a region of space about 1.5 million km from Earth.

The collector arrays were then stowed in a sample-return capsule, and the spacecraft re-entered the Earth's atmosphere on 8 September 2004.

Once it had deployed its parachute, the capsule was meant to be caught by a 5m-long hook, wielded by a man in a helicopter. But when its parachute failed, the capsule thudded into the Utah desert, leaving it a mangled mess.

But an instrument known as the concentrator had helped protect the sample.

The concentrator was an electrostatic mirror designed to focus solar wind particles on to a special target.

Its job was to enhance the density of heavy ions, particularly oxygen, that were to be collected.

Clean up

The device gave the atoms an extra energy kick, helping implant them more deeply in the target - away from the contamination which poured in after the crash.

The way the device was engineered also helped protect the samples from the impact.

"One would not normally characterise the Genesis mission as being lucky, but in this case we were," Professor McKeegan explained.

The researchers "cleaned" the top 20 nanometres (billionths of a metre) of the sample with a beam of caesium ions to remove terrestrial contamination.

They then measured the composition of the Sun's oxygen in a vacuum.

The measurement will be vital for understanding what caused the differences in oxygen composition between the different bodies in our Solar System.

Paul.Rincon-INTERNET@bbc.co.uk

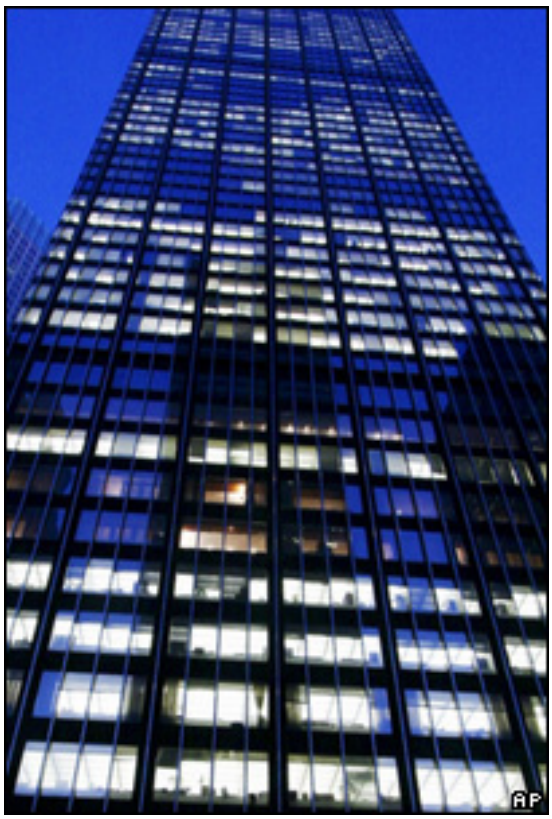
Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/2/hi/science/nature/7299025.stm

Published: 2008/03/15 22:11:38 GMT

Property plan's 'low carbon' goal

By Mark Kinver
Science and nature reporter, BBC News

Improving the environmental performance of buildings in North America can cut the region's carbon emissions more than any other measure, a study suggests.



The rapid take-up of current and new technologies could save the equivalent of the amount of carbon dioxide emitted by transport in the US, it concluded.

However, it added that developers and homeowners were not willing to pay the extra cost for energy saving measures.

Buildings are responsible for about 35% of the region's man-made CO2 emissions.

The report published by the Commission for Environmental Co-operation (CEC), an international organisation created by Canada, Mexico and the US, said it was possible for the most efficient buildings to consume 70% less energy than conventional properties.

Each year, it said, energy used by buildings in North America resulted in more than 2,200 megatonnes of CO2 to be released into the atmosphere.

But it said that it was possible to reduce this by 1,700 megatonnes, compared to a "business as usual" approach, by 2030.

'Low-hanging fruit'

"Improving our built environment is probably the single greatest opportunity to protect and enhance the natural environment," said CEC executive director Adrian Vazquez.

POWER HOUSES
Percentage of national energy consumption used in buildings:
Mexico - 17%
Canada - 33%
United States - 40%
(Source: CEC)

"This report is a blueprint for dramatic progress throughout North America, mostly using the tools and technology we have on hand today.

"Green building represents some of the ripest 'low-hanging fruit' for achieving significant reductions in climate change emissions."

Despite the potential energy and financial savings, the study found that less 0.5% of homes in the US and Canada could be called "green buildings".

"At the moment, there is no real reason for the private sector to change its practice from a purely financial standpoint," explained Jonathan Westeinde, chairman of the CEC advisory group.

"Generally, because of the leasing and financing structures, there is a split incentive between the owner or developer who is making the financial investments, and the tenant or occupier who will benefit.

"I think this is where the biggest hurdle remains."

Mr Westeinde said the biggest energy reductions could be achieved by getting the basics right, such as installing the most effective windows, doors and insulation.

"The number one thing is the need to take an energy conservation approach, and not think about spending a whole bunch of money on leading edge technology.

"The next most cost-effective measure is passive measures, such as making the most of natural lighting."

Retro-fashion

The study also highlighted that "retrofitting" - improving the energy performance of existing buildings - was the most important factor when it came to reducing emissions in the region's property sector.

"It has been proven quite easily that new construction can perform much better for a minimal marginal cost, but we won't get anywhere unless we focus on existing buildings," Mr Westeinde said.

Almost three-quarters of the buildings that will be standing in 2050 have already been built, research shows.

He added that the report would hopefully pave the way for greater co-operation between the three nations to develop the necessary regulations to deliver energy savings in the property market.

This would, he said, enable local authorities to act as "gatekeepers to advance the green building agenda".

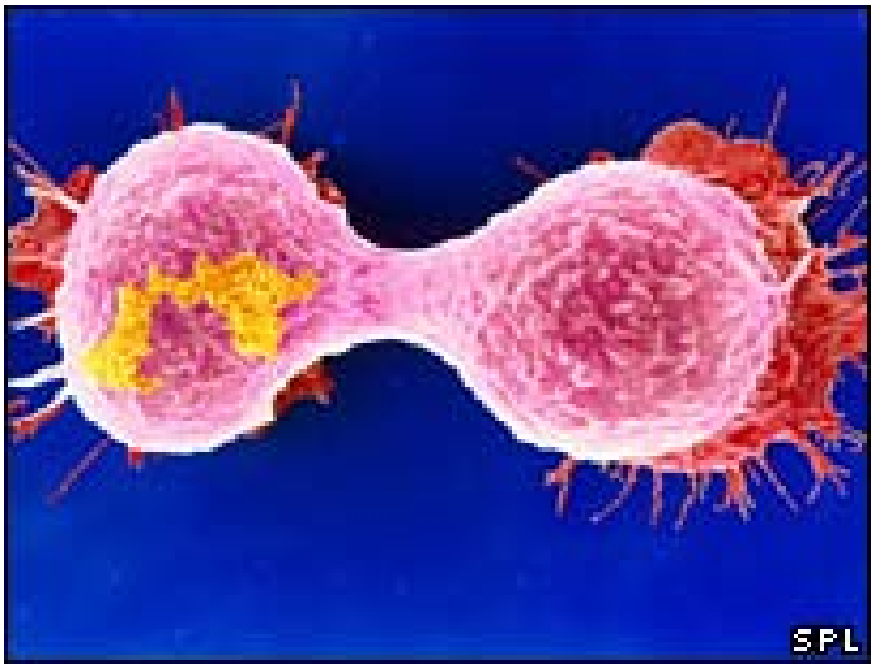
"Ultimately, every building out there gets a site plan or permit, and this happens at a municipal level.

