Infoteca's E-Journal

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

CONTENTS

Arts study a culture shock	3
Ballet-dancing pensioner makes stage debut at 88	5
"You Don't Understand Our Audience"	6
Creation 2.0	15
Tiny changes created STI strain	18
Intel predicts the personal net	20
Yahoo chief opens the mobile web	22
Healthy living 'can add 14 years'	24
Huge gas cloud will hit Milky Way	26
Big mammals key to tree-ant team	28
Rapid spin for giant black holes	30
Gene therapy implants for tendons	32
Bad cholesterol genes discovered	34
Concern over rare duck's decline	35
New nuclear plants get go-ahead	36
Everest hero Edmund Hillary dies	39
Statins for all diabetics urged	42
Chewing gum weight loss warning	44
MSPs welcome under-18 sunbed ban	46
Fix will give Hubble major boost	47
Climate change contest launched	50
Copying CDs could be made legal	52
Life Expectancy Of Yeast Extended To 800 In Yeast Years, No Apparent Side Effects	54
Earth: A Borderline Planet For Life?	57
Beating Heart Created In Laboratory: Method May Revolutionize How Organ Tissues Are Developed	59
Increasing Amounts Of Ice Mass Have Been Lost From West Antarctica	61
Milky Way Has Mysterious Lopsided Cloud Of Antimatter: Clue To Origin Of Antimatter	63
Culture Influences Brain Function, Study Shows	65
Life's Ingredients Detected In Far Off Galaxy	67
Crash Warning System Monitors Nearby Traffic And Warns Of Possible Collisions	69
Massive Gas Cloud Speeding Toward Collision With Milky Way	71
Hubble Finds Double Einstein Ring	73
Human Embryonic Stem Cell Lines Created Without The Destruction Of Embryos	75

New Way To Block Destructive Rush Of Immune Cells Found 77
Forces Out Of Nothing: Nano-scale Mechanical Switches Or Sensors Now Possible 79
High Blood Pressure In Older Adults Traced To Gene's Effects In Blood Vessels 82
Radio Telescopes' Sharp Vision Yields Rich Payoffs 84
Almost Half Of People Claiming Head Injuries Fake It For Financial Reasons, Study Suggests 86
Two Steps Closer To Understanding Genetic Underpinnings Of Autism 87
Previous Findings Regarding Widely Used Asthma Treatment Challenged 89
Aroma Of Chocolate Chip Cookies Prompts Splurging On Expensive Sweaters 90
New York City Death Rate Reaches Historic Low 92
Heart Tests Offer New Options For Diagnosis 94
Stem Cells Make Bone Marrow Cancer Resistant To Treatment 95
Can Your Brain Control Your Blood Pressure? 97
Young Adults More Likely To Quit Smoking Successfully 98
Breakthrough In Lowering Bad Cholesterol, Fatty Acid Levels Reported 100
Saliva Test To Detect Breast Cancer Could Be Done By Dentist, Study Suggests 101
Doctors Underestimate The Power Of Screening For Problem Drinking, Study Shows 103
Cranberries Help Combat Urinary Tract Infections In Women, Researcher Finds 105
Older Arctic Sea Ice Replaced By Young, Thin Ice 107
Biofuel: Major Net Energy Gain From Switchgrass-based Ethanol 109
View Of New Hydrogen Clouds In The M81 Group Of Galaxies 112
Third of adults 'always dieting' 114
What Awaits the Met 116
School reports going electronic 118
Waterfalls as Art To Be Installed in East River 120
TV threat to children's reading 121
What the New Museum Needs Is A New Museum 123
Flesh wound reveals dino secrets 125
Scholars blow the canon apart 127
Art at Sculpture Park is a touchy subject 130
Censored at the airport 139
Those still are the days 142

Arts study a culture shock
Oxford University reports idea of upper class forming cultural elite no longer valid
January 05, 2008
PETER GODDARD

Forget class versus trash, the elite versus the masses.

Divide culture consumers into four new groups, says an international study Oxford University researchers released late last month that will have far-reaching results for arts support everywhere.

"Univores," "Omnivores," "Paucivores" and "Inactives" are the new categories we can all find ourselves in. Which one depends on whether we believe Britney is a huge tabloid star or an area in northwestern France where Impressionist painters spent their summers.

But no matter what group is discussed, the visual arts do not figure very high on anyone's to-do list.

"In our report, we found that participation in the (higher) levels of all the arts is really quite low," John Goldthorpe tells me on the phone from England.

"When it comes to the visual arts, you find there's a sizeable part of the adult population that doesn't participate at all."

"Univores," the largest of the four groups, consume great quantities of pop culture – TV, pop music and Hollywood flicks – and little else. "But there are no truly popular forms in the visual arts that have as wide a media exposure as does pop music," says Goldthorpe. Tak Wing Chan was his colleague in the study for the Economic and Social Research Council in England.

"Omnivores," the next biggest group, includes people who go to the ballet, symphony or opera on occasion while still buying lots of pop culture.

For purposes of the study, cultural consumption was split into three basic categories: theatre, dance and the movies; music of all sorts; and the visual arts.

Only "Paucivores," a decidedly small group, may be found at a blockbuster museum opening. But that's about the extent of it. Paucivores don't care much for contemporary art.

The "Inactives," are the Goldthorpe-Chan version of couch potatoes, hunkered down in front of the television day and night. They're found in every culture. Along with the U.K., data was assembled in France, the Netherlands, Hungary, Israel, Chile and the United States and analyzed by 13 researchers.

In England, the report has caused something of a stir because it blew holes in the idea of an upper class forming a cultural elite.

"We are unable to identify any numerically significant group of cultural consumers whose consumption is essentially confined to high cultural forms and who reject, or at least do not participate in, more popular forms," says the report.

Status counts, not class. And status is defined by income not by culture.

In short, the very idea of "pop culture" is a misnomer.

There is no pop culture. Pop is culture.

"Status is now attached to material consumption, not cultural consumption," Goldthorpe tells me. "People with status show who they are though expensive cars and houses rather than by going to museums and the like."

Indeed, the report itself hammers home the blunt truth that "income has no effect on determining" the kind of culture being consumed. The bottom line? People who could help symphonies survive or back the arts don't want to.

They are "self-excluded," says the report, "rather than socially excluded."

Better education does little to change this bleak picture. "There is a sizeable number of people in this group who don't participate" in the elite arts, Goldthorpe says

Why?

"The short answer is, I don't know," says Goldthorpe.

Unfortunately, the Chan-Goldthorpe report will play into the hands of reactionary politicians who question whether the arts should be funded at all, since no one gives a hoot about them.

Already the Labour government in Britain is showing signs of cutting back its cultural support as a way of funneling money to "the demands of the Olympic Games," Goldthorpe says.

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http://www.thestar.com/entertainment/article/290794

Ballet-dancing pensioner makes stage debut at 88

By Mark Bulstrode

Published: 12 January 2008

An 88-year-old man will star in his first ballet production this weekend after started going to dancing lessons at the age of 79.

John Lowe, a former teacher, has been perfecting his pirouettes and *pliés* in preparation for his role as the woodcarver in Prokofiev's The Stone Flower.

The pensioner, who has 11 grandchildren, said: "I practise every day and I've got a rope that I use to pull my leg up higher.

"I'm lucky that I don't have any problem with the routines but that's because I exercise."

Mr Lowe started ballet nine years ago, after watching his daughter Alison become a professional dancer.

"My daughter was a wonderful dancer and was once asked to join the Stuttgart Ballet Company," he said. "So I was fascinated by by it. Dancing, painting, sculpture is all the same thing really. It's about an awareness of colour and shape."

Mr Lowe, of Witchford, Cambridgeshire, practises at home and at the Chequer Studio in Ely. "I think it's a wonderful thing to do and don't understand why more men don't do it," he said.

"There's nothing effeminate about it – you have to be incredibly fit to dance. I see these people crawling around, hunched over smoking a cigarette – they should be doing ballet.

"It's a wonderful feeling. I had always wanted to dance and it proves it's never too late to learn."

He will be appearing with the Lantern Dance Theatre Company at The Maltings in Ely tomorrow.

Helen Pettit, artistic director with the company, said: "John did the first steps well, but I didn't expect him to improve so dramatically, particularly in areas such as flexibility."

http://arts.independent.co.uk/theatre/news/article3331285.ece

"You Don't Understand Our Audience"
What I learned about network television at Dateline NBC.
By John Hockenberry

The most memorable reporting I've encountered on the conflict in Iraq was delivered in the form of confetti exploding out of a cardboard tube. I had just begun working at the MIT Media Lab in March 2006 when Alyssa Wright, a lab student, got me to participate in a project called "Cherry Blossoms." I strapped on a backpack with a pair of vertical tubes sticking out of the top; they were connected to a detonation device linked to a Global Positioning System receiver. A microprocessor in the backpack contained a program that mapped the coördinates of the city of Baghdad onto those for the city of Cambridge; it also held a database of the locations of all the civilian deaths of 2005. If I went into a part of Cambridge that corresponded to a place in Iraq where civilians had died in a bombing, the detonator was triggered.

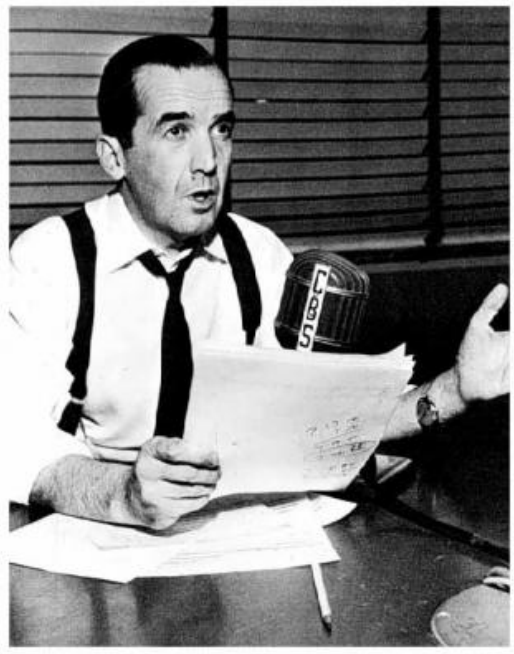
When the backpack exploded on a clear, crisp afternoon at the Media Lab, handfuls of confetti shot out of the cardboard tubes into the air, then fell slowly to earth. On each streamer of paper was written the name of an Iraqi civilian casualty. I had reported on the war (although not from Baghdad) since 2003 and was aware of persistent controversy over the numbers of Iraqi civilian dead as reported by the U.S. government and by other sources. But it wasn't until the moment of this fake explosion that the scale and horrible suddenness of the slaughter in Baghdad became vivid and tangible to me. Alyssa described her project as an upgrade to traditional journalism. "The upgrade is empathy," she said, with the severe humility that comes when you suspect you are on to something but are still uncertain you aren't being ridiculous in some way. The falling confetti transported me back three years to the early days of the war in Iraq, when the bombs intended to evoke "shock and awe" were descending on Baghdad. Most of the Western press had evacuated, but a small contingent remained to report on the crumbling Iraqi regime. In the New York offices of NBC News, one of my video stories was being screened. If it made it through the screening, it would be available for broadcast later that evening. Producer Geoff Stephens and I had done a phone interview with a reporter in Baghdad who was experiencing the bombing firsthand. We also had a series of still photos of life in the city. The only communication with Baghdad in those early days was by satellite phone. Still pictures were sent back over the few operating data links.

Our story arranged pictures of people coping with the bombing into a slide show, accompanied by the voice of Melinda Liu, a *Newsweek* reporter describing, over the phone, the harrowing experience of remaining in Baghdad. The outcome of the invasion was still in doubt. There was fear in the reporter's voice and on the faces of the people in the pictures. The four-minute piece was meant to be the kind of package that would run at the end of an hour of war coverage. Such montages were often used as "enders," to break up the segments of anchors talking live to field reporters at the White House or the Pentagon, or retired generals who were paid to stand on in-studio maps and provide analysis of what was happening. It was also understood that without commercials there would need to be taped pieces on standby in case an anchor needed to use the bathroom. Four minutes was just about right. At the conclusion of the screening, there were a few suggestions for tightening here and clarification there. Finally, an NBC/GE executive responsible for "standards" shook his head and wondered about the tone in the reporter's voice. "Doesn't it seem like she has a point of view here?" he asked.

There was silence in the screening room. It made me want to twitch, until I spoke up. I was on to something but uncertain I wasn't about to be handed my own head. "Point of view? What exactly do

you mean by *point of view*?" I asked. "That war is bad? Is that the *point of view* that you are detecting here?"

The story never aired. Maybe it was overtaken by breaking news, or maybe some pundit-general went long, or maybe an anchor was able to control his or her bladder. On the other hand, perhaps it was never aired because it contradicted the story NBC was telling. At NBC that night, war was, in fact, not bad. My remark actually seemed to have made the point for the "standards" person. Empathy for the civilians did not fit into the narrative of shock and awe. The lesson stayed with me, exploding in memory along with the confetti of Alyssa Wright's "Cherry Blossoms." Alyssa was right. Empathy was the upgrade. But in the early days of the war, NBC wasn't looking for any upgrades.



"This is London"

When Edward R. Murrow calmly said those words into a broadcast microphone during the London Blitz at the beginning of World War II, he generated an analog signal that was amplified, sent through a transatlantic cable, and relayed to transmitters that delivered his voice into millions of homes. Broadcast technology itself delivered a world-changing cultural message to a nation well convinced by George Washington's injunction to resist foreign "entanglements." Hearing Murrow's voice made Americans understand that Europe was close by, and so were its wars. Two years later, the United States entered World War II, and for a generation, broadcast technology would take Americans ever deeper into the battlefield, and even onto the surface of the moon. Communication technologies transformed America's view of itself, its politics, and its culture. One might have thought that the television industry, with its history of rapid adaptation to technological change, would have become a center of innovation for the next radical transformation in communication. It did not. Nor did the ability to transmit pictures, voices, and stories from around the world to living rooms in the U.S. heartland produce a nation that is more sophisticated about global affairs. Instead, the United States is arguably more isolated and less educated about the world than it was a half-century ago. In a time of such broad technological change, how can this possibly be the case?

In the spring of 2005, after working in television news for 12 years, I was jettisoned from NBC News in one of the company's downsizings. The work that I and others at *Dateline NBC* had done--to explore how the Internet might create new opportunities for storytelling, new audiences, and exciting new mechanisms for the creation of journalism--had come to naught. After years of timid experiments, NBC News tacitly declared that it wasn't interested. The culmination of *Dateline*'s Internet journalism strategy was the highly rated pile of programming debris called *To Catch a Predator*. The *TCAP* formula is to post offers of sex with minors on the Internet and see whether anybody responds. *Dateline*'s notion of New Media was the technological equivalent of etching "For a good time call Sally" on a men's room stall and waiting with cameras to see if anybody copied down the number. Networks are built on the assumption that audience size is what matters most. Content is secondary; it exists to attract passive viewers who will sit still for advertisements. For a while, that assumption served the industry well. But the TV news business has been blind to the revolution that made the viewer blink: the digital organization of communities that are anything but passive. Traditional market-driven media always attempt to treat devices, audiences, and content as bulk commodities, while users instead view all three as ways of creating and maintaining smaller-scale communities. As users acquire the means of producing and distributing content, the authority and profit potential of large traditional networks are directly challenged.

In the years since my departure from network television, I have acquired a certain detachment about how an institution so central to American culture could shift so quickly to the margins. Going from being a correspondent at *Dateline*--a rich source of material for *The Daily Show*--to working at the MIT Media Lab, where most students have no interest in or even knowledge of traditional networks, was a shock. It has given me some hard-won wisdom about the future of journalism, but it is still a mystery to me why television news remains so dissatisfying, so superficial, and so irrelevant. Disappointed veterans like Walter Cronkite and Dan Rather blame the moral failure of ratings-obsessed executives, but it's not that simple. I can say with confidence that Murrow would be outraged not so much by the networks' greed (Murrow was one of the first news personalities to hire a talent agent) as by the missed opportunity to use technology to help create a nation of engaged citizens bent on preserving their freedom and their connections to the broader world.

I knew it was pretty much over for television news when I discovered in 2003 that the heads of NBC's news division and entertainment division, the president of the network, and the chairman all owned TiVos, which enabled them to zap past the commercials that paid their salaries. "It's such a great gadget. It changed my life," one of them said at a corporate affair in the *Saturday Night Live* studio. It was neither the first nor the last time that a television executive mistook a fundamental technological change for a new gadget.

Setting the Table for *Law and Order*

On the first Sunday after the attacks of September 11, pictures of the eventual head of NBC littered the streets and stuffed the garbage cans of New York City; Jeff Zucker was profiled that week in the *New York Times Magazine*. The piles of newspapers from the weekend were everywhere at 30 Rockefeller Center. Normally, employee talk would have been about how well or badly Zucker had made out in the *Times*. But the breezy profile was plainly irrelevant that week.

The next morning I was in the office of David Corvo, the newly installed executive producer of *Dateline*, when Zucker entered to announce that the network was going to resume the prime-time schedule for the first time since the attacks. The long stretch of commercial-free programming was expensive, and Zucker was certain about one thing: "We can't sell ads around pictures of Ground Zero." At the same time, he proceeded to explain that the restoration of the prime-time shows *Friends*, *Will and Grace*, and *Frasier* was a part of America's return to normalcy, not a cash-flow decision. He instructed Corvo that a series of news specials would be scattered through the next few days, but as it was impossible to sell ads for them, scheduling would be a "day to day" proposition.