"Federal and state level policies are great, but it is all about getting the right tools and channelling the right resources to the municipal gateway."

Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/2/hi/science/nature/7288320.stm

Published: 2008/03/14 15:08:28 GMT

Tumour growth block hopes raised
Scientists have discovered a key part of the chemistry which makes cancer cells so dangerous.



They believe it could now be possible to tamper with the mechanism - and stop tumour growth in its tracks.

Harvard Medical School identified an enzyme which enables cancer cells to consume the huge quantities of glucose they need to fuel uncontrolled growth.

Writing in Nature, they describe how starving cancer cells of the enzyme curbed their growth.

> **We don't yet know whether these findings can be applied to human cancers outside the lab**
> Dr Joanna Peak
> Cancer Research UK

The key enzyme, pyruvate kinase, comes in two forms, but the Harvard team found that only one - the PKM2 form - enables cancer cells to consume glucose at an accelerated rate.

When the researchers forced cancer cells to switch to the other form of pyruvate kinase in the lab by knocking out production of PKM2, the cells' growth was curbed.

When the cells were injected into mice, they were much less able to produce tumours.

Warburg effect

The fact that proliferating cancer cells are able to consume glucose at a much higher rate than normal cells was first discovered by the German Nobel prize-winning chemist Otto Warburg more than 75 years ago.

He also showed that the amount of glucose the cells needed to keep their vital signs ticking over was minimal, allowing them to grow and divide at the prodigious rate usually associated with foetal cells.

Warburg's discoveries are still used today to detect spreading cancers.

However, until now the chemistry behind the "Warburg Effect" has not been well understood.

The researchers said the exact chemistry behind glucose metabolism probably varied between types of cancer.

However, lead researcher Professor Lewis Cantley said: "Because PKM2 is found in all of the cancer cells that we have examined, because it is not found in most normal adult tissues, and because it is critical for tumour formation, this form of pyruvate kinase is a possible target for cancer therapy."

Dr Joanna Peak, of the charity Cancer Research UK, said: "We don't yet know whether these findings can be applied to human cancers outside the lab, so more research is needed before we can consider developing cancer treatments that target this process."

However, Dr Peak said a drug called DCA which is thought to act on the relevant pathway was currently undergoing tests.

Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/2/hi/health/7292652.stm

Published: 2008/03/16 00:02:38 GMT

Celebrity culture 'harms pupils'
Children's educational aspirations risk being damaged by the cult of celebrity, teachers' leaders have warned.

Teachers fear their pupils' obsessions with footballers, pop stars and actors are affecting their progress in school, and limiting their career aspirations.

Some 60% of teachers said their pupils most aspired to be David Beckham, in a survey for the Association of Teachers and Lecturers (ATL).

More than a third said pupils wanted to be famous for the sake of being famous.

Some 32% of the 304 teachers quizzed said their pupils modelled themselves on heiress Paris Hilton.

> **They believe that they are much more likely to achieve financial well-being through celebrity**
> Elizabeth Farrar
> Primary school teacher from Scunthorpe

The findings were released ahead of the ATL conference in Torquay which starts on Monday.

'Hard work'

Delegates will debate a motion that argues the "decline in this country into the cult of celebrity" is "perverting children's aspirations".

If it is passed the teaching union will call on the government and other agencies to promote positive role models of "ordinary people across the media".

ATL general secretary Mary Bousted said celebrities could raise pupils' aspirations and ambitions for the future.

But she warned: "We are deeply concerned that many pupils believe celebrity status is available to everyone.

"They do not understand the hard work it takes to achieve such status and do not think it is important to be actively engaged in school work as education is not needed for a celebrity status."

Elizabeth Farrar, from a primary school near Scunthorpe, said too many pupils believed academic success was "unnecessary" because they thought they would be able to make their fame and fortune quite easily on a reality TV show.

"They believe that they are much more likely to achieve financial well-being through celebrity than through progression to higher education and a 'proper' career."

'Lurid headlines'

A secondary teacher from Colchester, Essex, quizzed in the survey said the media focus on celebrities' "negative behaviour" encouraged underage drinking and anti-social behaviour

"Those celebs who are excellent sportsmen or excellent actors are often overlooked and not shown as desirable to kids."

But nearly three-quarters of teachers said they thought a focus on celebrity culture could have a positive effect as well as a negative one.

Julie Gilligan, from a primary school in Salford, said: "The racism issue raised by celebrity Big Brother created a useful platform for class discussion.

"On the other hand, I have seen and heard negative emulation of celebrity footballer/pop star language and behaviour in the playground and in school - including disturbingly age-inappropriate 'acts' by young girls in school talent shows."

A spokesman for the Department for Children, Schools and Families said schools already promoted positive professions such as nursing and teaching.

He added: "While the worst excesses of celebrity culture may lend themselves to lurid headlines, it is worth remembering that there are many more celebrities who set a good example on a local and national level.

"They help in schools and community projects, promote sport and healthy lifestyles, take part in anti drug campaigns and encourage children to stay on in education and to stay safe."

Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/2/hi/uk_news/education/7296306.stm

Published: 2008/03/14 12:20:30 GMT

A Daring Treatment, a Little Girl's Survival

By DENISE GRADY

In the pages of a medical journal, Melanie Joy McDaniel is a study subject, listed by her patient number and tumor type. In real life she's a little girl whose story is a reminder that medical research can change lives and that the pioneers include patients, some of whom are babies.

Melanie was 9 months old when her parents faced an agonizing decision. She had already had two operations for a malignant brain tumor, and doctors could not be sure they had removed all the cancer. She needed more treatment, but standard chemotherapy offered little hope in exchange for its harsh side effects. And yet the McDaniels knew that if they did nothing, the odds were high that the tumor would come back.

Doctors at the Dana-Farber Cancer Institute in Boston offered another option, an experimental treatment. To qualify, a child had to have a progressive cancer, and it had to be terminal. The McDaniels took a gamble and a leap of faith, and signed Melanie up.

"It won't save her, but it may help other people," her father, Paul McDaniel, told me in an interview for a Science Times article published in April 2002. Then he paused and added, "Maybe it will save her."

By then, Melanie had been receiving the test therapy for five months, and her brain tumor, a type called an ependymoma, had not grown. That was encouraging, but the treatment still seemed like a long shot.

After the article was published, I was afraid to call the McDaniels again. I didn't think Melanie would survive.

Recently, Mr. McDaniel sent me an e-mail message. "Melanie is now 7 years old, attending first grade, and doing very well," he wrote. "The doctors told us last year that they do not see any residual tumor in her brain. Their original diagnosis was that her tumor had no known cure."

What had prompted him to get in touch was the death on Jan. 14 of Dr. Judah Folkman, the researcher at Children's Hospital Boston whose work had led to Melanie's treatment. Mr. McDaniel wrote that he wanted "to celebrate the accomplishments of Dr. Folkman, who faced resistance on his ideas that, by the grace of God, cured my daughter of an incurable brain tumor."

Dr. Folkman founded a branch of research based on the theory that tumors need a blood supply in order to grow and can stimulate the formation of new blood vessels — angiogenesis — to feed themselves. If angiogenesis could be stopped, he reasoned, it might be possible to starve tumors. His work ultimately led to useful treatments but took years to gain acceptance in a field that was focused on attacking cancer cells directly.

Melanie McDaniel became one of 20 children with advanced cancer who were enrolled in a study that used drugs strictly to fight angiogenesis. The drugs included two standard anticancer medicines, but in small doses meant to stop blood vessels from forming, not the much bigger amounts needed to poison tumor cells.

The children also took two other drugs that had been found to block angiogenesis. One was Celebrex, usually given for pain and inflammation. The other was thalidomide, notorious for causing stunted limbs and other birth defects when pregnant women took it in the 1960s — damage, it was later learned, that the drug inflicted by halting the growth of blood vessels in the fetus.

Melanie and the other children were given small doses of medicine by mouth every day, instead of big doses intravenously every few weeks. The idea was that continuous treatment might keep blood vessel growth in check, whereas the usual schedule of therapy every few weeks could give new vessels a chance to sprout between doses. Doctors also hoped that the small doses would minimize side effects. The approach is called metronomic, low-dose or antiangiogenic chemotherapy.

"Our goal was to see whether we could keep the kids alive for an additional six months," said Dr. Mark W. Kieran, Dana-Farber's director of pediatric medical neuro-oncology.

The study was meant to test the feasibility of using the drugs for 26 weeks. But by the 26th week, seven children were doing so well that their parents refused to give up the drugs.

"Remember, you got onto this trial because your child had a progressive, incurable tumor," Dr. Kieran said. "Many families said, 'Why would we stop?' "

The McDaniels kept Melanie on the drugs for a year and a half. Then, she was monitored closely with M.R.I. scans.

Finally, last year, her doctors said there were no traces of the tumor left.

Mr. McDaniel said, "She goes to the survivor clinic now, instead of the pediatric brain tumor clinic."

But the researchers are not claiming credit for Melanie's recovery. The study was designed primarily to test the drugs' safety, and it was not large enough to measure their effectiveness.

Dr. Christopher D. Turner, director of pediatric neuro-oncology outcomes research at Dana-Farber, said the surgery might be responsible, but he added: "Her type of tumor almost always comes back. Historically, we know that surgery alone is not usually enough."

Every doctor encounters "miracle patients" who improve against all odds, Dr. Kieran said. But he also said, "We have a bunch of long-term survivors."

A report on the study published in 2005 showed that seven children, including Melanie, were still alive a year and half to three years after starting the treatment.

"It's immensely gratifying," Dr. Turner said. "The study we did took the drugs we knew are commercially available and combined them in a way that hadn't been used before. A number of doctors across the country have followed the published paper we did, the regimen, on their own patients, and have given us feedback that they have had some remarkable stories themselves across the country. We have to be careful — it's not science; it's anecdote. When someone calls and says, 'We had a great response,' what I don't hear is how many others used it and didn't have a good response."

The next step is a larger study. One is already under way, involving 160 children at 12 medical centers, with eight categories of cancer.

"We certainly hope to have some answers within the next couple of years," Dr. Turner said.

Meanwhile, Melanie, who has an older brother and a younger one and a lot of friends, is a normal little girl whom her mother describes simply as "hilarious." But her parents know that her type of tumor can always recur, even after many years.

"As much as we're excited about how good she's doing, there's that much fear of it coming back," said her mother, Amy McDaniel. "It's always in your mind.

"We need the science to keep going. We need to be armed and ready if it does return."

http://www.nytimes.com/2008/03/18/health/18seco.html?nl=8hlth&emc=hltha1

Bird Brains Suggest How Vocal Learning Evolved

Hummingbird. In all three groups of birds with vocal learning abilities -- songbirds, parrots and hummingbirds -- the brain structures for singing and learning to sing are embedded in areas controlling movement. (Credit: iStockphoto)

ScienceDaily (Mar. 14, 2008) — Though they perch far apart on the avian family tree, birds with the ability to learn songs use similar brain structures to sing their tunes. Neurobiologists at Duke University Medical Center now have an explanation for this puzzling likeness.

In all three groups of birds with vocal learning abilities -- songbirds, parrots and hummingbirds -- the brain structures for singing and learning to sing are embedded in areas controlling movement, the researchers discovered. The team also found that areas in charge of movement share many functional similarities with the brain areas for singing. This suggests that the brain pathways used for vocal learning evolved out of the brain pathways used for motor control.

These ancient pathways, which power limb and body movements, constrained both the location and circuitry of structures for learning and imitating sounds, theorizes senior author Erich Jarvis, Ph.D., associate professor of neurobiology. The findings may also help solve the riddle of why humans talk with our hands and voice, but chimps can talk only with their hands.

"In its most specialized way, spoken language is the ability to control the learned movements of our larynx," Jarvis said. "It's possible that human language pathways have also evolved in ways similar to these birds. Perhaps the evolution of vocal learning brain areas for birds and humans exploited a universal motor system that predates the split from the common ancestor of birds and mammals."

National Institutes of Health Director Elias A. Zerhouni, M.D.said, "The discovery that vocal learning brain pathways are embedded in the parts of the brain that control body movement offers unexpected insights on the origins of spoken language and could open up new approaches to understanding vocalization disorders in humans."