Normally I spent little time near NBC executives, but here I was at the center of power, and I felt slightly flushed at how much I coveted the sudden proximity. Something about Zucker's physical presence and bluster made him seem like a toy action figure from *The Simpsons* or *The Sopranos*. I imagined that he could go back to his office and pull mysterious levers that opened the floodgates to pent-up advertisements and beam them to millions of households. Realistically, though, here was a

man who had benefited from the timing of September 11 and also had the power to make it go away. In a cheap sort of way it was delirious to be in his presence.

At the moment Zucker blew in and interrupted, I had been in Corvo's office to propose a series of stories about al-Qaeda, which was just emerging as a suspect in the attacks. While well known in security circles and among journalists who tried to cover international Islamist movements, al-Qaeda as a terrorist organization and a story line was still obscure in the early days after September 11. It had occurred to me and a number of other journalists that a core mission of NBC News would now be to explain, even belatedly, the origins and significance of these organizations. But Zucker insisted that *Dateline* stay focused on the firefighters. The story of firefighters trapped in the crumbling towers, Zucker said, was the emotional center of this whole event. Corvo enthusiastically agreed. "Maybe," said Zucker, "we ought to do a series of specials on firehouses where we just ride along with our cameras. Like the show *Cops*, only with firefighters." He told Corvo he could make room in the prime-time lineup for firefighters, but then smiled at me and said, in effect, that he had no time for any subtitled interviews with jihadists raging about Palestine.

With that, Zucker rushed back to his own office, many floors above *Dateline*'s humble altitude. My meeting with Corvo was basically over. He did ask me what I thought about Zucker's idea for a reality show about firefighters. I told him that we would have to figure a way around the fact that most of the time very little actually happens in firehouses. He nodded and muttered something about seeking a lot of "back stories" to maintain an emotional narrative. A few weeks later, a half-dozen producers were assigned to find firehouses and produce long-form documentaries about America's rediscovered heroes. Perhaps two of these programs ever aired; the whole project was shelved very soon after it started. Producers discovered that unlike September 11, most days featured no massive terrorist attacks that sent thousands of firefighters to their trucks and hundreds to tragic, heroic deaths. On most days nothing happened in firehouses whatsoever.

This was one in a series of lessons I learned about how television news had lost its most basic journalistic instincts in its search for the audience-driven sweet spot, the "emotional center" of the American people. Gone was the mission of using technology to veer out onto the edge of American understanding in order to introduce something fundamentally new into the national debate. The informational edge was perilous, it was unpredictable, and it required the news audience to be willing to learn something it did not already know. Stories from the edge were not typically reassuring about the future. In this sense they were like actual news, unpredictable flashes from the unknown. On the other hand, the coveted emotional center was reliable, it was predictable, and its story lines could be duplicated over and over. It reassured the audience by telling it what it already knew rather than challenging it to learn. This explains why TV news voices all use similar cadences, why all anchors seem to sound alike, why reporters in the field all use the identical tone of urgency no matter whether the story is about the devastating aftermath of an earthquake or someone's lost kitty.

It also explains why TV news seems so archaic next to the advertising and entertainment content on the same networks. Among the greatest frustrations of working in TV news over the past decade was to see that while advertisers and entertainment producers were permitted to do wildly risky things in pursuit of audiences, news producers rarely ventured out of a safety zone of crime, celebrity, and character-driven tragedy yarns.

Advertisers were aggressive in their use of new technologies long before network news divisions went anywhere near them. This is exactly the opposite of the trend in the 1960s and '70s, when the news divisions were first adopters of breakthroughs in live satellite and video technology. But in the 1990s,

advertisers were quick to use the Internet to seek information about consumers, exploiting the potential of communities that formed around products and brands. Throughout the time I was at the network, GE ads were all over NBC programs like *Meet the Press* and CNBC's business shows, but they seemed never to appear on *Dateline*. (They also had far higher production values than the news programs and even some entertainment shows.) Pearl Jam, Nirvana, and N.W.A were already major cultural icons; grunge and hip-hop were the soundtrack for commercials at the moment networks were passing on stories about Kurt Cobain's suicide and Tupac Shakur's murder.

Meanwhile, on *60 Minutes*, Andy Rooney famously declared his own irrelevance by being disgusted that a spoiled Cobain could find so little to love about being a rock star that he would kill himself. Humor in commercials was hip--subtle, even, in its use of obscure pop-cultural references--but if there were any jokes at all in news stories, they were telegraphed, blunt visual gags, usually involving weathermen. That disjunction remains: at the precise moment that Apple cast John Hodgman and Justin Long as dead-on avatars of the PC and the Mac, news anchors on networks that ran those ads were introducing people to multibillion-dollar phenomena like MySpace and Facebook with the cringingly naïve attitude of "What will those nerds think of next?"

Entertainment programs often took on issues that would never fly on *Dateline*. On a Thursday night, *ER* could do a story line on the medically uninsured, but a night later, such a "downer policy story" was a much harder sell. In the time I was at NBC, you were more likely to hear federal agriculture policy discussed on *The West Wing*, or even on Jon Stewart, than you were to see it reported in any depth on *Dateline*.

Sometimes entertainment actually drove selection of news stories. Since *Dateline* was the lead-in to the hit series *Law & Order* on Friday nights, it was understood that on Fridays we did crime. Sunday was a little looser but still a hard sell for news that wasn't obvious or close to the all-important emotional center. In 2003, I was told that a story on the emergence from prison of a former member of the Weather Underground, whose son had graduated from Yale University and won a Rhodes Scholarship, would not fly unless it dovetailed with a story line on a then-struggling, soon-to-be-cancelled, and now-forgotten Sunday-night drama called *American Dreams*, which was set in the 1960s. I was told that the Weather Underground story might be viable if *American Dreams* did an episode on "protesters or something." At the time, *Dateline*'s priority was another series of specials about the late Princess Diana. This blockbuster was going to blow the lid off the Diana affair and deliver the shocking revelation that the poor princess was in fact even more miserable being married to Prince Charles than we all suspected. Diana's emotional center was coveted in prime time even though its relevance to anything going on in 2003 was surely out on some voyeuristic fringe.

To get airtime, not only did serious news have to audition against the travails of Diana or a new book by Dr. Phil, but it also had to satisfy bizarre conditions. In 2003, one of our producers obtained from a trial lawyer in Connecticut video footage of guards subduing a mentally ill prisoner. Guards themselves took the footage as part of a safety program to ensure that deadly force was avoided and abuses were documented for official review. We saw guards haul the prisoner down a greenish corridor, then heard hysterical screaming as the guard shooting the video dispassionately announced, "The prisoner is resisting." For 90 seconds several guards pressed the inmate into a bunk. All that could be seen of him was his feet. By the end of the video the inmate was motionless. Asphyxiation would be the official cause of death.

This kind of gruesome video was rare. We also had footage of raw and moving interviews with this and another victim's relatives. The story had the added relevance that one of the state prison officials had been hired as a consultant to the prison authority in Iraq as the Abu Ghraib debacle was unfolding. There didn't seem to be much doubt about either the newsworthiness or the topicality of the story. Yet at the conclusion of the screening, the senior producer shook his head as though the story had missed the mark widely. "These inmates aren't necessarily sympathetic to our audience," he said. The fact that they had been diagnosed with schizophrenia was unimportant. Worse, he said that as he watched the video of the dying inmate, it didn't seem as if anything was wrong.

"Except that the inmate died," I offered.

"But that's not what it looks like. All you can see is his feet."

"With all those guards on top of him."

"Sure, but he just looks like he's being restrained."

"But," I pleaded, "the man died. That's just a fact. The prison guards shot this footage, and I don't think their idea was to get it on *Dateline*."

"Look," the producer said sharply, "in an era when most of our audience has seen the Rodney King video, where you can clearly see someone being beaten, this just doesn't hold up."

"Rodney King wasn't a prisoner," I appealed. "He didn't die, and this mentally ill inmate is not auditioning to be the next Rodney King. These are the actual pictures of his death."

"You don't understand our audience."

"I'm not trying to understand our audience," I said. I was getting pretty heated at this point--always a bad idea. "I'm doing a story on the abuse of mentally ill inmates in Connecticut."

"You don't get it," he said, shaking his head.

The story aired many months later, at less than its original length, between stories that apparently reflected a better understanding of the audience. During my time at *Dateline*, I did plenty of stories that led the broadcast and many full hours that were heavily promoted on the network. But few if any of my stories were more tragic, or more significant in news value, than this investigation into the Connecticut prison system.

Networks have so completely abandoned the mission of reporting the news that someone like entrepreneur Charles Ferguson, who sold an Internet software company to Microsoft in 1996 *[and whose writing has appeared in this magazine; see "What's Next for Google," January 2005 --Ed.]*, can spend $2 million of his own money to make an utterly unadorned documentary about Iraq and see it become an indie hit. Ferguson's *No End in Sight* simply lays out, without any emotional digressions or narrative froth, how the U.S. military missed the growing insurgency. The straightforward questions and answers posed by this film are so rare in network news today that they seem like an exotic, innovative form of cinema, although they're techniques that belong to the Murrow era. In its way, Ferguson's film is as devastating an indictment of network television as it is of the Bush administration.

Misfires

Even when the networks do attempt to adopt new technology, they're almost as misguided as when they don't. As the nation geared up for the invasion of Iraq back in 2002 and 2003, NBC seemed little concerned with straightforward questions about policy, preparedness, and consequences. It was always, on some level, driven by the unstated theme of 9/11 payback, and by the search for the

emotional center of the coming conflict. From the inside, NBC's priority seemed to be finding--and making sure the cameras were aimed directly at--the September 11 firefighters of the coming Iraq invasion: the soldiers. To be certain, the story of the troops was newsworthy, but as subsequent events would reveal, focusing on it so single-mindedly obscured other important stories.

In 2002 and 2003, NBC news spent enormous amounts of time and money converting an army M88 tank recovery vehicle into an armored, mobile, motion-stabilized battlefield production studio. The so-called Bloom-mobile, named for NBC correspondent David Bloom, brought a local, Live-at-5, "This is London" quality to armed conflict. Using a microwave signal, the new vehicle beamed pictures of Bloom, who was embedded with the Third Infantry Division, from the Iraqi battlefield to an NBC crew a few miles behind, which in turn retransmitted to feed via satellite to New York, all in real time. While other embeds had to report battlefield activities, assemble a dispatch, and then transport it to a feed point at the rear of the troop formation, Bloom could file stories that were completely live and mostly clear. He became a compelling TV surrogate for all the soldiers, and demand for his "live shots" was constant.

But Bloom's success in conveying to the viewing audience the visual (and emotional) experiences of the advancing troops also meant that he was tethered to his microwave transmitter and limited in his ability to get a bigger picture of the early fight. Tragically, Bloom died of a deep-vein blood clot. The expensive Bloom-mobile remote transmitter eventually came home and spent time ghoulishly on display outside 30 Rockefeller Center. It was used once or twice to cover hurricanes in the fall of 2004, to little success, and was eventually mothballed. The loss of one of NBC's most talented journalists was folded into the larger emotional narrative of the war and became a way of conveying, by implication, NBC's own casualty count in the war effort.

The focus on gadgetry meant once again that the deeper story about technology and the war was missed. Technology was revolutionizing war reporting by enabling combat soldiers to deliver their own dispatches from the field in real time. In 2004, I pitched *Dateline* on the story of how soldiers were creating their own digital networks and blogging their firsthand experiences of the war. The show passed. My story appeared in *Wired* a year later.

Six Sigma in the Newsroom

Perhaps the biggest change to the practice of journalism in the time I was at NBC was the absorption of the news division into the pervasive and all-consuming corporate culture of GE. GE had acquired NBC back in 1986, when it bought RCA. By 2003, GE's managers and strategists were getting around to seeing whether the same tactics that made the production of turbine generators more efficient could improve the production of television news. This had some truly bizarre consequences. To say that this *Dateline* correspondent with the messy corner office greeted these internal corporate changes with self-destructive skepticism is probably an understatement.

Six Sigma--the methodology for the improvement of business processes that strives for 3.4 defects or fewer per million opportunities--was a somewhat mysterious symbol of management authority at every GE division. Six Sigma messages popped up on the screens of computers or in e-mail in-boxes every day. Six Sigma was out there, coming, unstoppable, like a comet or rural electrification. It was going to make everything better, and slowly it would claim employees in glazed-eyed conversions. Suddenly in the office down the hall a coworker would no longer laugh at the same old jokes. A grim smile suggested that he was on the lookout for snarky critics of the company. It was better to talk about the weather.

While Six Sigma's goal-oriented blather and obsession with measuring everything was jarring, it was also weirdly familiar, inasmuch as it was strikingly reminiscent of my college Maoism I class. Mao seemed to be a good model for Jack Welch and his Six Sigma foot soldiers; Six Sigma's "Champions" and "Black Belts" were Mao's "Cadres" and "Squad Leaders."

Finding such comparisons was how I kept from slipping into a coma during dozens of NBC employee training sessions where we were told not to march in political demonstrations of any kind, not to take gifts from anyone, and not to give gifts to anyone. At mandatory, hours-long "ethics training" meetings

we would watch in-house videos that brought all the drama and depth of a driver's-education film to stories of smiling, swaggering employees (bad) who bought cases of wine for business associates on their expense accounts, while the thoughtful, cautious employees (good) never picked up a check, but volunteered to stay at the Red Roof Inn in pursuit of "shareholder value."

To me, the term "shareholder value" sounded like Mao's "right path," although this was not something I shared at the employee reëducation meetings. As funny as it seemed to me, the idea that GE was a multinational corporate front for Maoism was not a very widespread or popular view around NBC. It was best if any theory that didn't come straight from the NBC employee manual (a Talmudic tome that largely contained rules for using the GE credit card, most of which boiled down to "Don't") remained private.

I did, however, point out to the corporate-integrity people unhelpful details about how NBC News was covering wars in Iraq and Afghanistan that our GE parent company stood to benefit from as a major defense contractor. I wondered aloud, in the presence of an integrity "team leader," how we were to reconcile this larger-scale conflict with the admonitions about free dinners. "You make an interesting point I had not thought of before," he told me. "But I don't know how GE being a defense contractor is really relevant to the way we do our jobs here at NBC news." Integrity, I guess, doesn't scale.

Other members of the "GE family" had similar doubts about their relevance to the news division. In early 2002, our team was in Saudi Arabia covering regional reaction to September 11. We spent time on the streets and found considerable sympathy for Osama bin Laden among common citizens at the same time that the Saudi government expressed frustration that Americans seemed not to consider it an ally in the war on terror. We tracked down relatives of the September 11 hijackers, some of whom were deeply shocked and upset to learn what their family members had done. We wanted to speak with members of Osama bin Laden's family about their errant son's mission to bring down the Saudi government and attack the infidel West. We couldn't reach the bin Ladens using ordinary means, and the royal family claimed that it had no real clout with the multibillion-dollar bin Laden construction giant that built mosques, roads, and other infrastructure all over the world.

But GE had long done business with the bin Ladens. In a misguided attempt at corporate synergy, I called GE headquarters in Fairfield, CT, from my hotel room in Riyadh. I inquired at the highest level to see whether, in the interest of bringing out all aspects of an important story for the American people, GE corporate officers might try to persuade the bin Ladens to speak with *Dateline* while we were in the kingdom. I didn't really know what to expect, but within a few hours I received a call in my hotel room from a senior corporate communications officer who would only read a statement over the phone. It said something to the effect that GE had an important, long-standing, and valuable business relationship with the Bin Laden Group and saw no connection between that relationship and what *Dateline* was trying to do in Saudi Arabia. He wished us well. We spoke with no bin Laden family member on that trip.

In the end, perhaps the work that I was most proud of at NBC marginalized me within the organization and was my undoing. I had done some of the first live Internet audio and video webcasts on MSNBC. I anchored live Web broadcasts from the political conventions in 2000 when such coverage was just beginning. I helped produce live interactive stories for *Dateline* where the audience could vote during commercial breaks on how a crime mystery or a hostage situation would turn out. I loved what we could do through the fusion of TV and the Internet. During one interactive broadcast, I reported the instant returns from audience surveys live in the studio, with different results for each time zone as *Dateline* was broadcast across the country. Sitting next to me, Stone Phillips (not a big fan of live TV) would interact with me in that chatty way anchors do. Stone decided that rather than react naturally to the returns from the different time zones, he would make a comment about how one hostage-negotiator cop character in the TV story reminded him of Dr. Phil. He honed the line to the point that he used the exact same words for each time zone. "I think the Dr. Phil line is working, don't you?" he asked, as though this was his reporting-from-the-rooftops-of-London moment. "Sure, Stone." I said. "It's working great." Phillips was hardly alone in his reaction to the new technology that was changing television, and in the end we were both dumped by NBC anyway. When I got the word that I'd been axed, I was in the middle of two projects that employed new media technology. In the first, we went

virtually undercover to investigate the so-called Nigerian scammers who troll for the gullible with (often grammatically questionable) hard-luck stories and bogus promises of hidden millions. We descended into the scammers' world as a way of chasing them down and also illustrating how the Internet economy works. With search techniques and tracing strategies that reveal how Internet traffic is numerically coded, we chased a team of con artists to a hotel in Montreal, where we nailed them on hidden camera. With me playing the patsy, the story showed, in a very entertaining and interesting way, how the mechanics of the Internet worked to assist criminals. The second story unearthed someone who spammed people with porn e-mails. It was a form of direct-mail advertising that paid decent money if you had the right e-mail lists. The spammers didn't get involved with the porn itself; they just traded in e-mail lists and hid behind their digital anonymity. We exposed one of these spammers and had him apologize on camera, without spectacle, to a Dallas housewife to whom he had sent hard-core e-mails. The story wasn't merely about porn and spammers; it showed how electronic media gave rise to offshore shadow companies that traded e-mail lists on a small but very effective scale. The drama in the story was in seeing how we could penetrate spammers' anonymity with savvy and tenacity while educating people about technology at the same time. It was admittedly a timid effort that suggested the barest glimpse of new media's potential, but it was something.