Jarvis and his colleagues examined bird species with vocal learning skills and some without: garden warblers, zebra finches, budgerigars (parrots), Anna's hummingbirds and ring doves. Their technique

involved observing and manipulating bird behavior, then recording which genes were active in the birds' brains when the birds were moving and singing in certain ways.

"When we use this behavioral molecular mapping approach, we get gene expression patterns in the brain that light up like MRI images," Jarvis said. The study is the first to map the parts of the forebrain that control movement in birds. The forebrain is the largest part of the brain, and includes the pathways for thought, learning and perception.

While all birds vocalize, for most of them these sounds are genetically hardwired. Only songbirds, parrots and hummingbirds have the ability to learn songs. This type of vocal learning is similar to the way that humans learn to speak, Jarvis said.

"Based on the data, we think that the brain has a pre-existing substrate, namely a forebrain motor pathway, that led to the evolution of similar vocal learning pathways in three different bird families," Jarvis said.

The connection between movement and vocal learning also extends to humans, Jarvis suggests. Human brain structures for speech also lie adjacent to, and even within, areas that control movement. "We can make a plausible argument that in humans, our spoken language areas also evolved out of pre-existing motor pathways," he said. These pathways, he believes, date back to the common ancestor of reptiles, birds and mammals, creatures called stem amniotes that lived about 300 million years ago.

The results from birds are consistent with the hypothesis that spoken language was preceded by gestural language, or communication based on movements (one of several competing explanations for the origin of spoken language), Jarvis adds. Both humans and chimps gesture with the limbs while communicating, and young children gesture even before they begin talking. "Gesturing is something that goes along naturally with speech. The brain areas used for gesturing may have been co-opted and used for speech," Jarvis said.

The collaborative study was co-led by Henrik Mouritsen of the University of Oldenburg in Germany, who was supported by the VolkswagenStiftung, and first author Gesa Feenders, now a postdoctoral researcher at the University of Newcastle. UK.Co-authors on the study include Miriam Liedvogel, University of Oxford, UK; Manuela Zapka, University of Oldenburg, Germany; Miriam Rivas, Haruhito Horita and Erina Hara, Duke; and Kazuhira Wada, Hokkaido University, Japan.

Citation: Feenders G, Liedvogel M, Rivas M, Zapka M, Horita H, et al. (2008) Molecular Mapping of Movement-Associated Areas in the Avian Brain: A Motor Theory for Vocal Learning Origin. PLoS One 3(3): e1768. doi:10.1371/journal.pone.0001768 http://www.plosone.org/doi/pone.0001768

The research was funded by the National Science Foundation and a National Institutes of Health Pioneer Award to Jarvis.

Adapted from materials provided by Public Library of Science, via EurekAlert!, a service of AAAS.

http://www.sciencedaily.com:80/releases/2008/03/080311215702.htm

Intelligent Side-impact Protection System Dramatically Reduces Risk Of Injury In Car Crashes

A car body that thinks intelligently and protects its occupants at the crucial moment has been every driver's dream for a long time. (Credit: Image courtesy of Fraunhofer-Gesellschaft)

ScienceDaily (Mar. 14, 2008) — A car body that thinks intelligently and protects its occupants at the crucial moment has been every driver's dream for a long time. Research scientists in an EU project have developed an intelligent side-impact protection system that dramatically reduces the risk of injury.

One more second until collision. The cameras integrated in the doors have long identified the car that will cause the accident. Radar sensors in the car wings measure how far away the other car still is. 200 milliseconds before the crash, the new side-impact protection system is activated. The occupants are reliably protected at the crucial moment.

The intelligent side-impact protection system is a product of the EU project APROSYS – short for Advanced Protection Systems. The technology was developed by Fraunhofer researchers in cooperation with various universities, car manufacturers and suppliers. "Our goal was to improve the active crash safety of motor vehicles – that is, to adapt the technical properties of the car body in such a way that it absorbs energy at the crucial moment and thus protects the occupants," says project manager Björn Seipel of the Fraunhofer Institute for Structural Durability and System Reliability LBF.

But how do you get the car body to change its properties? And how does the car know when its occupants need protection? The researchers have devised a kind of sixth sense for cars that anticipates accidents and emits the necessary impulse to activate the side-impact protection system. Stereo cameras and radar sensors continually scan the environment, and a central computer analyzes the data.

"During the journey, the system has to distinguish moving objects – meaning other cars that could potentially cause an accident – from stationary objects such as houses or trees," explains Dr. Dieter Willersinn of the Fraunhofer Institute for Information and Data Processing IITB. His team has developed a software program capable of predicting a lateral collision just in time – about 200 milliseconds before the crash. The impulse from the central computer releases a surge of electricity that heats a wire made of a shape memory alloy. This wire is the actual trigger.

"We opted for this solution because it is faster than any conventional solenoid switch," says Seipel. The heat bends the wire, which then releases a spring. The spring slackens and pushes a steel bolt, which is integrated in the seat, towards the door. At the same time a stable metal body in the door is brought into position to support the steel bolt. "The system of the bolt and the metal box stabilizes the car door and absorbs energy on collision," explains Seipel.

To prove that the new side-impact protection system actually works in a real crash situation, he will carry out a crash test in Spain on March 7. The passenger cell will be on display at the Hannover trade fair (hall 2, stand D28) on April 21 through 25.

Adapted from materials provided by Fraunhofer-Gesellschaft.

http://www.sciencedaily.com/releases/2008/03/080311102322.htm

Clean Diesel Possible With New Diesel Particulate Filter Technology

Most diggers and construction machines discharge unfiltered exhaust fumes into the air. This is because special vehicles are made in small batches, and each requires a different filter geometry. (Credit: Image courtesy of Fraunhofer-Gesellschaft)

ScienceDaily (Mar. 14, 2008) — Most diggers and construction machines discharge unfiltered exhaust fumes into the air. This is because special vehicles are made in small batches, and each requires a different filter geometry. Diesel soot filters of varying shapes can now be produced at competitive prices.

Modern diesel cars are not only quieter than their predecessors but also release considerably fewer exhaust fumes into the atmosphere. The filters for heavy-duty, construction and off-road vehicles are not yet state-of-the-art. A new diesel particulate filter technology will soon teach even these vehicles to give up smoking.

Conventional diesel soot filters usually consist of cylindrical ceramic blocks crisscrossed by numerous channels. A block of this kind cannot be made in one piece. Instead, individual quadratic honeycomb segments are bonded together to form a large block. The bonds act as expansion joints that offset the temperature stresses during operation. This is vital, for a solid ceramic block would break apart. The drawback of these square honeycombs is that the angular bonded block has to be ground into a cylindrical shape at the end of production, thus wasting valuable material. What is more, this smooth finishing takes time and requires expensive machinery.

Together with filter manufacturer CleanDieselCeramics CDC and sponsored by Saxony's economics ministry, developers at the Fraunhofer Institute for Ceramic Technologies and Systems IKTS in Dresden have developed a honeycomb structure with a different geometry. Rather than being rectangular, it takes an irregular four-cornered shape. This allows a wide variety of filter geometries to be created – even close-to-cylindrical ones. Grinding is no longer necessary.

An added advantage of this development is the altered geometry of the channels. Usually, the gas flows into the filter through four-sided channels. The Dresden researchers have opted for a smaller, triangular cross-section. This enlarges the filter surface in the tiny channels. The triangular shape is also more stable, and the filter is less sensitive to lateral pressure.

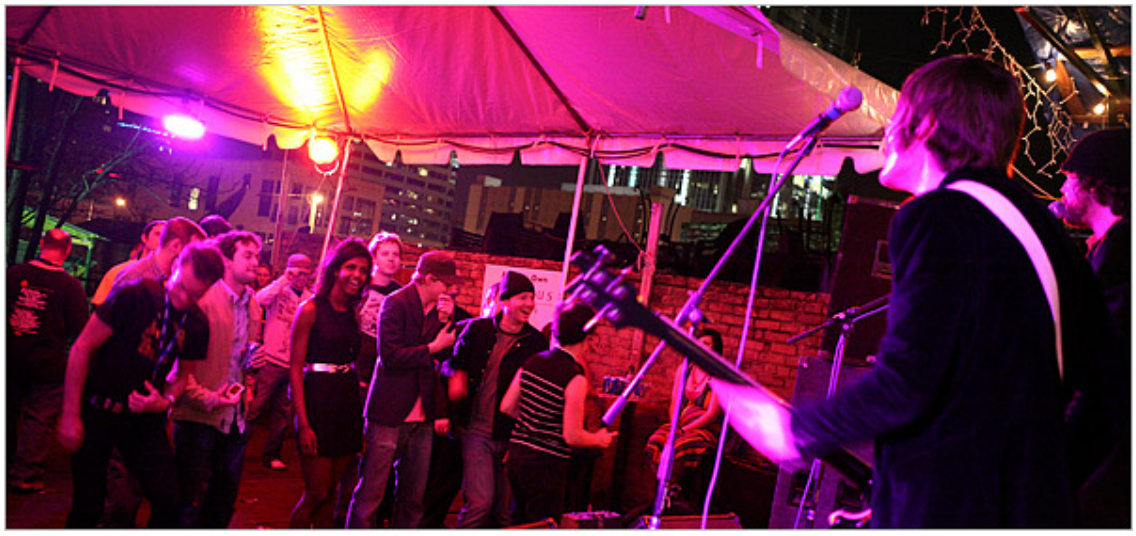
The partners in this venture have tested and optimized the production method on a pilot production line at the IKTS – and also tested the third innovation, a silicon carbide ceramic developed at the IKTS. The advantage of this latter innovation is that the researchers can easily and precisely adjust the size of the pores for optimum filtration of the soot particles. "As far as the performance and quality of our new development is concerned, we can hold our own against anything on the market," says IKTS project manager Jörg Adler. The up-and-coming firm CDC is currently building its first plant near Dresden. From spring of this year, about 40,000 filters will be produced there annually and installed in construction machinery as an upgrade kit.

Adapted from materials provided by Fraunhofer-Gesellschaft.

http://www.sciencedaily.com/releases/2008/03/080311102319.htm

1,700 Bands, Rocking as the CD Industry Reels

By JON PARELES



AUSTIN, Tex. — "I don't want to feel like I don't have a future," sang the Shout Out Louds, one of more than 1,700 bands that have been performing day and night at Austin's clubs, halls, meeting rooms, parking lots and street corners since Wednesday.

The Shout Out Louds, from Stockholm, were singing about a romance, but they could have been speaking for thousands of people attending the 22nd annual South by Southwest Music Festival. It is America's most important music convention, particularly for rising bands, gathering a critical mass of musicians and their supporters and exploiters from the United States and across the world. While major labels have a low profile at this year's gathering, other corporations are highly visible, using sponsorships to latch on to music as a draw and as a symbol of cool.

Southwest is a talent showcase and a schmoozathon, a citywide barbecue party and a brainstorming session for a business that has been radically shaken and stirred by the Internet. For established recording companies, the instantaneous and often unpaid distribution of music online is business hell; CD album sales are on an accelerating slide, and sales of downloads aren't making up for the losses. But for listeners, as well as for musicians who mostly want a chance to be heard, the digital era is fan heaven. As major labels have shrunk in the 21st century, South by Southwest has nearly doubled in size, up to 12,500 people registered for this year's convention, from 7,000 registered attendees in 2001, not including the band members performing. In an era of plummeting CD sales and short shelf lives even for current hit makers, the festival is full of people seeking ways to route their careers around what's left of the major recording companies.

Sooner or later, public forums and private conversations at this year's festival end up pondering how 21st-century musicians will be paid. For nearly all of them, it won't be royalty checks rolling in from blockbuster albums. Musicians' livelihoods will more likely be a crazy quilt of what their lawyers would call "alternative revenue streams": touring, downloads, ringtones, T-shirts, sponsorships, Web site ads and song placements in soundtracks or commercials. Festival panels offer practical advice on all of them, for career-minded do-it-yourself-ers.

The key is to gain enough recognition to find an audience. Over its four days, SXSW, as the festival is called, is like MySpace moved to the physical realm: more music than anyone could possibly hear, freely available and clamoring to be heard.

Major labels used to help create stars through promotion and publicity, but their role has been shrinking. Multimillion-selling musicians who have fulfilled their major-label contracts — Radiohead, the Eagles,

Nine Inch Nails — are deserting those companies, choosing to be free agents rather than assets for the system that made them famous.

Even a moderately well-known musician can reach fans without a middleman. Daniel Lanois, who has produced U2 and Bob Dylan and is also a guitarist and songwriter, noted during his set that he now sells his music directly online in high fidelity at the Web site redfloorrecords.com.

"We can record something at night, put it on the site for breakfast and have the money in the PayPal account by 5," he said. "With all due respect for my very great friends who have come up in the record-company environment, it's nice to see that technology has opened the doors to everybody."

South by Southwest has insisted, ever since it started in 1987 as a gathering for independent and regional musicians, that major-label contracts have never been a musician's only chance. Musicians who have had contracts are lucky if they recoup their advances through royalties. Lou Reed, who gave an onstage interview as a convention keynote, was terse about getting a label contract. "You have the Internet — what do you need it for?"