Dateline started out interested but in the end concluded that "it looks like you are having too much fun here." David Corvo asked us to go shoot interviews of random people morally outraged by pornographic e-mails to "make it clear who the bad guys are." As might have been predicted, he was sending us back to find the emotional center after journalistic reality, once again, had botched the audition. I had long since cleaned out my office when the stories finally aired. *Dateline* eventually found the emotional center with *To Catch a Predator*, which had very little to do with Internet technology beyond 1990s-era chat rooms. What it did have was a supercharged sense of who the bad guys were (the upgrade for my spammer's simple apology was having the exposed predators hauled off to jail on camera) and a superhero in the form of grim reaper Chris Hansen, who was now a star.

I moved on. My story for *Wired* on bloggers from the Iraq War landed me an appearance on *The Daily Show*. Jon Stewart bluntly asked me what it's like to be at *Dateline* for nine years: "Does it begin to rot you from the inside?" The audience seemed not entirely convinced that this was a joke. They were actually interested in my answer, as though I were announcing the results of a medical study with wide implications for human health. I had to think about this rotting-from-the-inside business. I dodged the question, possibly because it was the one I had been asking myself for most of those nine years. But the answer is that I managed not to rot.

Life at the Media Lab has reminded me once again that technology is most exciting when it upsets the status quo. Big-screen TVs and downloadable episodes of *Late Night with Conan O'Brien* are merely more attempts to control the means of distribution, something GE has been doing since the invention of the light bulb. But exploding GPS backpacks represent an alien mind-set; they are part of the growing media insurgency that is redefining news, journalism, and civic life. This technological insurgency shouldn't surprise us: after all, it's wrapped up in language itself, which has long defied any attempt to commodify it. Technology, as it has done through the ages, is freeing communication, and this is good news for the news. A little empathy couldn't hurt.

http://www.technologyreview.com/Infotech/19845/

Creation 2.0

Synthetic DNA is on the brink of yielding new life-forms and products - and a host of worries, too.
By Rick Weiss

Washington Post

WASHINGTON - It has been 50 years since scientists first created DNA in a test tube, stitching ordinary chemical ingredients together to make life's most extraordinary molecule.

Until recently, however, even the most sophisticated laboratories could make only small snippets of DNA - an extra gene or two to be inserted into corn plants, for example, to help ward off insects or tolerate drought.

Now researchers are poised to cross a dramatic barrier: the creation of life-forms driven by completely artificial DNA.

Scientists in Maryland have already built the world's first entirely handcrafted chromosome - a looping strand of DNA made from scratch in a laboratory, containing all the instructions a microbe needs to live and reproduce.

In the coming year, they hope to transplant it into a cell, where it is expected to "boot itself up," like software downloaded from the Internet, and cajole the waiting cell to do its bidding. And while the first synthetic chromosome is a plagiarized version of a natural one, others that code for life-forms that have never existed before are already under construction.

The cobbling together of life from synthetic DNA, scientists and philosophers agree, will be a watershed event, blurring the line between biological and artificial - and forcing a rethinking of what it means to be alive.

"This raises a range of big questions about what nature is and what it could be," said Paul Rabinow, an anthropologist at the University of California at Berkeley. "Evolutionary processes are no longer seen as sacred or inviolable."

Beyond philosophical debates, there are basic questions: What kinds of organisms will scientists, terrorists and others make? How will these self-replicating entities be contained? And who might own the patent rights to the tools for synthesizing life?

Some experts worry that a few maverick companies are already gaining monopoly control over the "operating system" for artificial life.

At the core of synthetic biology are DNA synthesizers that can produce long strands of genetic material from chemical building blocks: sugars, nitrogen-based compounds and phosphates.

Today a scientist can write a long genetic program on a computer just as a maestro might compose a musical score, then use a synthesizer to convert that digital code into actual DNA. Experiments with "natural" DNA indicate that when a faux chromosome gets plopped into a cell, it will be able to direct the destruction of the cell's old DNA and become its new "brain" - telling the cell to start making a valuable chemical, or a medicine, or a bio-based gasoline substitute.

A cell is "a chassis and power supply for the artificial systems we are putting together," said Tom Knight of MIT.

If biology is to morph into an engineering discipline, it will need standardized parts, Knight said. So he and colleagues have started a collection of hundreds of interchangeable genetic components they call BioBricks.

So far, synthetic biology is not completely synthetic, involving single-cell organisms such as bacteria and yeast that have a blend of natural and synthetic DNA. The cells can reproduce, a defining trait of life. But in many cases, that urge has been genetically suppressed, along with "distracting" biological functions, to boost productivity.

J. Craig Venter, chief executive of Synthetic Genomics in Rockville, Md., wants his cells to make ethanol, hydrogen and other exotic fuels for vehicles, to fill a market estimated to be worth $1 trillion.

It will be a challenge to cultivate fuel-spewing microbes, Venter acknowledged. Among other problems is that unless the fuel is constantly removed, "the bugs will basically pickle themselves."

But the hurdles are not insurmountable. LS9 Inc., in San Carlos, Calif., is already using *E. coli* bacteria that have been reprogrammed with synthetic DNA to efficiently produce a fuel alternative from a diet of corn syrup and sugar cane.

At a DuPont plant in Tennessee, semi-synthetic bacteria are living on cornstarch and making the chemical 1,3 propanediol, or PDO. Millions of pounds of the stuff are being spun and woven into high-tech fabrics, putting the bug-begotten chemical on track to become the first $1 billion biotech product that is not a pharmaceutical.

Yet another application is in medicine: Synthetic DNA is allowing bacteria and yeast to produce the malaria drug artemisinin far more efficiently than it is made in plants, its natural source.

The prospect of a flourishing synbio economy has many wondering who will own the valuable rights.

In the past year, the U.S. Patent and Trademark Office has been flooded with aggressive synthetic-biology claims. Some of Venter's applications, in particular, "are breathtaking in their scope," said MIT's Knight.

Safety concerns also loom large. Already a few scientists have made viruses from scratch. The pending ability to make bacteria - which, unlike viruses, can live and reproduce outside of a living body - raises new concerns about contamination, contagion and mischief.

"Ultimately synthetic biology means cheaper and widely accessible tools to build . . . artificial organisms that could pose grave threats to people and the planet. The danger is not just bio-terror but bio-error," concluded a recent report by the Ottawa-based ETC Group, one of many advocacy groups urging a ban on releasing synthetic organisms pending societal debate and regulation.

Many scientists say the threat has been overblown. Venter notes that his synthetic genomes are spiked with genes that make the microbes dependent on a rare nutrient not available in nature. And Pierce, of DuPont, says the company's bugs are too spoiled to survive outdoors.

"We've heard that before," said Jim Thomas, ETC Group's program manager, noting that genes engineered into crops have found their way into other plants despite assurances to the contrary. "The fact is, you can build viruses, and soon bacteria, from downloaded instructions on the Internet. Where's the oversight?"

Government controls on trade in dangerous microbes do not apply to the bits of DNA that can be used to create them. And while some industry groups have talked about policing the field themselves, the technology is quickly becoming so simple, experts say, that "bio hackers" will be able to download genetic programs and make novel life-forms.

Andrew Light, an environmental ethicist at the University of Washington in Seattle, said synthetic biology poses a conundrum. It has the double-edged ability to wreak biological havoc and also perhaps wean civilization from dirty 20th-century technologies and petroleum.

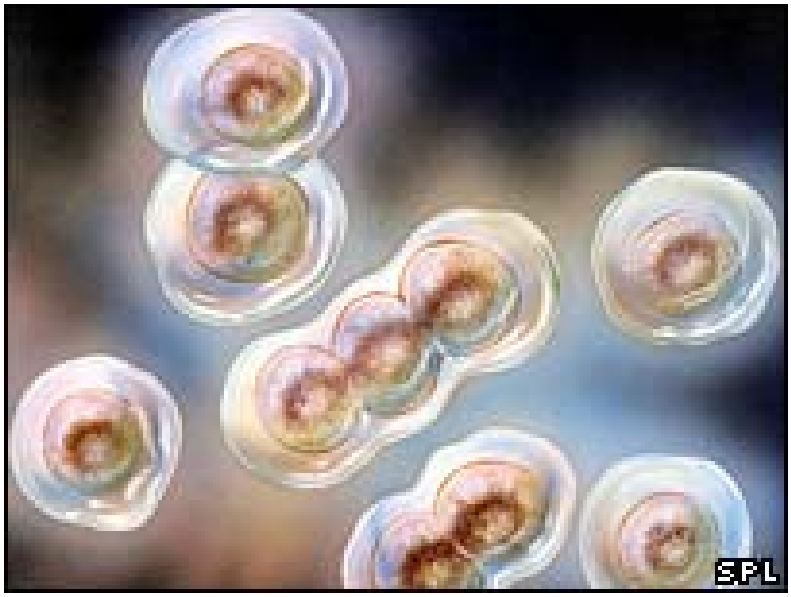
"For the environmental community, I think this is going to be a really hard choice," Light said.

http://www.philly.com/inquirer/magazine/20071231_Creation_2_0.html

Tiny changes created STI strain

Many men across Europe have been affected

Tiny genetic mutations were enough to create a virulent form of chlamydia that causes serious sexual disease in men, researchers say.



An international study found the strain that causes lymphogranuloma vernerum (LGV) is very similar to other forms of chlamydia, past and present.

They also concluded that as few as two gene differences might markedly alter the ability of the disease to thrive.

The decoding of the chlamydia genome is reported in Genome Research.

LGV, which until this century was rarely seen in Europe, causes serious inflammation of the rectum and if untreated can lead to permanent problems.

Symptoms of LGV
Rectal inflammation
Rectal bleeding
Swollen groin lymph nodes
Rectal ulcers
Fever
Fatigue

The team looking into the various strains included researchers from the Wellcome Trust Sanger Institute, the University of Southampton Medical School, University College London and the University of California, Berkeley.

They found that this recent form of LGV was virtually identical to one isolated 40 years ago, suggesting that "we are not facing a novel, more dangerous organism".

But they also found that the LGV strain was very similar to another form of chlamydia that causes an eye infection, so-called chlamydia trachomatis.

"Chlamydia trachomatis has almost 900 genes and we found fewer than 10 that differed significantly between the trachoma and the LGV strains," said Dr Nick Thomson of the Wellcome Trust.

'Exciting prospect'

The very different effects of the strains were explained by small-scale DNA mutations. These small but key differences could provide new markers for better diagnosis, the study concluded.

It also suggested that perhaps only two or three gene differences might alter the ability of the disease to thrive once it entered the body.

Chlamydia is one of the most common sexually transmitted infections but it is easily treated with antibiotics once diagnosed.

However it is often referred to as the "silent infection" as most people do not have any obvious symptoms until the disease has spread.

LGV is one of the most severe, invasive forms of the disease.

It was virtually unheard in Europe until 2004, when a first outbreak was reported in the Netherlands.

It has since been found across Europe. Hundreds of cases have been reported in the UK, primarily among homosexual men.

Late last year, a new strategy was launched aimed at encouraging more men in England to come forward for chlamydia screening.

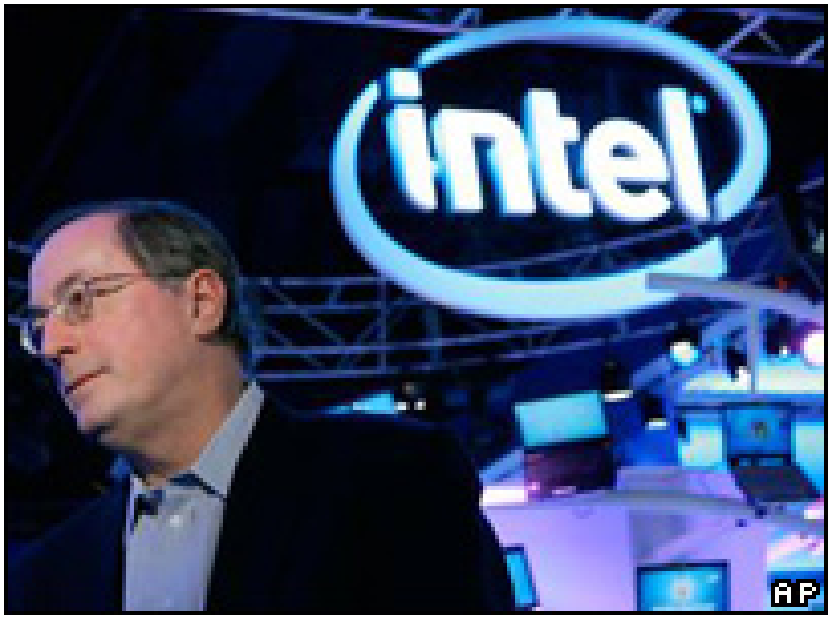
"It's a very interesting piece of research," said Dr Gillian Vanhegan, medical spokesperson for Brook Advisory Centres.

"The prospect that you could alter the gene sequence so it could not be replicated is very exciting indeed."

Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/2/hi/health/7168078.stm

Published: 2008/01/07 00:02:15 GMT

Intel predicts the personal net
Mobile devices will deliver a more personal internet within five years, using chips with the power of today's desktop PCs, Intel's head has said.



Speaking at the Consumer Electronics Show, Paul Otellini predicted mobile devices could soon "augment reality" by pulling data from the net in real time.

He said the industry was on the verge of creating a "new level of capability and usefulness to the internet".

"It's an internet that is proactive, predictive and context-aware."

Explaining that devices would be location-aware, and would access the internet over Wimax wireless connections, he said: "Instead of going to the internet, the internet comes to us.

"We need a ubiquitous, wireless broadband infrastructure. Eventually we will blanket the globe in wireless broadband connectivity."

Intel is backing Wimax, one of a number of competing next-generation wireless technologies, such as Long Term Evolution and HSDPA.

Mr Otellini said for this vision of the future to be fulfilled it would "require exponentially more powerful processors, using less and less power".

Chip development

He said that breakthroughs in chip development were needed to solve the problem of faster chips requiring more power and becoming less efficient.

The Intel chief executive said the firm had a roadmap for five more generations of chips, over the next 10 years.

"I have no doubt we will make all the breakthroughs necessary to make the five generations happen."

He told BBC News: "Intel, as a leader, has to advance the silicon technology every generation.

"Our business model is one of very high risk: We dig a very big hole in the ground, spend three billion dollars to build a factory in it, which takes three years, to produce technology we haven't invented yet, to run products we haven't designed yet, for markets which don't exist.

"We do that two or three times a year."

He added: "Everything we do has an inherent belief in technology."

'No compromises'

At the show Intel unveiled a range of new processors, including chips designed for so-called "mobile internet devices".

The first machines to use the new chips, which are 25% smaller than previous generations, are expected to hit the market later this year.

> **Eventually we will blanket the globe in wireless broadband connectivity**
> Paul Otellini

"A mobile internet device is something that you carry around in your pocket, and can deliver the full internet, with no compromises," he said.

The first devices will be larger than a typical mobile phone but are expected to shrink in size by a factor of four within two years.

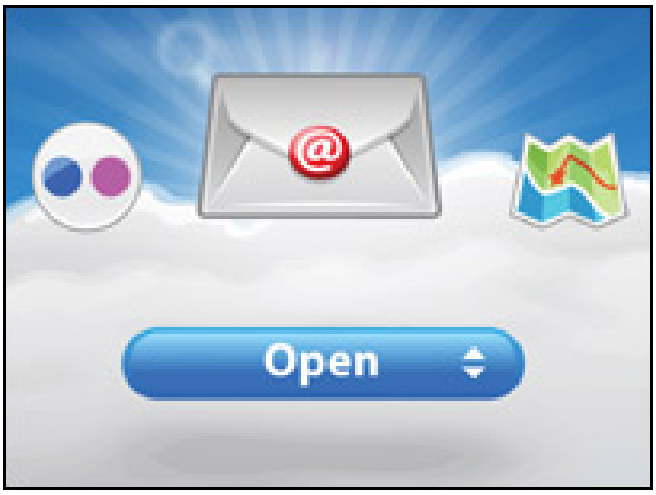
One of the first devices to use the new Menlo chips is a Toshiba ultra mobile portable computer, which is capable of running Microsoft's processor-hungry Vista operating system.

Mr Otellini said the obstacles were not just processing power, but also increased wireless access, an internet which can understand context and simpler computer interfaces, such as gesturing and visualisation.

The future of technology at the Consumer Electronics Show 2008
Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/2/hi/technology/7176177.stm

Published: 2008/01/08 05:02:14 GMT

Yahoo chief opens the mobile web
Yahoo chief Jerry Yang has revealed the firm's future ambitions for an open and mobile web.



Central to the company's aims is allowing third party software developers to create small applications which can run in Yahoo portals.

The first Yahoo platform to allow these widgets, as they are known, will be Go 3.0, developed for mobile phones.

The search firm showed off applications that allow people to check MySpace, eBay and MTV on the go.

"Bringing a rich web experience to mobile devices is not an easy task," said Mr Yang.

"There are literally billions of mobile users, thousands of different devices and hundreds of different carriers.

"The challenge is to create a simple starting point for all of them."

Mobile browser

Yahoo Go is a suite of downloadable tools that allow people to carry out every day internet tasks on a mobile phone.

Software allows people to search the net, send emails, upload photos, download maps and receive news updates.

In previous versions, users have been limited to browsing and using Yahoo content.

The latest edition will do away with that and allow third party developers to create widgets that will suck content from other areas of the net.

"We're opening up all of Yahoo Go to the world, meaning every publisher and developer small or large will be able to develop mobile," said Marco Boerries of the firm.

"Consumers will be able to find those, discover those and subscribe to those very easily."

The model is very similar to that used by other sites such as Facebook which also allows software developers to create widgets for the social networking site.

Go 3.0 will initially be available to download on to 30 devices, although it can be run on other phones through a mobile browser.

The firm said it was working with mobile phone manufacturers such as Motorola and LG to preload the suite of tools.

Smart search

Mr Yang also showed off a prototype smart inbox for Yahoo mail.

Yahoo mail is a web based email and messaging program that has more than 250 million users worldwide.

"This is not a launch - it is more of a concept demonstration," he said.

The prototype allowed users to import contacts from social networking sites such as MySpace.

The inbox would automatically prioritise messages from people that the inbox owner regularly communicated with across all of the networks.

Other tools allowed a user to drag a message on to a map tool to see quickly the location of places linked in the body of the message.

Mr Yang showed off an example of a message that contained a link to a restaurant.

Dragging the message on to the map brought up its location, reviews, photographs and also whether the restaurant was compatible with a person's stored dietary preferences.

Coming soon

Other tools imported labels, known as tags, from the popular photo-sharing site Flickr and displayed them on a map. The size of the font indicated the number of times a particular landmark had been photographed and tagged, and therefore its popularity.

Other tools would cross reference a person's preferences with the food on offer at the restaurant and if not compatible would suggest other eateries in the area.

"It's taking advantage of the social networks, it's taking advantage of connections, it's taking advantage of large blocks of structured data, it's taking advantage of a lot of tags that have been submitted by our users to offer a fairly seamless experience," said Mr Yang.

"These are the things I think we can be doing more of."

Yahoo co-founder David Filo added: "The good news is that we're not that far away from market. In the coming months you'll be hearing a lot more about Yahoo open platforms."

The technologies were showed off at the Consumer Electronics Show (CES) in Las Vegas.

The future of technology at the Consumer Electronics Show 2008
Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/2/hi/technology/7176077.stm

Published: 2008/01/08 00:06:37 GMT

Healthy living 'can add 14 years'
Taking exercise, not drinking too much alcohol, eating enough fruit and vegetables and not smoking can add up to 14 years to your life, a study says.

Research involving 20,000 people over a decade found those who failed on all criteria were four times more likely to have died than those who succeeded.

The findings held true regardless of how overweight or poor they were.

The Public Library of Science Medicine study suggests many could increase their lifespan through simple changes.

The research was carried out by the University of Cambridge and the Medical Research Council in the English county of Norfolk between 1993 and 2006.

Participants were aged between 45 and 79. They were socially mixed although overwhelmingly white, and as far as they were aware at the time, did not have cancer or any heart problems.

Taking off the years

A point was awarded for each of the following: not currently smoking, consuming between one and 14 units of alcohol per week (the equivalent of between half a glass and seven glasses of wine), eating five servings of fruit and vegetables each day and not being inactive.

> **It means a large proportion of the population really could feel health benefits through moderate changes**
> Professor Kay-Tee Khaw
> University of Cambridge

This last category was defined as either having a sedentary occupation and taking half an hour of exercise a day, or simply having a non-sedentary job like a nurse or plumber.

Not only did the team find that those with four points were significantly less likely to have died over the period than those with none, they also found that a 60-year-old person with a score of zero had the same risk of dying as a 74-year-old with the full four points.

"We've know that individually, measures such as not smoking and exercising can have an impact upon longevity, but this is the first time we have looked at them altogether," said Professor Kay-Tee Khaw, who led the research.

"And we also found that social class and BMI - body mass index - really did not have a role to play.

"It means a large proportion of the population really could feel health benefits through moderate changes."

BEHAVIOUR AND LIFESPAN
The chart above shows survival rates during the follow-up study
Cumulative survival was about 75% for those who did none of the four health behaviours
People who undertook all four behaviours reached 95%

It was in the reduction of deaths attributed to cardiovascular disease where the findings were most pronounced, with those scoring zero five times more likely to succumb than those scoring four.

But there was also a relationship between score and cancer deaths.

While the main analysis excluded people with known disease, the researchers found that those with serious conditions fared better the higher they scored than those who scored lower.

Health campaigners welcomed the study.

"This is good news and shows that by living a healthy life, people can reduce their risk of dying from heart and circulatory disease," said Judy O'Sullivan of the British Heart Foundation.

"By not smoking, drinking alcohol in moderation, taking regular physical activity and eating a diet rich in fruit and vegetables, people can improve their chances of living longer."

A Department of Health spokesperson said: "Everyone has responsibility for their own health, which was highlighted last year when we kickstarted the Small Change, Big Difference initiative to show people that there are simple changes they can make in their lives that will have a direct impact on their health."

Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/2/hi/health/7174665.stm

Published: 2008/01/08 00:13:39 GMT

Huge gas cloud will hit Milky Way

By Paul Rincon
Science reporter, BBC News, Austin

A giant cloud of hydrogen gas is racing towards a collision with the Milky Way, astronomers have announced.

Smith's Cloud, as it is known, may set off spectacular fireworks when it smacks into our galaxy in 20-40 million years.

It contains enough hydrogen to make a million stars like the Sun, say experts, and its leading edge is already hitting gas from our galaxy.

When it does hit, the cloud could indeed set off a new burst of star formation in the Milky Way.

Details of the work, by a team at the US National Radio Astronomy Observatory and the University of Wisconsin-Whitewater, were unveiled at the 211th meeting of the American Astronomical Society in Austin, Texas.

Impressive sight

Smith's Cloud is named after the astronomer who discovered it in 1963. But until now, astronomers had no idea whether it was leaving the Milky Way or falling into it.

The new work by a team using the Green Bank telescope (GBT) in West Virginia to observe the object shows, unmistakably, that the latter is true.

Their new measurements also show that the cloud is 11,000 light-years long and 2,500 light-years wide. The monster cosmic "fog bank" is careering towards our galaxy at more than 240km/s (150 miles/s) and is set to strike the Milky Way at an angle of 45 degrees.

Broadly speaking, the cloud is currently rotating with our galaxy, but is also moving in towards it. Astronomers can see a wall of gas being ploughed up as Smith's Cloud thuds into the outskirts of our galaxy's atmosphere.

Lead author Dr Felix Lockman, from the NRAO, said the object, which lies at a distance of 40,000 light-years from Earth, would make an impressive sight if it could be seen with the naked eye.

"We don't know quite where it came from yet, as its orbit is a little confused, but we can tell it is beginning to interact with the outskirts of the Milky Way, that it is suffering drag and that bits of it are falling off," Dr Lockman told the BBC News website.

"But at the same time, it is feeling the gravitational pull of the Milky Way and is plunging in towards the disc."

By the time it merges with our galaxy, Smith's cloud will strike a region some distance from the location of our Solar System, about 90 degrees ahead of us in the disc of the Milky Way.

Celestial New Year

Where it does collide, the cloud will generate shockwaves in the gas already residing in the Milky Way.

"It will be just like letting a bomb go off," said Dr Lockman, "but you also create a lot of new gas which may have different properties to the existing gas.

The shockwaves will set off a tremendous burst of star formation. These stars will be massive, rushing through their lives quickly and exploding as supernova.

"Over a few million years, it'll look like a celestial New Year's celebration, with huge firecrackers going off in that region of the galaxy," said Dr Lockman.

Co-author Dr Robert Benjamin, from the University of Wisconsin-Whitewater, told BBC News: "If the drag is sufficient, and the cloud fragments, there could be less of an effect. But at the moment, it looks like it is holding together quite tightly."

Astronomers have previously surmised that a region of bright stars called Gould's Belt, which lies close to our own Sun, could have been created in just this way.

"This is the first time we're actually seeing it happen," said Dr Lockman.

"The Milky Way is still under bombardment ¿ there are still fragments of it coming in and arriving on the scene. When this happens, it can bring fresh gas and trigger new star formation. And it's interesting to speculate whether this [once] happened near the Sun."

The gas cloud was discovered in 1963 by the young American astronomer Gail Smith working at Leiden University in the Netherlands. She subsequently left science but still lives in the Netherlands.

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Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/1/hi/sci/tech/7184521.stm

Published: 2008/01/12 02:58:03 GMT

Big mammals key to tree-ant team

By Anna-Marie Lever
Science and nature reporter, BBC News

A system in which there is mutal benefit
Dr Todd Palmer

At first it may seem counter-intuitive: that preventing large African herbivores from browsing Acacia trees decreases their growth.

This, however, is precisely what researchers report in Science magazine.

It is all because of the Acacia's mutually beneficial relationship with a biting ant.

Together they fend off Africa's big grazing mammals; but it is these very antagonists that are needed to keep the plant-insect team working in concert.

"Simulating large mammal extinction, by experimentally excluding them from eating the trees, causes the ant-plant mutualism to break down," said co-author Robert Pringle from Stanford University, US.

The whistling thorn tree (*Acacia drepanolobium*) and the biting ant (*Crematogaster*) that lives on it form a relationship, evolved over many millennia, in which both species co-operate and in turn benefit from each other.

Ant bodyguards

When this “mutualism” is working well, Acacia trees provide ants with swollen thorns, which serve as nesting sites; and nectar, which the ants collect from the bases of Acacia leaves.

In return for this investment, ants protect the tree from browsing mammals by aggressively swarming against anything that disturbs the tree.

Mr Pringle explains: "It is as if the tree hires bodyguards, in the form of ants, to protect it from being eaten."

The researchers disrupted this relationship by fencing off six plots of savanna land in Kenya by an 8,000-volt electric fence for 10 years.

Herbivores, such as giraffes and elephants, were no longer able to feed on the trees, causing a change in plant-ant dynamics.

"[The trees] diminish the rewards that they produce for the ant bodyguards, decreasing both the amount of housing and the amount of sugar-rich nectar they produce," lead-author Dr Todd Palmer at the University of Florida, US, told the BBC News website.

He continued: "In essence, the trees begin to default on the co-operative bargain that they've made with the ants, because the trees no longer have need for protection from large browsing mammals like giraffes and elephants."

It would seem that now the trees are better off, as they do not need to use their resources to support the ants - but the researchers have revealed that this is not the case.

Due to lack of housing and food, the mutualistic ant species becomes less aggressive, its colony size decreases and it loses its competitive edge.

Conservation implications

"The net result is a community-wide replacement of the 'good' mutualist ant by a decidedly 'bad' ant species that does not protect the trees from herbivores, and actually helps a wood-boring beetle to create tunnels throughout the main stem and branches of the acacia trees, which the bad ant then uses as nesting space," Dr Palmer explains.

Trees occupied by this antagonist ant grow more slowly and experience double the death rate compared with trees occupied by the mutalistic ant.

At present, the researchers do not fully understand the mechanisms that allow the tree to sense it is no longer being browsed and to turn off its investment in mutualistic ants, but they suggest it takes place over a 5-10-year period.

Dr Palmer said there were two important conservation implications of this research: "The first is that the decline of these charismatic [large animals] can have complex and cascading effects on entire ecosystems, with unanticipated results.

"The second is that classical conservation approaches talk about conserving species, but perhaps equally important is the conservation of 'interactions'."

The researchers suggest that the loss of large herbivores throughout Africa, due to ongoing human activity, may have strong and unanticipated consequences on the broader community.

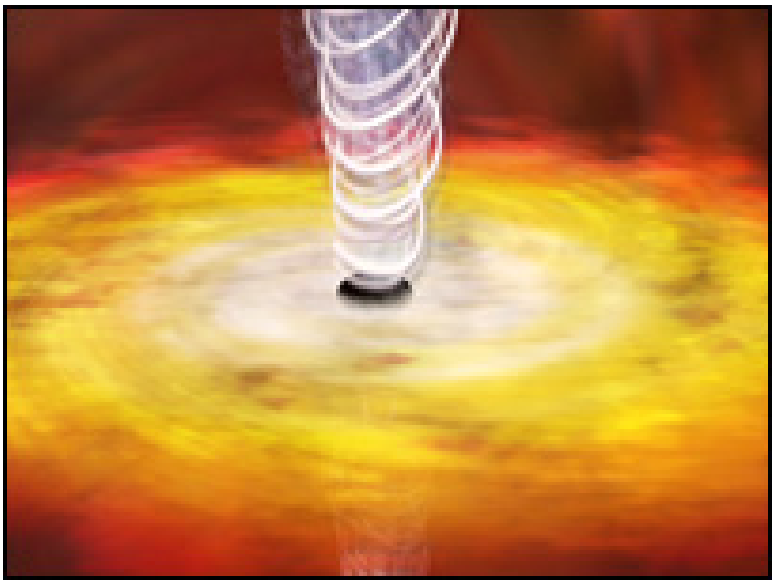
Mr Pringle adds: "It is a cautionary tale."

Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/2/hi/science/nature/7179880.stm

Published: 2008/01/11 12:55:51 GMT

Rapid spin for giant black holes

By Paul Rincon
Science reporter, BBC News, Austin



The "supermassive" black holes at the centres of most galaxies could be spinning at a dizzying rate, new research shows.

These celestial monsters may be rotating so fast, they are close to the maximum rates allowed by Einstein's theory of relativity.

The findings are based on observations of nine giant galaxies using Nasa's Chandra X-ray telescope.

Astronomers presented the results at a meeting of the American Astronomical Society in Austin, Texas.

Their findings suggest these gigantic gravity wells complete one rotation every day.

This may not sound like much, commented co-author Rodrigo Nemmen, but for objects of this size it is extremely rapid.

"The spins of black holes hold the key to puzzles in astrophysics," said Mr Nemmen, a visiting graduate student at Pennsylvania State University.

"The spin can tell us how black holes are born and grow, as well as how jets and gamma-ray bursts work."

Wrenching gravity

A rapidly spinning black hole makes space itself rotate. This effect, coupled with gas flowing in towards the black hole, can produce a magnetic field which flings a large amount of the gas away from the vicinity of the black hole as an energetic, high-speed jet.

In one second, these jets typically discharge fifty times the amount of energy that is radiated by our Sun in one year. They even affect galaxy growth by suppressing star formation.

Mr Nemmen's team compared the Chandra data with theories of how the jets are launched by supermassive black holes.

They found that, in order to reproduce the X-ray observations from Chandra observations, the black hole rotation driving the jet had to be extremely fast. Slower spinning black holes simply did not agree with the data.

"The black hole spin is between 90% and almost 100% of the maximum rate allowed by theory. This implies that the biggest black hole masses in the centres of giant galaxies are also associated with big spins," said Mr Nemmen.

X-ray echo

In other news at the AAS meeting, Nasa astrophysicists announced that black holes are capable of producing a bizarre special effect called a light echo.

Bursts of X-rays are sometimes emitted by hot spots within the discs of searing hot gas that whirl around many black holes.

Many of the X-ray light particles, or photons, travel to Earth via different routes around the black hole. Because the black hole's extreme gravity warps the surrounding space-time, it bends the trajectories so they reach us with a delay.

This delay depends on the relative positions of the X-ray flare, the black hole and Earth.

However, Keigo Fukumura and Demosthenes Kazanas from Nasa's Goddard Space Flight Center in Maryland calculated that if a black hole spins very fast, the interval between the X-ray photons reaching Earth becomes constant.

For every X-ray burst from a hot spot, the observer will receive two or more flashes - echoes of the original burst - separated by a constant interval.

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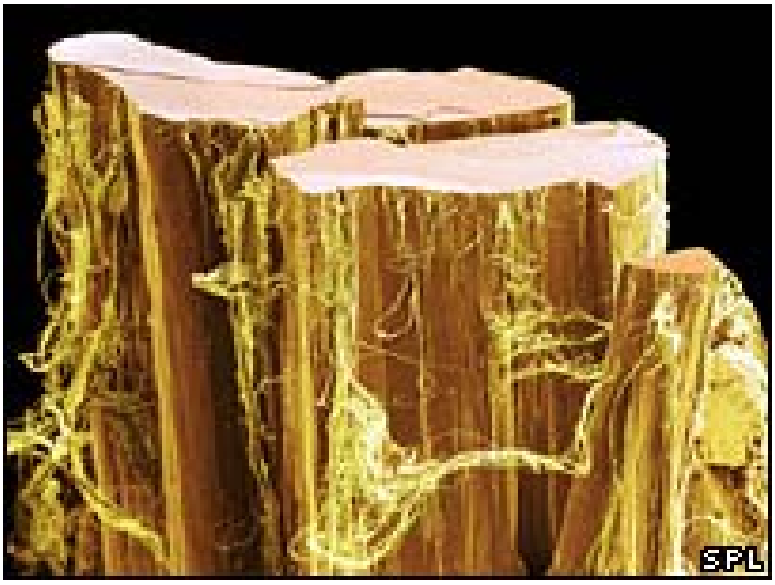
Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/2/hi/science/nature/7184526.stm

Published: 2008/01/12 03:18:24 GMT

Gene therapy implants for tendons
Freeze-dried implants loaded with gene therapy solution are being developed which may help repair injured and difficult-to-treat tendons.