There's never a shortage of eager musicians. Many bands drive cross-country by van or cross an ocean to perform an unpaid showcase at South By Southwest, and the most determined ones play not only their one festival slot but also half a dozen peripheral parties as well, hoping to be noticed. Sixth Street and Red River, two downtown streets lined with clubs, are mobbed with music-hopping pedestrians until last call.

Musicians make the trek even though discovering a local band from another town or another country is just a few clicks away. That spread of information opens new career paths, from tours stoked by blog buzz to recognition for a song tucked into a commercial or a soundtrack. South by Southwest draws like Ingrid Michaelson and Sia got big breaks through songs that appeared in television shows, while Yael Naim found an international audience through a MacBook Air commercial.

With music whizzing across the Internet, South by Southwest probably has fewer completely unknown so-called baby bands, but hundreds of more toddlers. They have unlikely allies now. If record labels can't help them, corporations might. Few musicians worry about selling out to a sponsor; now it's a career path. This year's festival has brand-name sponsors everywhere, from Citigroup and Dell to wineries, social-networking Web sites and the chef Rachael Ray (who is the host of her own day party).

Governments subsidize bands from countries including Australia, Norway, Spain and Britain, which see new markets and trade value in music.

Radio stations are also active. Two well-established bands, R.E.M. and My Morning Jacket, played through their coming albums at packed South by Southwest shows that were broadcast live on National Public Radio and can be streamed at nprmusic.org/music — giving away new songs they know full well will soon be bootlegged. The logic is that fans who hear them will show up for concerts, pick up T-shirts and perhaps even buy the studio versions.

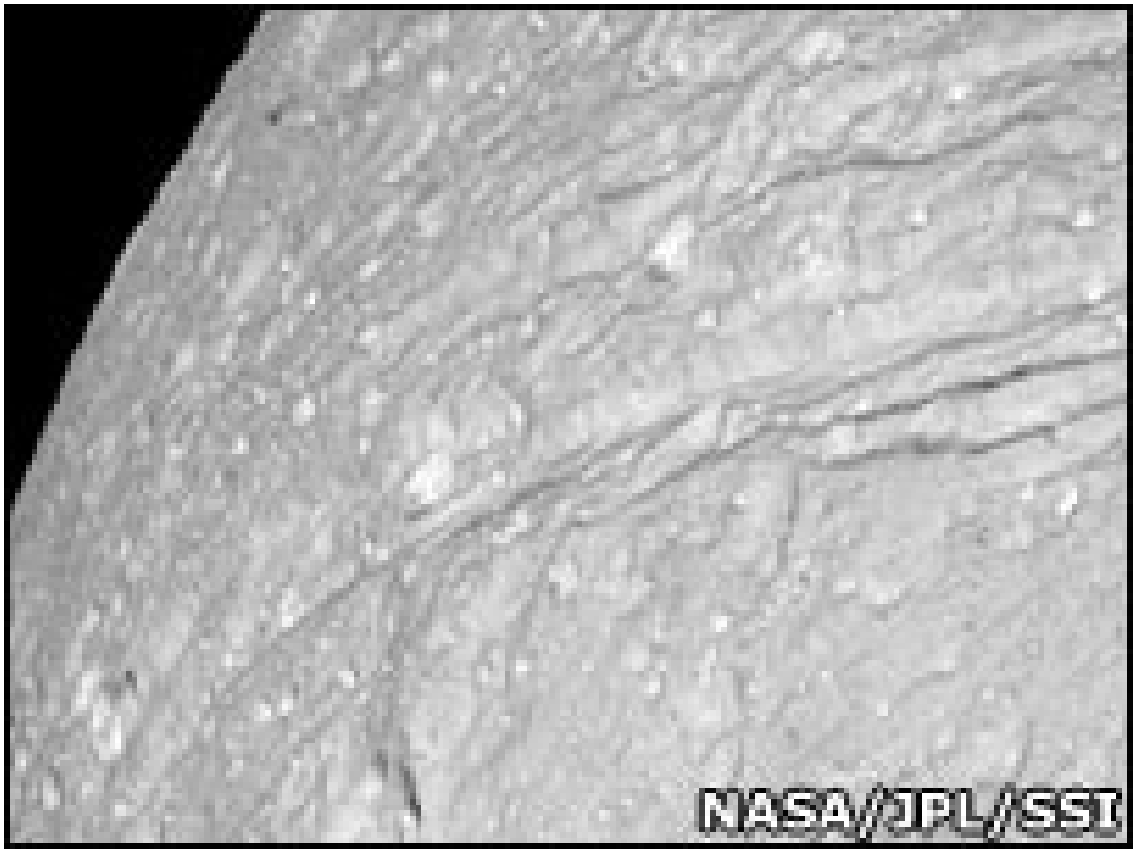
But for many of the performers at South by Southwest, the ambitions are on a smaller scale: just to be heard. Casey Dienel is the 23-year-old songwriter, pianist and wispy-voiced singer of White Hinterland; her gentle melodies carry tales of visionary transformations. She said she was at the festival just hoping that "if you put yourself out there authentically, you're going to attract people who think like you." Looking at her rapt audience of perhaps three dozen people, she smiled shyly. "There are so many of you!" she said.

http://www.nytimes.com/2008/03/15/arts/music/15aust.html?_r=1&th&emc=th&oref=slogin

Saturn moon 'once had ocean'

By Paul Rincon
Science reporter, BBC News, Houston

One of Saturn's moons may once have harboured a liquid ocean beneath its icy surface, scientists have told a major conference in Houston, Texas.



Tethys is a mid-sized satellite with a density close to that of pure ice.

But a large valley system visible today must have formed when the crust was being heated and under great strain.

The team thinks that tidal heating, followed by cooling which froze Tethys' ocean, could have formed the giant Ithaca Chasma rift.

Details were presented here at the 39th Lunar and Planetary Science Conference.

Moon mix

Calculations by Erinna Chen and Francis Nimmo, from the University of California, Santa Cruz, show that tidal interactions were the only viable way of providing the amount of heat associated with the formation of Ithaca Chasma.

They propose that Tethys' orbit around Saturn was once perturbed by gravitational interactions with another moon - Dione - which made Tethys' orbit more "eccentric".

The resulting tidal forces caused frictional heating of Tethys' interior.

But at some point, the orbital interaction between Tethys and Dione was broken, and Tethys fell back into a less eccentric orbit. As it did so, it began to cool.

Freezing of a liquid ocean would have generated sufficient stresses in the crust to form Ithaca Chasma, the researchers said.