Early trials in the US suggest the implants could accelerate healing, and help restore a wide range of movement.

They have been tested in mice with injuries similar to those found in the flexor tendon of human hands, which can be very tough to treat effectively.

The University of Rochester work is featured in Molecular Therapy.

> **Gene therapy is a field which is going to take off in a serious way over the next five to 10 years**
> Dr Steve Bollen
> British Orthopaedic Sports Trauma Association

The researchers say the technique holds out promise of effective new treatments for a range on injuries, including those to the anterior cruciate ligament and the rotator cuff.

Tendons are elastic cords that anchor muscle to bone and enable flexing muscle to move limbs.

Inflammation risk

In many standard repair attempts, surgeons implant an autograft, a piece of tendon from elsewhere in the same patient.

However, this technique carries a risk of inflammation and scarring, which can cause the implanted tendon to stick to the joint, rather than to glide across it.

These tendon adhesions can be painful, and permanently limit range of motion.

Attempts to use grafts from a donor have been bedevilled by problems with rejection.

And synthetic scaffolds have failed to match the mechanical strength of human tissue.

The latest technique uses donated, freeze dried implants, known as allografts, loaded with a gene therapy solution, which directed the recipient's cells to accept the graft and remodel it into living tissue.

The mice experiments showed that the use of allografts loaded with gene therapy solution led to significantly fewer adhesions.

At 28 days after surgery, the mice who received these implants had recovered nearly 65% of the normal range of motion.

In contrast, animals given an allograft loaded with a non-therapeutic gene had recovered only 35% of the normal range.

Work to do

Dr Regis O'Keefe, who also worked on the study, said: "Tendon is very durable.

"It could conceivably be freeze-dried, thawed and then freeze-dried again without damaging it.

"It could be left on shelves at tissue banks indefinitely and then shipped long distances."

"To get it ready for surgery, you would thaw it in a solution containing growth factors, cut it to size on the spot and implant it.

"While we acknowledge that this work is in mice, that there are differences between species and that more work needs to be done, we believe these results promise practical yet dramatic improvements in reconstructive surgery."

Dr Steve Bollen, president of the British Orthopaedic Sports Trauma Association, said allografts were used in the UK, but only for complex reconstruction and revision cases, and not accompanied by gene therapy.

He agreed that treatment to flexor tendon injuries in particular were plagued by adhesion problems.

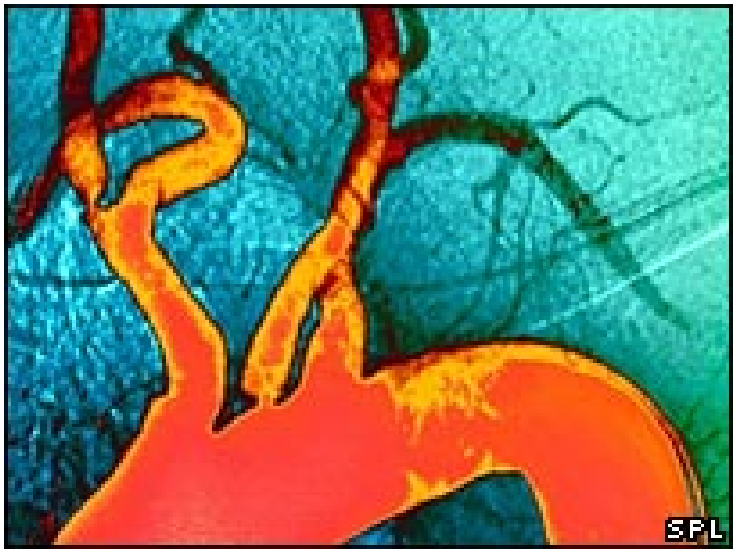
He said: "Gene therapy is a field which is going to take off in a serious way over the next five to 10 years.

"It holds great promise for being to able to manipulate tissue to become more like that of the host, but it is still very early days."

Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/2/hi/health/7176360.stm

Published: 2008/01/12 00:02:16 GMT

Bad cholesterol genes discovered
Scientists have found novel genes linked with 'bad' cholesterol, paving the way for new therapies to treat the important heart disease risk factor.



High levels of low-density lipoprotein (LDL) cholesterol cause harm by clogging the arteries.

Experts said the UK study published in the American Journal of Human Genetics could ultimately save many lives.

Coronary heart disease is the UK's biggest killer, behind one-in-four male and one-in-six female deaths.

> **This finding has the potential to lead to the development of new drugs to help lower cholesterol levels which in turn could help thousands of heart patients across the UK**
> Prof Jeremy Pearson,
> British Heart Foundation

Cardiovascular disease kills 233,000 people a year in the UK, and an estimated 16.7 million a year world-wide.

The fatty deposits inside arteries can trigger problems by breaking off and blocking blood flow.

The Barts and The London, Queen Mary's School of Medicine and Dentistry team carried out a detailed study of the entire human DNA sequence to pinpoint which genes might be involved.

They found a new region on chromosome 1 that appeared to influence LDL cholesterol. This DNA was associated with a 6% increase in blood LDL levels.

Professor Patricia Munroe said: "Our study found new genes for serum LDL, the cholesterol which furs arteries.

"We believe our findings are of significant clinical importance as they are strongly associated with cardiovascular disease; they also represent excellent targets for new medicines."

Professor Jeremy Pearson of the British Heart Foundation said: "This finding has the potential to lead to the development of new drugs to help lower cholesterol levels which in turn could help thousands of heart patients across the UK."

Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/2/hi/health/7181111.stm

Published: 2008/01/12 00:02:27 GMT

Concern over rare duck's decline
Numbers of one of the UK's rarest breeding ducks have almost halved in the past decade, a survey has revealed.

The breeding population of the common scoter is now found only in remote freshwater lochs in northern Scotland.

There are just 52 pairs left in the country, according to research carried out by the RSPB.

The distinctive jet black diving ducks were last surveyed in 1995, but a follow-up last year found they had declined by 45%.

The reasons for the drop were unclear, but one possibility is that climate change could be pushing the birds, which have disappeared entirely from Loch Lomond and Northern Ireland, further north.

Urgent action is needed to avoid the same fate befalling the remaining birds in Britain
Peter Cranswick
Wildfowl and Wetlands Trust

RSPB research biologist Mark Eaton said: "A decline of this nature highlights precisely the gravity of the situation facing common scoters in the UK right now.

"For this to have occurred in such a short time period is rare and of great concern."

Almost 330 Scottish lochs were surveyed for common scoters, which are also found in the Arctic and Scandinavia, during the breeding period between April and June 2007.

Islay was hardest hit, with just one pair of common scoters left, while the population in west and south Scotland dropped by 46% to 25 pairs.

The most resilient area was the Flow Country, an expanse of peatland and wetland in northern Scotland, where there were 26 pairs.

But numbers in the area had still fallen by 28% in the last 12 years.

Peter Cranswick, of the Wildfowl and Wetlands Trust, said the decline was "especially worrying", adding: "These new results clearly demonstrate that urgent action is needed to avoid the same fate befalling the remaining birds in Britain."

Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/2/hi/uk_news/scotland/7182296.stm

Published: 2008/01/11 00:11:08 GMT

New nuclear plants get go-ahead

Sizewell B, the UK's newest reactor, was built in the 1980s

A new generation of nuclear power stations in the UK has been given formal backing by the government.

Business Secretary John Hutton told MPs they would give a "safe and affordable" way of securing the UK's future energy supplies while fighting climate change.

He said any plants would be built at or near existing reactors by private firms and said he hoped the first one would be completed "well before 2020".

Critics say new reactors will be expensive, dirty and dangerous.

The government will not be building any reactors itself - but it says it will take steps, such as streamlining the planning process and identifying likely sites, to encourage private operators to build them.

GOVERNMENT PLANS
Speed up planning process to make it easier to build plants
No public subsidies for nuclear except in emergencies
No limit to amount of electricity generated by nuclear power
New independent body to monitor decommissioning costs
Trebling of investment in wind and wave power
Store nuclear waste at 'interim' facility until suitable underground site found

Mr Hutton conceded that no nuclear plant had been built anywhere in the world without public money - but he insisted there would be no subsidies from the UK government.

"It is a matter for the power companies to bring forward proposals on the basis that there will be no public subsidies," he told BBC Radio 4's The World at One.

Public funds would only be provided in the "very unlikely circumstances of an emergency at a nuclear plant," added Mr Hutton.

According to its white paper, the government will not offer extra incentives to invest in nuclear power, but some tax advantages may be available to firms hit by decommissioning costs to ensure a "level fiscal playing field" with other forms of electricity generation.

The government has also yet to decide how much new nuclear operators should pay towards the cost of building underground caverns as a permanent storage site for Britain's nuclear waste.

Until a suitable site can be found, waste will continue to be stockpiled above ground at "interim" facilities at Sellafield, in Cumbria, it has said.

Mr Hutton rejected calls to find a permanent storage site before giving the green light to new nuclear plants.

'Tried and tested'

French energy giant EDF has already said it plans to build four nuclear plants in the UK by 2017, without subsidies, following the government's announcement.

Chief executive Vincent De Rivaz said: "We have made it clear that once the right frameworks are in place, we will be in a position to move fast, move first and move safe."

German power company E.On and British Gas parent Centrica also expressed interest in building nuclear plants in the UK, following the government's announcement.

I can't decide whether new nuclear is a white elephant or a red herring
Steve Webb
Liberal Democrats

Speaking earlier in the Commons, Mr Hutton said the government had concluded nuclear power was a "tried and tested", and safe, technology which had a role to play "in this country's future energy mix alongside other low-carbon sources".

Analysis of future gas and carbon prices showed nuclear was "affordable and provides one of the cheapest electricity options available to reduce our carbon emissions".

Waste storage

An independent body, the Nuclear Liabilities Financing Assurances Board, will look at the potential clean-up costs - including any impact on electricity bills - and a review of potential sites for new reactors will report next year.

Mr Hutton assured MPs that private operators would be expected to meet the full cost of building nuclear plants, decommissioning and disposing of waste.

But he said no "artificial cap" would be put on the proportion of electricity to be generated from nuclear power or any other source of "low carbon energy". Existing nuclear power stations produce about 20% of the UK's electricity.

Conservative spokesman Alan Duncan welcomed the government's commitment to nuclear power.

But he warned: "On no account should there be any kind of subsidy for nuclear power."

Steve Webb, for the Liberal Democrats, attacked the decision, warning the country faced being locked into a technology "for the best part of a century, when other technologies like carbon capture and storage, like renewables, are evolving practically every day".

He added: "I can't decide whether new nuclear is a white elephant or a red herring. But very clearly what it isn't is the answer to the energy problems we face today."

Legal challenge

Ministers say a decision on nuclear power is necessary now, as many nuclear and coal-fired power stations are due to close within 20 years.

The nuclear industry believes it can get the first new plant on-stream by 2017.

HAVE YOUR SAY
If we are serious about reducing CO2 and we don't want to live in the dark, what other choice do we realistically have?
Nick Davy, UK

The government is also publishing an Energy Bill designed to reduce carbon emissions and secure the UK's power supplies.

But its nuclear plans could be still be subject to a legal challenge from Greenpeace, which successfully challenged an earlier government review backing nuclear power in the High Court.

It claims research shows that even 10 new reactors would cut the UK's carbon emissions by only about 4% some time after 2025.

Greenpeace executive director John Sauven said: "This is bad news for Britain's energy security and bad news for our efforts to beat climate change."

Although energy policy is not devolved, Scottish ministers have control of the planning system and also have to give consent under the Electricity Act to the construction of new power stations above a certain size.

Scotland's First Minister Alex Salmond has said there is "no chance" of more nuclear power stations being built in Scotland.

But Mr Hutton he believed the Scottish government was making a "mistake" by ruling out nuclear and it was "entirely possible" that Scottish consumers would rely on electricity generated in England in the future.

Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/2/hi/uk_news/politics/7179579.stm

Published: 2008/01/10 17:41:47 GMT

Everest hero Edmund Hillary dies

Sir Edmund Hillary was made an honorary Nepalese citizen

Sir Edmund Hillary, the first climber to scale the world's highest peak, Mount Everest, has died aged 88.

New Zealand Prime Minister Helen Clark described the explorer as a heroic figure and said all New Zealanders would deeply mourn his passing.

Sir Edmund's health had reportedly been in decline since April, when he suffered a fall while visiting Nepal.

He was the first man to climb the 8,850m (29,035ft) peak, with Tenzing Norgay, on 29 May 1953.

Returning to Everest's South Col camp, he famously greeted another member of the British expedition group with the words: "Well, George, we've knocked the bastard off."

He was an heroic figure who not only 'knocked off' Everest but lived a life of determination, humility and generosity
New Zealand Prime Minister Helen Clark

After the ascent, Sir Edmund led a number of expeditions to the South Pole and devoted his life to helping the ethnic Sherpas of Nepal's Khumbu region.

His Himalayan Trust has helped build hospitals, clinics, bridges, airstrips and nearly 30 schools. He was made an honorary Nepalese citizen in 2003.

Prayer ceremonies are being held in Nepal to pay tribute to Sir Edmund, the charity says.

'Quintessential Kiwi'

Announcing Sir Edmund's death in Auckland after a brief illness, New Zealand's prime minister described him as a "heroic figure who not only 'knocked off' Everest but lived a life of determination, humility and generosity".

Before reaching base camp, ascent team walked 175 miles (282km) from Kathmandu and spent three weeks acclimatising
On May 26 initial attempt came within 300ft (91m) of summit, with final bid two days later
Five man team helped Hillary and Norgay to precarious point high up mountain where pair spent night in tent
Next morning they set out at 0630, reaching summit 1130
Source: Royal Geographical Society

"The legendary mountaineer, adventurer, and philanthropist is the best-known New Zealander ever to have lived," Ms Clark said in a statement.

"But most of all he was a quintessential Kiwi."

"He was ours - from his craggy appearance to laconic style to his directness and honesty. All New Zealanders will deeply mourn his passing."

Ms Clark said Sir Edmund's exploits would "continue to inspire new generations of New Zealanders, as they have for more than half a century already".

The BBC's Greg Ward in Auckland says Sir Edmund was arguably the most respected man in New Zealand.

His death has prompted an immediate outpouring of sympathy, with messages of condolences flooding in from around the globe, our correspondent says.

Tenzing Norgay's son called the death a great loss for humanity.

Race to the summit

The British adventurer and environmentalist, Pen Hadow, said Sir Edmund's death "closes one of the great chapters of planetary exploration".

"He was physically and metaphorically at the pinnacle of high adventure," the Dartmoor-based Arctic and Antarctic explorer told the Press Association.

Born in Auckland 19 July 1919, Sir Edmund began climbing mountains in his native country as a teenager and soon earned renown as an ice climber.

To my great delight I realised we were on top of Mount Everest and that the whole world spread out below us
Sir Edmund Hillary

By the time he attempted his ascent of Everest in 1953 as part of an expedition led by the British climber, Sir John Hunt, seven previous expeditions to the top of the mountain had failed.

After a gruelling climb up the southern face, battling the effects of high altitude and bad weather, Sir Edmund and Tenzing Norgay managed to reach the peak at 1130 local time on 29 May.

"I continued hacking steps along the ridge and then up a few more to the right... to my great delight I realised we were on top of Mount Everest and that the whole world spread out below us," Sir Edmund said.

The two men hugged each other with relief and joy but only stayed on the summit for 15 minutes because they were low on oxygen.

Sir Edmund took several photographs of the scenery and of Tenzing waving flags of Britain, Nepal, the UN and India.

News of the conquest of Everest did not reach the outside world until 2 June, the eve of the Queen Elizabeth II's coronation.

He was knighted by the Queen for his achievement in 1953, and 42 years later was awarded her highest award for chivalry - the Order of the Garter.

Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/2/hi/asia-pacific/7182376.stm

Published: 2008/01/11 11:46:31 GMT

Statins for all diabetics urged
People with diabetes should receive cholesterol-busting drugs regardless of whether they have signs of heart disease, UK researchers say.

Statins cut the risk of heart attack, stroke and death in diabetic people even in those with low cholesterol levels, analysis of 14 trials shows.

It means hundreds of thousands more people could benefit from treatment, the Lancet report said.

There are 2.5 million people diagnosed with diabetes in the UK.

Many more do not realise they have the condition and statins are "underused" in people with diabetes the researchers said.

Guidance from the National Institute of Clinical and Health Excellence (NICE) in England and Wales issued in 2006 estimated around 3.3 million people are eligible for treatment with statins.

This includes people with diabetes who have a 20% risk of developing cardiovascular disease in the next 10 years.