Ocean list

"We have a large rift system that brought water to the surface, so it seems likely that this happened," Ms Chen explained.

She told the BBC that there was no way of knowing exactly how deep the ocean was, but speculated that it could have been 100km deep at some point in Tethys' past.

Tethys joins a club of icy Solar System bodies thought either to have a subsurface ocean today, or to have had one in the distant past.

They include Jupiter's moons Europa and - potentially - Callisto.

Some researchers also think Saturn's moon Enceladus could harbour liquid water beneath the surface, although this idea has been called into question recently.

Paul.Rincon-INTERNET@bbc.co.uk

Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/1/hi/sci/tech/7297408.stm

Published: 2008/03/14 17:48:39 GMT

Yahoo makes semantic search shift
Yahoo has announced its adoption of some of the key standards of the "semantic web".

The technology is widely seen as the next step for the world wide web and it involves a much richer understanding of the masses of data placed online.

The company said it would start to include some semantic web identifiers when indexing the web for Yahoo search.

The move could mean a big boost for semantic web technologies which have struggled to win a big audience.

Better results

At the moment most search engines, particularly Google, identify relevance for a particular topic using the interconnections between sites as much as they do the text on any single page.

The semantic web promises to change this because it helps to capture the meaning of data on a page and so give machines classifying or searching the web the capability to work out its relevance to a particular topic.

In an entry on Yahoo's blog, Amit Kumar, director of product management for the company's search site, said it was now starting to back key semantic web standards.

Mr Kumar said despite "remarkable progress" being made on how to classify meaning on webpages, the benefits of this work have not been felt by the average web user.

What was lacking, he added, was a compelling reason or "killer app" to use the semantic web technology.

"We believe that app can be web search," he wrote.

Professor Stefan Decker, a director of the Digital Enterprise Research Institute at the National University of Ireland and a member of the scientific council of the Web Science Research Initiative, said Yahoo had recognised that the semantic web was catching on.

Like the early days of the web, he said, many people were now tagging data with the labels and identifiers demanded by semantic web technology.

These tags are similar in concept to the familiar HTML labels that help format text and other data on webpages.

Yahoo had realised that there was now enough to index to back up their search engine.

In a similar vein by starting to include the tags and descriptors defined by semantic web standards into its search index, web users suddenly have better reasons to use them.

Dr Decker said the advent of the semantic web promised to make a search much more productive.

Instead of returning a long list of links, a semantic web search engine would be able to understand what type of object, such as a person, was being sought and aggregate information around that

Dr Decker said the promise of the semantic web had spurred visionaries such as Vannevar Bush, Doug Engelbart and Tim Berners-Lee.

Only now, he said, was the technology being put in place to fulfil that vision.

Before now, proposing such as thing was like "trying to build a jet plane when the world only had the technology for bicycles."

"It'll mean a quantum leap in productivity and effectiveness," he said.

Professor Wendy Hall from the School of Electronics and Computer Science at the University of Southampton and a director of the Web Research Science Initiative, said, "With the semantic web we're at the place the web was in 1992."

She added that the move to the semantic web could pose challenges for established companies such as Google which have grown on the back of indexing documents rather than objects.

Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/2/hi/technology/7296056.stm

Published: 2008/03/14 15:01:35 GMT

'Big brother' schooling predicted

By Gary Eason
BBC News, at the ATL conference in Torquay

Education in England could soon become "Orwellian" under a regime of targets, testing, tables, inspections and observation, teachers' leaders warn.

Julia Neal, president of the Association of Teachers and Lecturers, said this was the likely outcome of over-measured, over-monitored schools.

The focus is on tests and targets, not personalised learning, she told her union's annual conference in Torquay.

Ms Neal imagined a sinister future with CCTV surveillance in every classroom.

'Big brother'

Ms Neal - a history teacher in Torquay Grammar School for Girls - imagines the world in 2013, when children are tested on a rolling basis and take regular mock tests to make sure they are ready for the real ones.

"Failure to demonstrate a year-on-year improvement in pass rates would be just too embarrassing," she says.

The new Ministry of Trust puts so much faith in teachers' professional assessments of their pupils it deploys inspectors to visit schools, "just to help out".

"Luckily for the inspectors, CCTV is now obligatory in schools so they can watch teachers in action at any time, without prior notice.

"After all, inspectors are there to offer support, just like a family member, perhaps - just like a big brother."

Observations

In this vision, league tables fluctuate weekly, parents wait for the transfer window to open so they can apply for a place at the premiership schools.

"What I fear is that children would continue to feel disengaged and alienated, they would behave badly, and their truancy rates would continue to rise," Ms Neal says.

Her alternative vision - in which the government has listened to her union's policies - is one in which GCSEs and A-levels have been replaced by a comprehensive diploma.

Assessment is carried out mostly by teachers and there are no league tables.

Curriculum flexibility gives teachers the freedom to innovate and schools are "buzzing" with new ways to organise learning, with a new emphasis on "a range of skills rather than a narrow range of knowledge".

Talking to reporters, Ms Neal and fellow leaders of the union conceded they did not know of any widespread use of surveillance cameras or two-way mirrors in classrooms, though they said monitoring was more common in newly-built schools and academies.

'Mis-trusted'

They said teachers did not object to being observed teaching a class.

But they wanted to have a professional dialogue about the process with a suitably qualified colleague - not "a malevolent observer" who might pick out one or two classroom interactions and draw a conclusion just from those.

Excessive monitoring stifled creativity and the enjoyment of teaching and learning, Ms Neal said.

The union's deputy general secretary, Martin Johnson, said: "I think it's a sad, sad reflection on the profession at the moment that a lot of our members are quite suspicious of a lot of things."

They mistrusted the motives of their managers and of the government.

"As to how much that's appropriate, that's another question, but that's how they feel."