Benefits

A team of researchers at Oxford University reviewed studies of more than 90,000 people - 19,000 with diabetes - and found that many more would benefit from statins than previously realised.

They found that standard daily treatment with statins would prevent about one third of heart attacks and strokes in people with diabetes.

The benefits were seen regardless of age, sex and whether patients were already showing signs of cardiovascular disease.

> **What we're saying is statins are clearly effective in every type of person with diabetes**
> Professor Colin Baigent

After five years, 42 fewer people with diabetes had major problems, such as heart attacks or stroke, for every 1,000 treated with statins.

The only exceptions for treatment should be those with exceptionally low risk, such as children or those who cannot take the drugs for other reasons, such as pregnant women.

Study leader Professor Colin Baigent said there had been some debate about whether statins would have the same benefits in people with diabetes as those with heart disease in general.

"People with diabetes are a clearly defined group of people at an increased risk of cardiovascular disease.

"What we're saying is statins are clearly effective in every type of person with diabetes."

Diabetes UK estimates 60% of all diabetics currently receive statins. That would mean the vast majority of the remaining 40% could also benefit from these drugs, according to the researchers.

However, Douglas Smallwood, chief executive of Diabetes UK, recommended statins for people with diabetes over the age of 40 or diabetics younger than 40 with another risk factor.

"Diabetes UK also strongly recommends that good diabetes management should rely not only on medication, but also on a healthy lifestyle and diet," he added.

Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/2/hi/health/7180733.stm

Published: 2008/01/11 00:10:50 GMT

Chewing gum weight loss warning
Too much "sugar-free" chewing gum can lead to severe weight loss and diarrhoea, doctors warn.

The cause is sorbitol, a widely used sweetener in chewing gum and sweets, which acts as a laxative.

Writing in the British Medical Journal, experts gave the example of two patients who had become ill after chewing around 20 sticks of gum a day.

Industry representatives said sorbitol was a safe product and packs carried warnings about excessive consumption.

Sorbitol is widely used in "sugar-free" foods, including products for people with diabetes.

> **As possible side effects are usually found only within the small print on foods containing sorbitol, consumers may be unaware of its laxative effects and fail to recognise a link with their gastrointestinal problems**
> Dr Juergen Bauditz

It is also used as a laxative but despite warnings on packets of chewing-gum and other products containing sorbitol, many people do not realise that large amounts will cause stomach problems, the German researchers said.

One 21-year old woman had suffered with diarrhoea and stomach pain for eight months and had undergone a raft of tests before doctors realised her chewing gum habit was to blame.

She lost more than one and a half stones (11kg) in that time and was underweight.

In a second case a man was admitted to hospital after losing three and a half stones (22kg) over a year and suffering diarrhoea.

Excessive amounts

They were found to consume between 20 and 30g of sorbitol per day.

Each stick of chewing gum has around 1.25g of the sweetener.

Dr Juergen Bauditz, from the Department of Gastroenterology at Charite University Hospital in Berlin, said 5-20g of sorbitol would be enough to cause minor stomach problems such as bloating and cramps but more than 20g could cause diarrhoea and, as these cases showed, severe weight loss.

When he questioned the patients he found they had replaced the gum sticks frequently, accounting for the high doses of sorbitol which were getting into their system.

Fruits

Once the patients cut out sorbitol from their diet, their symptoms disappeared and they put on the weight they had lost.

"As possible side effects are usually found only within the small print on foods containing sorbitol, consumers may be unaware of its laxative effects and fail to recognise a link with their gastrointestinal problems," he said.

"The investigation of unexplained weight loss should include detailed dietary history with regard to foods containing sorbitol."

A spokesperson for the Wrigley Company which manufactures a range of sugar-free chewing gums said all the ingredients they used were safe and packs carried warnings about a laxative effect with excessive consumption.

"Sorbitol occurs naturally in a wide variety of fruits and berries including pears, plums, cherries, dates, apricots, peaches and apples.

"It is well documented in medical literature, with studies going back more than 20 years, that excessive consumption of polyols, such as sorbitol, can have a laxative effect in some individuals."

"The safety of sorbitol has been thoroughly reviewed by health and regulatory bodies, including the WHO/FAO Joint Expert Committee on Food Additives."

Jemma Edwards, registered dietitian at Diabetes UK, said some people with diabetes eat large amounts of "diabetic foods" containing sorbitol but they should be avoided as there is no nutritional benefit.

"People with diabetes can eat the same diet as people without diabetes as long as it is a healthy, balanced diet."

Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/2/hi/health/7180800.stm

Published: 2008/01/11 00:16:33 GMT

MSPs welcome under-18 sunbed ban
Plans to tackle Scotland's "skin cancer epidemic" by banning under-18s from using sunbeds have been welcomed.

The proposals, put forward by Labour MSP Ken Macintosh, would also make coin-operated sunbeds illegal.

The Sunbed Association, which represents about a fifth of UK sunbed parlour operators, said none of its members ran unsupervised beds.

The restrictions could form part of the Scottish Government's plan to update public health protection laws.

Mr Macintosh told Holyrood's Health Committee, which is considering his safeguards, that they were not about banning sunbeds, but better informing the public of the danger that they could kill.

Responsible operators

The East Renfrewshire MSP said sunbed use caused an estimated 100 skin cancer deaths in the UK annually, adding: "Scotland is in the grip of what many health commentators have described as a skin cancer epidemic.

"Skin cancer has more than trebled over the last 30 years and there's a very straightforward reason for this and that is the rise in the popularity in tanning."

"I want us to avoid paying the price 20 years from now."

The Sunbed Association's Kathy Banks told MSPs that members of the body had signed up to a code of conduct to help ensure safety.

MSPs will be asked to vote on the sunbed proposals, which have received broad political backing, at a later date.

The regime would also would also require sunbed operators to advise customers of the dangers.

Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/1/hi/scotland/7177417.stm

Published: 2008/01/09 13:58:44 GMT

Fix will give Hubble major boost

By Paul Rincon
Science reporter, BBC News, Austin

HUBBLE SPACE TELESCOPE
Named after the great US astronomer Edwin Hubble
Launched in 1990 into a 600km-high circular orbit
Equipped with a 2.4m primary mirror and five instruments
Length: 15.9m; diameter: 4.2m; Mass: 11,110kg

Nasa has announced details of a challenging mission to "rescue" the Hubble Space Telescope.

Without the mission, the multi-billion dollar orbiting observatory is likely to fail in 2010 or 2011.

The upgrade will provide a massive boost to Hubble's capabilities, giving it greater sensitivity and a larger field of view.

The mission, by space shuttle Atlantis, will make Hubble 90 times more powerful than its original version.

It could also extend the telescope's lifetime by more than a decade.

The mission was outlined at a meeting of the American Astronomical Society in Austin, Texas.

"Hubble will be able to work productively out into the middle, if not the end of the next decade instead of its current projected demise due to wear and tear," Dr Alan Stern, associate administrator for science at Nasa, told the BBC News website.

"In addition, we're giving it new capabilities: 10 times or 20 times the sensitivity in terms of spectroscopy for probing the ancient Universe, a much larger field of view and much greater wavelength capabilities than it has ever had before.

"It will be a totally new machine."

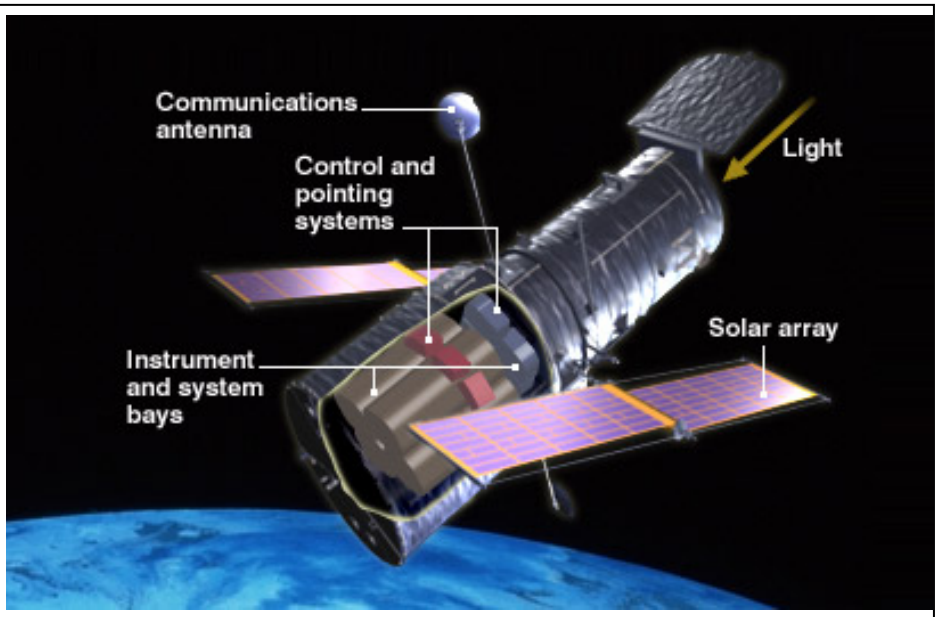
Sandra Faber, a professor of astronomy at the University of California, Santa Cruz, said that the upgrade mission would make Hubble 90 times more powerful than its original incarnation.

Whereas Hubble's original incarnation could only see 10 galaxies at a time, this one would be able to see 900.

The upgrade mission, the fifth and final flight to fix Hubble, is scheduled to launch in August 2008, although that date is now in doubt.

The Hubble repair mission will have to wait for two higher priority shuttle launches before it can go ahead.

The first of these, which will loft Columbus, the European Space Agency's main scientific contribution to the International Space Station, was due to fly in January, but will now have to be delayed until February at the earliest.



SERVICING THE HUBBLE SPACE TELESCOPE
Shuttle Discovery will grab Hubble with a robotic arm and pull it on to a work platform to allow astronauts easy access to its interior
Hubble has six gyroscopes that are critical to its control and pointing systems. These have started to fail and all will have to be replaced
Six new batteries will rejuvenate the electrical system; astronauts will attach new thermal blankets to insulate sensitive components
The telescope has two instrument bays; the COS and WFC3 will be slid into racks made vacant by the removal of older instruments

An attempt will also be made to repair the Space Telescope Imaging Spectrograph (STIS) which stopped working in 2004

Wear and tear

Hubble remains operational, but gyroscope failures have given it limited steering.

The Advanced Camera for Surveys (ACS) was the most-used instrument on the telescope until its failure last January, after five years of operations.

The Space Telescope Imaging Spectrograph (STIS), a sophisticated instrument which separated the light from different celestial objects into its components, failed in 2004.

Astronauts will repair these existing instruments and install two new ones, which will be carried into orbit on the space shuttle Atlantis. The new instruments are the Wide Field Camera 3 (WFC3) and the Cosmic Origins Spectrograph (COS).

The WFC3 will be Hubble's first "panchromatic" camera with a wide field of view and able to take amazingly sharp images over a wide range of colours.

COS will probe the "cosmic web", the large-scale structure of the Universe, which is determined by the gravity of dark matter and can be traced by galaxies and intergalactic gas.

Atlantis will rendezvous with Hubble, grab the telescope with its robotic arm and pull it on to a work platform to give astronauts easy access to its interior.

Marathon mission

John Grunsfeld is one of the astronauts who will revamp Hubble over the course of five spacewalks, each about six-and-a-half to seven hours long.

"They will be filled with content, there's no time to take a breather and look around," he told BBC News.

"It's going to be a marathon at a sprint pace for 11 days on orbit."

Launched in 1990, the Hubble Space Telescope is now regarded as one of the most important instruments in the history of astronomy. It has made a remarkable contribution to our understanding of the origin and evolution of the Universe.

Hubble has obtained the deepest views of the cosmos, finding high-interest objects for other observatories to investigate in detail. Its studies of the Universe's expansion also dramatically refined the best estimates for the age of the cosmos.

Its pictures have also produced hard evidence for the existence of black holes and confirmed theories of planetary formation.

Following the Columbia disaster in 2003, which killed seven astronauts, another mission to service Hubble was considered too hazardous.

This was because astronauts would not be able to use the International Space Station as a safe haven if the shuttle sustained damage on launch.

Nasa has now accepted the risk of the mission, but will have another shuttle ready to launch immediately to bring the crew home if the servicing mission is endangered.

You can listen to the Hubble servicing astronauts talk about their mission on BBC Radio 4's Frontiers website . The astronomers who will use the upgraded Hubble will discuss their hopes on the BBC World Service Discovery programme on Wednesday 9 January at 1230 GMT. If you miss it, you can catch up with the broadcast at the Discovery website

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Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/1/hi/sci/tech/7164139.stm

Published: 2008/01/09 04:37:57 GMT

Climate change contest launched
A £1m competition to find the brightest ideas to help fight climate change is being launched.

The Big Green Challenge is looking for people's best "Eureka moments" for reducing carbon emissions.

The top 10 finalists will be given funding to help to turn their ideas into reality.

The group with the most imaginative and successful idea will receive the lion's share of the £1m prize money, which will be awarded next year.

Big ideas

The competition, from the National Endowment for Science, Technology and Arts (Nesta), is open to community groups and charities who can come up with a way of reducing carbon emissions by 60 per cent or more.

Those finalists will be given £20,000, mentoring and support to put their ideas into practice.

They will have to achieve a measurable reduction in carbon emissions, involve the whole group or community and prove their idea can be expanded or copied in different settings.

A survey conducted to coincide with the competition found that four out of five people questioned believed the ideas of ordinary citizens could make a big difference to problems such as climate change problems.

> **Many of the potentially great ideas out there that could have a real impact on our big social problems are going to waste**
> Jonathan Kestenbaum
> Nesta

Nine out of 10 people said they had come up with an idea that could have an impact on other people's lives.

According to the YouGov poll of 2,045 UK adults men were twice as likely as women to come up with big ideas over a pint in the pub.

But the survey found that the majority of ideas never see the light of day because people do not know where to go for help or funding.

It also found many people lack confidence in developing their ideas.

Nesta chief executive Jonathan Kestenbaum said: "The findings suggest that many of the potentially great ideas out there that could have a real impact on our big social problems are going to waste."

Mr Kestenbaum said he believed that by providing support and financial help communities could "come together to tackle climate change".

Applications open on 9 January and initial competition ideas must be submitted by the end of February.

Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/1/hi/uk/7178116.stm

Published: 2008/01/09 02:37:11 GMT

Copying CDs could be made legal
Copying music from a CD to a home computer could be made legal under new proposals from the UK government.

Millions of people already "rip" discs to their computers and move the files to MP3 players, although the process is technically against copyright law.

Intellectual property minister Lord Triesman said the law should be changed so it "keeps up with the times".

Music industry bodies gave a cautious welcome to the proposals, which are up for public consultation until 8 April.

The changes would apply only to people copying music for personal use - meaning multiple copying and internet file-sharing would still be banned.

Owners would not be allowed to sell or give away their original discs once they had made a copy.

Sales concerns

"To allow consumers to copy works and then pass on the original could result in a loss of sales," the proposals warn.

UK music industry body the BPI said it supported the move to clarify the law for consumers, but warned that any changes should not damage the rights of record companies.

The Association of Independent Music (Aim) said the proposals did not go far enough - pointing out that CDs could become obsolete in the next decade.

It said that, once CDs are replaced, the law could be misused to "open the floodgates to unstoppable copying", adding that it would like to see copyright holders compensated when music was copied.

Lord Triesman said the proposed changes would explore "where the boundaries lie between strong protection for right holders and appropriate levels of access for users".

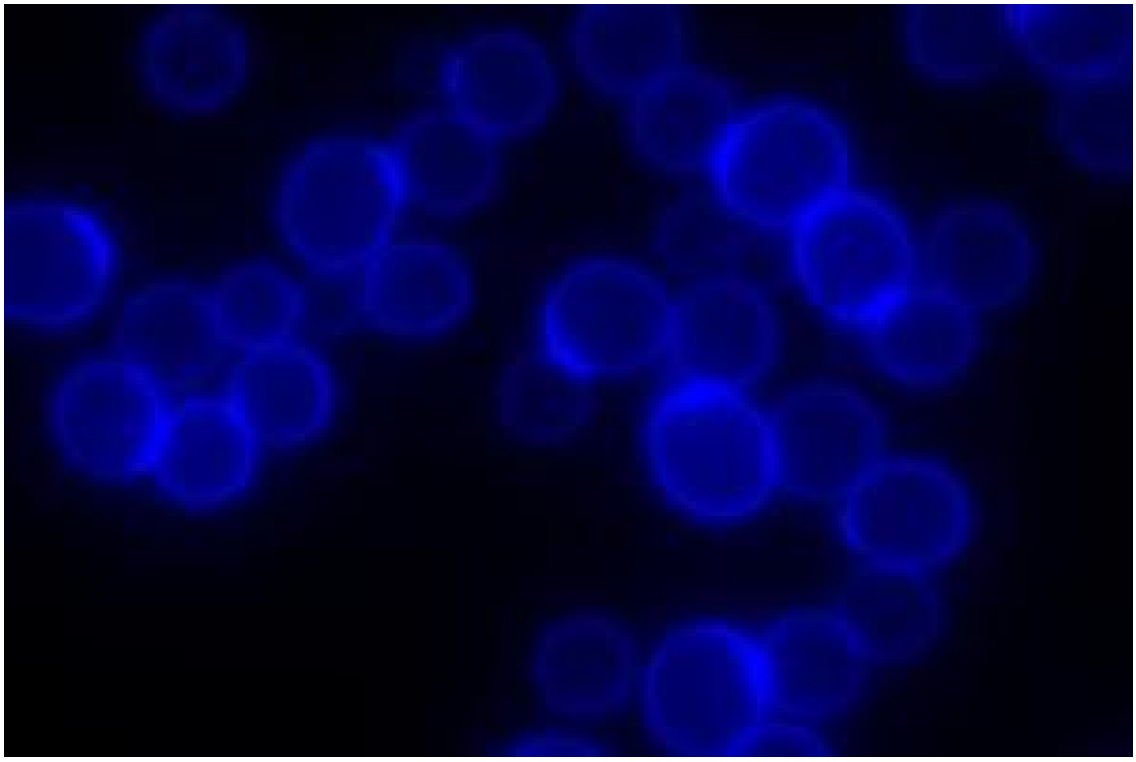
The proposals also suggest schools and libraries should be given greater flexibility in how they use copyrighted material like CDs and DVDs, and suggests parodies of songs and films could be made exempt from copyright law.

The consultation follows the Gowers Review of Intellectual Property, which recommended that aspects of the intellectual property system should be reformed.

Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/1/hi/entertainment/7176538.stm

Published: 2008/01/08 12:07:30 GMT

Life Expectancy Of Yeast Extended To 800 In Yeast Years, No Apparent Side Effects



Long-lived mutant yeast. Biologists have created baker's yeast capable of living to 800 in yeast years without apparent side effects. (Credit: Image courtesy of University of Southern California)

ScienceDaily (Jan. 14, 2008) — Biologists have created baker's yeast capable of living to 800 in yeast years without apparent side effects.

The basic but important discovery, achieved through a combination of dietary and genetic changes, brings science closer to controlling the survival and health of the unit of all living systems: the cell.

"We're setting the foundation for reprogramming healthy life," said study leader Valter Longo of the University of Southern California.

The study is scheduled to appear in the Jan. 25 issue of the journal PLoS Genetics. A companion study, showing that the same genetic changes in yeast reverse the course of an accelerated aging syndrome, appears in the Jan. 14 issue of the Journal of Cell Biology.

Longo's group put baker's yeast on a calorie-restricted diet and knocked out two genes, RAS2 and SCH9, that promote aging in yeast and cancer in humans.

"We got a 10-fold life span extension that is, I think, the longest one that has ever been achieved in any organism," Longo said. In 2005, the same research group reported a five-fold life span extension in the journal Cell. Normal yeast organisms live about a week.

"I would say 10-fold is pretty significant," said Anna McCormick, chief of the genetics and cell biology branch at the National Institute on Aging and Longo's program officer.

The NIA funds such research in the hope of extending healthy life span in humans through the development of drugs that mimic the life-prolonging techniques used by Longo and others, McCormick added.

Baker's yeast is one of the most studied and best understood organisms at the molecular and genetic level. Remarkably in light of its simplicity, yeast has led to the discovery of some of the most important genes and pathways regulating aging and disease in mice and other mammals.

A study recently published in Cell (Issue 130, pages 247-258, 2007) reported that a mouse with a gene mutation first identified by Longo's group lived 30 percent longer than normal and also was protected against heart and bone diseases without apparent side effects.

Longo's group next plans to further investigate life span extension in mice, and also is studying a human population in Ecuador with mutations analogous to those described in yeast.

"People with two copies of the mutations have very small stature and other defects," he said. "We are now identifying the relatives with only one copy of the mutation, who are apparently normal. We hope that they will show a reduced incidence of diseases and an extended life span."

Longo cautioned that, as in the Ecuador case, longevity mutations tend to come with severe growth deficits and other health problems. Finding drugs to extend the human life span without side effects will not be easy, he said.

An easier goal, Longo added, would be to use the knowledge gained about life span "in a fairly limited way, to reprogram disease prevention."

In the study appearing in the Jan. 14 Journal of Cell Biology, Longo's group developed a yeast model for human Werner/Bloom syndromes, incurable diseases that prematurely age, increase cancer incidence and eventually kill their victims.

The same mutations that play a central role in the 10-fold life span extension reversed the premature aging process, the researchers found.

Longo suggested that although a very simple system was used in his studies, existing drugs targeting analogous anti-aging pathways in humans -- specifically the pathway involving Insulin Growth Factor, or IGF-1 -- should be considered for testing on Werner/Bloom patients.

"Maybe it will do nothing, but having nothing else, I think it's certainly a good thing to try," Longo said.

In the PLOS Genetics study, Longo's group identified a major overlap between the genes previously implicated in life span regulation for yeast and mammals and those involved in life span extension under calorie restriction.

"We identified three transcription factors ... that are very important for the effect of calorie restriction, but at the same time, we also showed that it's not enough because even without these transcription factors, calorie restriction can still extend life span a little bit," Longo said.

"So that means that we've identified a lot of the key players in the calorie restriction effect but not all of them."

Calorie restriction -- in practice, controlled starvation -- has long been shown to reduce disease and extend life span in species from yeast to mice.

Scientists believe that a nutrient shortage kicks organisms into a maintenance mode, enabling them to re-direct energy from growth and reproduction into anti-aging systems until the time they can feed and breed again.

Calorie restriction is now being tested by other researchers on primates and even humans, Longo said.

Longo has been studying aging at the cellular level for 15 years and has published articles in the nation's leading scientific journals. His laboratory developed a simple and inexpensive method for measuring the true chronological life span of yeast. Previously, scientists used the number of a yeast cell's offspring as a proxy for its age.

The so-called replicative life span technique remains in use, and the NIA's McCormick said that Longo's method was controversial at first. However, she said, the scientific community now appears to accept its usefulness. She said Longo's "stationary phase" method is particularly applicable to studies of cells that do not divide for most of their life, such as those in the brain or in muscle.

"Stationary phase I think of as normal cell survival," McCormick said. She added that NIA funds both stationary phase and replicative life span research.

The studies were funded by NIA (part of the National Institutes on Health) and the American Federation for Aging Research.

USC graduate students Min Wei and Paola Fabrizio were first authors on the PLoS Genetics paper. USC graduate students Federica Madia and Cristina Gattazzo were first authors on the Journal of Cell Biology paper. The other members of Longo's group were USC graduate students Abdoulaye Galbani, Jesse Smith, Christopher Nguyen, Selina Huey, Lucio Comai, Jia Hu, Huanying Ge and Chao Cheng, USC computational biologist Lei Li, and William Burhans and Martin Weinberger of the Roswell Park Cancer Institute in Buffalo, N.Y.

Adapted from materials provided by University of Southern California.

http://www.sciencedaily.com/releases/2008/01/080111123319.htm

Earth: A Borderline Planet For Life?

A super-Earth like the one in this artist's conception can grow twice as large as Earth with up to 10 times the mass. Super-Earths are likely to be more life-friendly than our world because they would be more geologically active. (Credit: David A. Aguilar (Harvard-Smithsonian CfA))

ScienceDaily (Jan. 14, 2008) — Our planet is changing before our eyes, and as a result, many species are living on the edge. Yet Earth has been on the edge of habitability from the beginning. New work by astronomers at the Harvard-Smithsonian Center for Astrophysics shows that if Earth had been slightly smaller and less massive, it would not have plate tectonics - the forces that move continents and build mountains. And without plate tectonics, life might never have gained a foothold on our world.

"Plate tectonics are essential to life as we know it," said Diana Valencia of Harvard University. "Our calculations show that bigger is better when it comes to the habitability of rocky planets."

Plate tectonics involve the movement of huge chunks, or plates, of a planet's surface. Plates spread apart from each other, slide under one another, and even crash into each other, lifting gigantic mountain ranges like the Himalayas. Plate tectonics are powered by magma boiling beneath the surface, much like a bubbling pot of chocolate. The chocolate on top cools and forms a skin or crust, just as magma cools to form the planet's crust.

Plate tectonics are crucial to a planet's habitability because they enable complex chemistry and recycle substances like carbon dioxide, which acts as a thermostat and keeps Earth balmy. Carbon dioxide that was locked into rocks is released when those rocks melt, returning to the atmosphere from volcanoes and oceanic ridges.

"Recycling is important even on a planetary scale," Valencia explained.

Valencia and her colleagues, Richard O'Connell and Dimitar Sasselov (Harvard University), examined the extremes to determine whether plate tectonics would be more or less likely on different-sized rocky worlds. In particular, they studied so-called "super-Earths"-planets more than twice the size of Earth and up to 10 times as massive. (Any larger, and the planet would gather gas as it forms, becoming like Neptune or even Jupiter.)

The team found that super-Earths would be more geologically active than our planet, experiencing more vigorous plate tectonics due to thinner plates under more stress. Earth itself was found to be a borderline case, not surprisingly since the slightly smaller planet Venus is tectonically inactive.

"It might not be a coincidence that Earth is the largest rocky planet in our solar system, and also the only one with life," said Valencia.

Exoplanet searches have turned up five super-Earths already, although none have life-friendly temperatures. If super-Earths are as common as observations suggest, then it is inevitable that some will enjoy Earth-like orbits, making them excellent havens for life.

"There are not only more potentially habitable planets, but MANY more," stated Sasselov, who is director of the Harvard Origins of Life Initiative.

In fact, a super-Earth could prove to be a popular vacation destination to our far-future descendants. Volcanic "rings of fire" could span the globe while the equivalent of Yellowstone Park would bubble with hot springs and burst with hundreds of geysers. Even better, an Earth-like atmosphere would be possible, while the surface gravity would be up to three times that of Earth on the biggest super-Earths.

"If a human were to visit a super-Earth, they might experience a bit more back pain, but it would be worth it to visit such a great tourist spot," Sasselov suggested with a laugh.

He added that although a super-Earth would be twice the size of our home planet, it would have similar geography. Rapid plate tectonics would provide less time for mountains and ocean trenches to form before the surface was recycled, yielding mountains no taller and trenches no deeper than those on Earth. Even the weather might be comparable for a world in an Earth-like orbit.

"The landscape would be familiar. A super-Earth would feel very much like home," said Sasselov.

Headquartered in Cambridge, Mass., the Harvard-Smithsonian Center for Astrophysics (CfA) is a joint collaboration between the Smithsonian Astrophysical Observatory and the Harvard College Observatory. CfA scientists, organized into six research divisions, study the origin, evolution and ultimate fate of the universe.

This research was the subject of a press conference at the 211th meeting of the American Astronomical Society.

Adapted from materials provided by Harvard-Smithsonian Center for Astrophysics.

http://www.sciencedaily.com/releases/2008/01/080112151809.htm

Beating Heart Created In Laboratory: Method May Revolutionize How Organ Tissues Are Developed

Rat heart decellularization (top three images), and during recellularization (bottom two images). Experiment and photos: November 2006. (Credit: Thomas Matthiesen)

ScienceDaily (Jan. 14, 2008) — University of Minnesota researchers have created a beating heart in the laboratory.

By using a process called whole organ decellularization, scientists from the University of Minnesota Center for Cardiovascular Repair grew functioning heart tissue by taking dead rat and pig hearts and reseeding them with a mixture of live cells.

"The idea would be to develop transplantable blood vessels or whole organs that are made from your own cells," said Doris Taylor, Ph.D., director of the Center for Cardiovascular Repair, Medtronic Bakken professor of medicine and physiology, and principal investigator of the research.

Nearly 5 million people live with heart failure, and about 550,000 new cases are diagnosed each year in the United States. Approximately 50,000 United States patients die annually waiting for a donor heart.

While there have been advances in generating heart tissue in the lab, creating an entire 3-dimensional scaffold that mimics the complex cardiac architecture and intricacies, has always been a mystery, Taylor said.

It seems decellularization may be a solution -- essentially using nature's platform to create a bioartifical heart, she said.

Decellularization is the process of removing all of the cells from an organ -- in this case an animal cadaver heart -- leaving only the extracellular matrix, the framework between the cells, intact.

After successfully removing all of the cells from both rat and pig hearts, researchers injected them with a mixture of progenitor cells that came from neonatal or newborn rat hearts and placed the structure in a sterile setting in the lab to grow.

The results were very promising, Taylor said. Four days after seeding the decellularized heart scaffolds with the heart cells, contractions were observed. Eight days later, the hearts were pumping.

"Take a section of this 'new heart' and slice it, and cells are back in there," Taylor said. "The cells have many of the markers we associate with the heart and seem to know how to behave like heart tissue."

"We just took nature's own building blocks to build a new organ," said Harald C. Ott, M.D., co-investigator of the study and a former research associate in the center for cardiovascular repair, who now works at Massachusetts General Hospital. "When we saw the first contractions we were speechless."

Researchers are optimistic this discovery could help increase the donor organ pool.

In general, the supply of donor organs is limited and once a heart is transplanted, individuals face life-long immunosuppression, often trading heart failure for high blood pressure, diabetes, and kidney failure, Taylor said.

Researchers hope that the decellularization process could be used to make new donor organs. Because a new heart could be filled with the recipient's cells, researchers hypothesize it's much less likely to be rejected by the body. And once placed in the recipient, in theory the heart would be nourished, regulated, and regenerated similar to the heart that it replaced.

"We used immature heart cells in this version, as a proof of concept. We pretty much figured heart cells in a heart matrix had to work," Taylor said. "Going forward, our goal is to use a patient's stem cells to build a new heart."

Although heart repair was the first goal during research, decellularization shows promising potential to change how scientists think about engineering organs, Taylor said. "It opens a door to this notion that you can make any organ: kidney, liver, lung, pancreas -- you name it and we hope we can make it," she said.

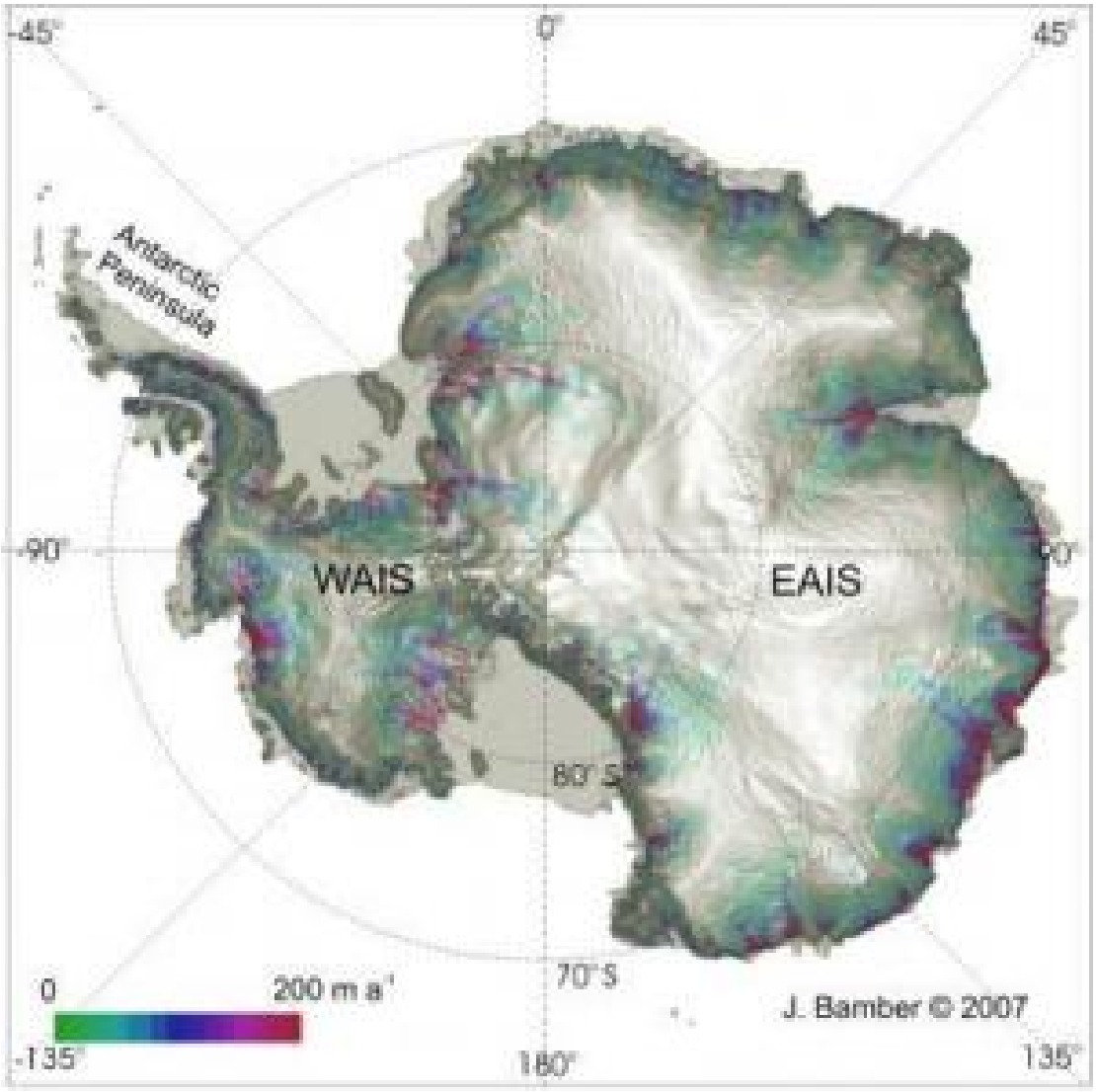
Researchers of the Center for Cardiovascular Repair team were assisted in their study by researchers from the University of Minnesota Department of Biomedical Engineering, who helped analyze data.