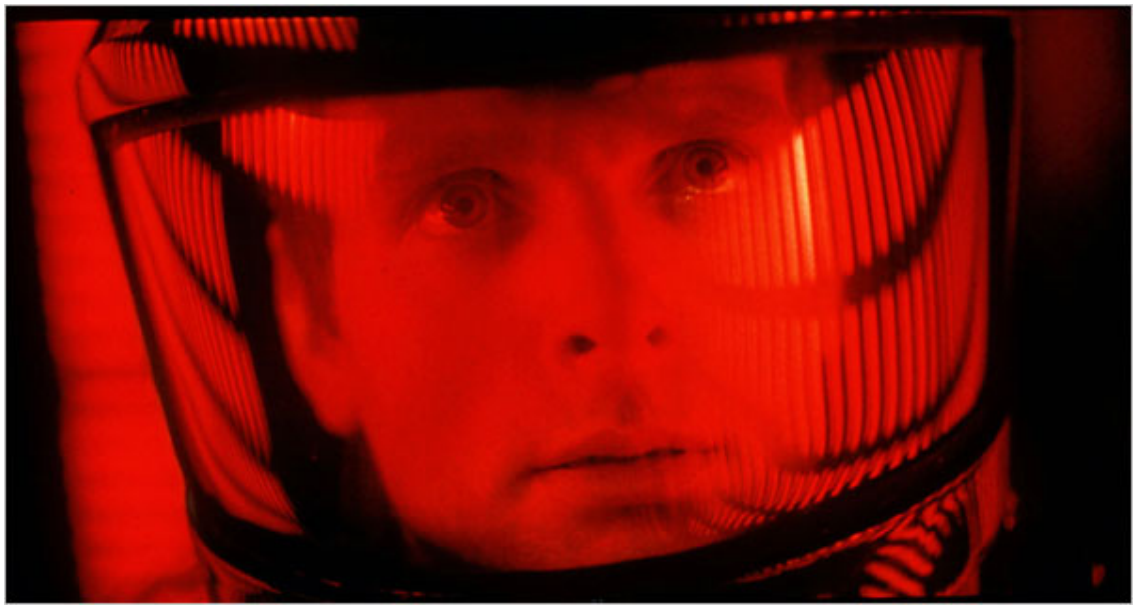
The Department for Children, Schools and Families declined to comment on the union president's speech.

Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/2/hi/uk_news/education/7301669.stm

Published: 2008/03/18 01:04:30 GMT

For Clarke, Issues of Faith, but Tackled Scientifically

By EDWARD ROTHSTEIN



"Absolutely no religious rites of any kind, relating to any religious faith, should be associated with my funeral" were the instructions left by Arthur C. Clarke, who died on Wednesday at the age of 90. This may not have surprised anyone who knew that this science-fiction writer, fabulist, fantasist and deep-sea diver had long seen religion as a symptom of humanity's "infancy," something to be outgrown and overcome.

But his fervor is still jarring because when it comes to the scriptural texts of modern science fiction, and the astonishing generation of prophetic innovators who were his contemporaries — Isaac Asimov, Robert A. Heinlein and Ray Bradbury — Mr. Clarke's writings were the most biblical, the most prepared to amplify reason with mystical conviction, the most religious in the largest sense of religion: speculating about beginnings and endings, and how we get from one to the other.

Stanley Kubrick's film of Mr. Clarke's "2001: A Space Odyssey" for example — a project developed with the author — is haunting not for its sci-fi imaginings of artificial intelligence and space-station engineering but for its evocation of humanity's origins and its vision of a transcendent future embodied in a human fetus poised in space.

Even the titles of some of Mr. Clarke's stories invoke scriptural language. "If I Forget Thee, Oh Earth ..." tells of a boy on a lunar colony who is taken out by his father to see their mother planet rendered uninhabitable by nuclear war, an experience that inspires a dream of future return to be passed from generation to generation. In "The Nine Billion Names of God" monks of a Tibetan-like retreat believe that the very purpose of humanity is to write down the nine billion permutations of letters that spell God's secret name, a project assisted by representatives of an I.B.M.-style company who indulgently supply the equipment so the project can come to its long-awaited close. As the computer experts fly home, "overhead, without any fuss, the stars were going out."

Religious symbolism is not always beneficent of course. In what may be Mr. Clarke's most suggestive and disturbing novel, "Childhood's End," an alien race of Overlords, with apparent generosity, establish a utopia on Earth, eliminating human warfare and ushering in an era of plenty. But it is no accident that when the Overlords are finally described they have the appearance of Satanic creatures, complete with "the leathery wings, the little horns, the barbed tail."

Whatever attitude comes through — and it is almost always fraught with ambiguity — religion suffuses Mr. Clarke's realm. He demands the canvas of Genesis and upon it he enacts experiments in thought. All science fiction does this to a certain extent, trying to imagine alternative universes in which one factor or another is slightly different. What if carbon were not the fundamental element in life forms? What if a society existed that never experienced nighttime?

Mr. Clarke's enterprise, though, is at the edges of the frame: trying to examine the moments when things come to be and when they come to an end. In the short story "Rescue Party" aliens come to save Earth from an imminent solar explosion. They find that humans, a primitive species that had known how to use radio signals for barely 200 years, had already saved themselves, launching a fleet of ships into the stars, knowing their journey would take hundreds of years.

The rescuers are shocked by humanity's daring and determination. "This is the youngest civilization in the Universe," one notes. "Four hundred thousand years ago it did not even exist. What will it be a million years from now?" The story foretells the dominance of this species even though it is outnumbered by the creatures of the heavens — a dominance that, as Mr. Clarke makes sure we feel, will not always be welcome.

Such apocalypse is the bread and butter of science fiction, but sometimes with Mr. Clarke it is also the communion, the sharing of a moment of transcendence in which some destiny is fulfilled, some possibility opened up. Hence the fetus of "2001." That transformation may also not be something to be desired by current standards. The prospects are just too alien, like the ineffable Overmind in "Childhood's End" that propels humanity to a new evolutionary stage, inspiring as much horror as awe.

This side of Mr. Clarke's work may be the most eerie, particularly because his mystical speculations accompany an uncanny ability to envision worlds that are eminently plausible. It is Mr. Clarke who first conceived of the communication satellites that orbit directly over a single spot on Earth and allow the planet to be blanketed in a network of signals. There are many other examples as well.

But acts of reason and scientific speculation are just the beginning of his imaginings. Reason alone is insufficient. Something else is required. For anyone who read Mr. Clarke in the 1960s and '70s, when space exploration and scientific research had an extraordinary sheen, his science fiction made that enterprise even more thrilling by taking the longest and broadest view, in which the achievements of a few decades fit into a vision of epic proportions reaching millenniums into the future. It is no wonder that two generations of scientists were affected by his work.

For all his acclaimed forecasting ability, though, it is unclear whether Mr. Clarke knew precisely what he saw in that future. There is something cold in his vision, particularly when he imagines the evolutionary transformation of humanity. He leaves behind all the things that we recognize and know, and he doesn't provide much guidance for how to live within the world we recognize and know. In that sense his work has little to do with religion.

But overall religion is unavoidable. Mr. Clarke famously — and accurately — said that "any sufficiently advanced technology is indistinguishable from magic."

Perhaps any sufficiently sophisticated science fiction, at least in his case, is nearly indistinguishable from religion.

http://www.nytimes.com/2008/03/20/books/20clar.html?ref=books