The research will be published online in the January 13 issue of Nature Medicine.The study was funded by the Medtronic Foundation Endowment and a faculty research development grant from the University of Minnesota Academic Health Center.

Adapted from materials provided by University of Minnesota.

http://www.sciencedaily.com/releases/2008/01/080113142205.htm

Increasing Amounts Of Ice Mass Have Been Lost From West Antarctica



Satellite-derived image of the surface topography of Antarctica. Shown in color are the flow speeds of glaciers draining ice into the oceans. The scale is meters per year. It is noticeable how the rate speeds up in narrow glacier outlets. (Credit: Jonathan Bamber)

ScienceDaily (Jan. 14, 2008) — Increasing amounts of ice mass have been lost from West Antarctica and the Antarctic peninsula over the past ten years, according to research from the University of Bristol and published online recently in Nature Geoscience.

Meanwhile the ice mass in East Antarctica has been roughly stable, with neither loss nor accumulation over the past decade.

Professor Jonathan Bamber at the University of Bristol and colleagues estimated the flux of ice from the ice sheet into the ocean from satellite data that cover 85% of Antarctica's coastline, which they compared with simulations of snow accumulation over the same period, obtained using a regional climate model.

They arrived at a best estimate of a loss of 132 billion tonnes of ice in 2006 from West Antarctica -- up from about 83 billion tonnes in 1996 -- and a loss of about 60 billion tonnes in 2006 from the Antarctic Peninsula.

Professor Bamber said: "To put these figures into perspective, four billion tons of ice is enough to provide drinking water for the whole of the UK population for one year."

The authors conclude that the Antarctic ice sheet mass budget is more complex than indicated by the evolution of its surface mass balance or climate-driven predictions.

Changes in glacier dynamics are significant and may in fact dominate the ice sheet mass budget. This conclusion is contrary to model simulations of the response of the ice sheet to future climate change, which conclude that it will grow due to increased snowfall.

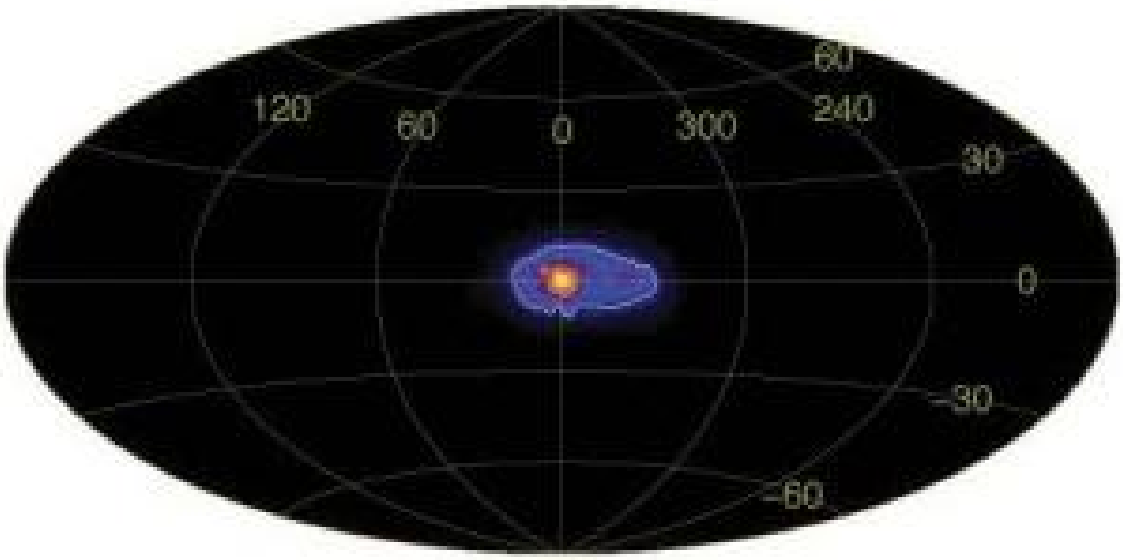
The ice loss is concentrated at narrow glacier outlets with accelerating ice flow, which suggests that glacier flow has altered the mass balance of the entire ice sheet.

Over the 10 year time period of the survey, the ice sheet as a whole was certainly losing mass, and the mass loss increased by 75% during this time. Most of the mass loss is from the Amundsen Sea sector of West Antarctica and the northern tip of the Peninsula where it is driven by ongoing, pronounced glacier acceleration. In East Antarctica, the mass balance is near zero, but the thinning of its potentially vulnerable marine sectors suggests this may change in the near future.

Adapted from materials provided by University of Bristol.

http://www.sciencedaily.com/releases/2008/01/080113143438.htm

Milky Way Has Mysterious Lopsided Cloud Of Antimatter: Clue To Origin Of Antimatter



This image shows the glow of 511 keV gamma rays coming from the annihilation of electrons by their antimatter counterparts, the positrons. (Credit: ESA/ Integral/ MPE (G. Weidenspointner et al.))

ScienceDaily (Jan. 14, 2008) — The shape of the mysterious cloud of antimatter in the central regions of the Milky Way has been revealed by ESA's orbiting gamma-ray observatory Integral. The unexpectedly lopsided shape is a new clue to the origin of the antimatter.

The observations have significantly decreased the chances that the antimatter is coming from the annihilation or decay of astronomical dark matter.

Georg Weidenspointner at the Max Planck Institute for Extraterrestrial Physics and an international team of astronomers made the discovery using four-years-worth of data from Integral. The cloud shows up because of the gamma rays it emits when individual particles of antimatter, in this case positrons, encounter electrons, their normal matter counterpart, and annihilate one another.

One signature of positron-electron annihilation is gamma rays carrying 511 thousand electron-volts (keV) of energy. There has been a vigorous debate about the origin of these positrons ever since the discovery of the 511 keV emission from the centre of the galaxy by gamma-ray detectors flown on balloons during the 1970s.

Some astronomers have suggested that exploding stars could produce the positrons. This is because radioactive nuclear elements are formed in the giant outbursts of energy, and some of these decay by releasing positrons. However, it is unclear whether these positrons can escape from the stellar debris in sufficient quantity to explain the size of the observed cloud.

Other astronomers wondered whether more exotic processes were at work. From earlier results using much less data, the positron cloud seemed to be spherical and centred on the centre of the galaxy. Such a shape and position corresponds to the expected distribution of dark matter in the centre of our galaxy, so it was suggested that dark matter was annihilating or decaying into pairs of electrons and positrons, which then annihilated to produce the gamma rays.

The trouble with this idea, however, was that the dark matter particles needed to be much less massive than most theories were predicting.

The new results give astronomers a valuable new clue and point away from dark matter as the origin of the antimatter. Beyond the galactic centre, the cloud is not entirely spherical. Instead it is lopsided with twice as much on one side of the galactic centre as the other. Such a distribution is highly unusual because gas in the inner region of the galaxy is relatively evenly distributed.

Equally importantly, Integral found evidence that a population of binary stars is also significantly off-centre, corresponding in extent to the cloud of antimatter. That powerfully suggests these objects, known as hard (because they emit at high energies) low mass X-ray binaries, are responsible for a major amount of antimatter.

A low mass X-ray binary (LMXB) is a celestial system in which a relatively normal star is being eaten alive by a nearby stellar corpse, either a neutron star or a black hole. The gravitational field of the stellar corpse is so strong that it rips gas from the normal star. As this gas spirals down towards that object, it is heated so much that positron-electron pairs can be spontaneously generated in the intense radiation field, although the 511 keV emission is probably too weak to be detected from individual LMXBs by Integral.

“Simple estimates suggest that about half and possibly all of the antimatter is coming from the X-ray binaries,” says Weidenspointner. The other half could be coming from a similar process around the galaxy’s central black hole and the various exploding stars there. He points out that the lopsided distribution of hard LMXBs is unexpected, as stars are distributed more or less evenly around the galaxy. More investigations are needed to determine whether the observed distribution is real.

Integral is currently the only mission that can see both the 511 keV radiation and the hard LMXBs. Weidenspointner and colleagues will be watching keenly to see whether it discovers more LMXBs and, if so, where they are located.

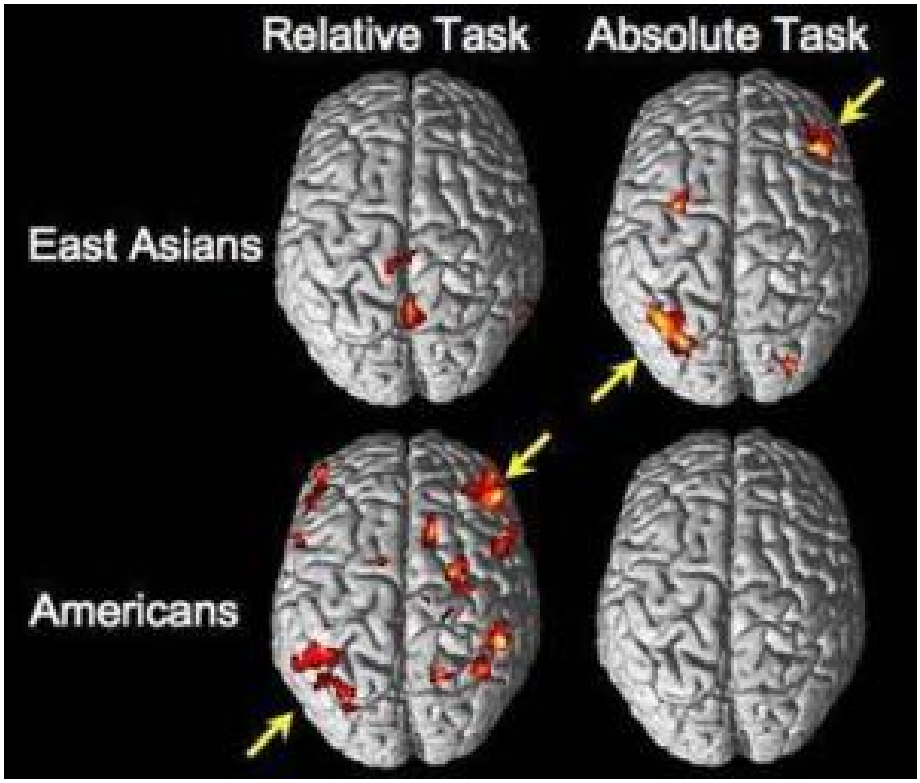
“The link between LMXBs and the antimatter is not yet proven but it is a consistent story,” says Weidenspointner. It has real astrophysical importance because it decreases the need for dark matter at the centre of our galaxy.

Journal reference: ‘An asymmetric distribution of positrons in the galactic disk revealed by gamma rays’ by Georg Weidenspointner et al. is being published on 10 January, in the journal Nature.

Adapted from materials provided by ESA.

http://www.sciencedaily.com/releases/2008/01/080112160830.htm

Culture Influences Brain Function, Study Shows



Brain activity in East Asians and Americans as they make relative and absolute judgments. The arrows point to brain regions involved in attention that are engaged by more demanding tasks. Americans show more activity during relative judgments than absolute judgments, presumably because the former task is less familiar and hence more demanding for them. East Asians show the opposite pattern. (Credit: Image courtesy Trey Hedden)

ScienceDaily (Jan. 13, 2008) — People from different cultures use their brains differently to solve the same visual perceptual tasks, MIT researchers and colleagues report in the first brain imaging study of its kind.

Psychological research has established that American culture, which values the individual, emphasizes the independence of objects from their contexts, while East Asian societies emphasize the collective and the contextual interdependence of objects. Behavioral studies have shown that these cultural differences can influence memory and even perception. But are they reflected in brain activity patterns?

To find out, a team led by John Gabrieli, a professor at the McGovern Institute for Brain Research at MIT, asked 10 East Asians recently arrived in the United States and 10 Americans to make quick perceptual judgments while in a functional magnetic resonance imaging (fMRI) scanner--a technology that maps blood flow changes in the brain that correspond to mental operations.

Subjects were shown a sequence of stimuli consisting of lines within squares and were asked to compare each stimulus with the previous one. In some trials, they judged whether the lines were the same length regardless of the surrounding squares (an absolute judgment of individual objects independent of context). In other trials, they decided whether the lines were in the same proportion to the squares, regardless of absolute size (a relative judgment of interdependent objects).

In previous behavioral studies of similar tasks, Americans were more accurate on absolute judgments, and East Asians on relative judgments. In the current study, the tasks were easy enough that there were no differences in performance between the two groups.

However, the two groups showed different patterns of brain activation when performing these tasks. Americans, when making relative judgments that are typically harder for them, activated brain regions involved in attention-demanding mental tasks. They showed much less activation of these regions when making the more culturally familiar absolute judgments. East Asians showed the opposite tendency, engaging the brain's attention system more for absolute judgments than for relative judgments.

The results are reported in the January issue of Psychological Science. Gabrieli's colleagues on the work were Trey Hedden, lead author of the paper and a research scientist at McGovern; Sarah Ketay and Arthur Aron of State University of New York at Stony Brook; and Hazel Rose Markus of Stanford University.

"We were surprised at the magnitude of the difference between the two cultural groups, and also at how widespread the engagement of the brain's attention system became when making judgments outside the cultural comfort zone," says Hedden.

The researchers went on to show that the effect was greater in those individuals who identified more closely with their culture. They used questionnaires of preferences and values in social relations, such as whether an individual is responsible for the failure of a family member, to gauge cultural identification. Within both groups, stronger identification with their respective cultures was associated with a stronger culture-specific pattern of brain-activation.

How do these differences come about? "Everyone uses the same attention machinery for more difficult cognitive tasks, but they are trained to use it in different ways, and it's the culture that does the training," Gabrieli says. "It's fascinating that the way in which the brain responds to these simple drawings reflects, in a predictable way, how the individual thinks about independent or interdependent social relationships."

This study was funded by the National Institutes of Health and supported by the McGovern Institute.

Adapted from materials provided by Massachusetts Institute of Technology.

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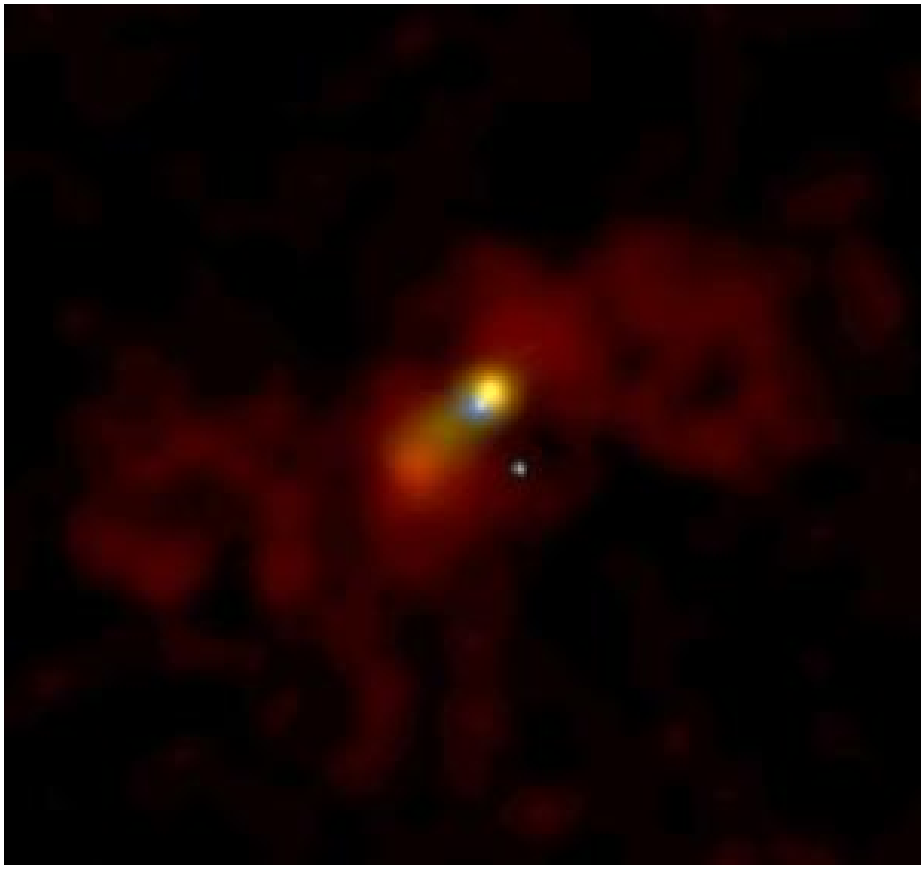
Life's Ingredients Detected In Far Off Galaxy



Two ingredients that build life-forming amino acids have been detected in the ultra-luminous starburst galaxy, Arp 220. (Credit: Chandra Observatory, NASA)

ScienceDaily (Jan. 14, 2008) — Astronomers from Arecibo Observatory radio telescope in Arecibo, Puerto Rico, have detected for the first time the molecules methanimine and hydrogen cyanide -- two ingredients that build life-forming amino acids -- in a galaxy some 250 million light years away.

When combined with water, the molecules form glycene, the simplest amino acid and a building block of life on Earth.

The Arecibo astronomers focused on the distant galaxy Arp 220, an ultra-luminous starburst galaxy, because it forms new stars at a very high rate. They used the 305-meter, or 1,000-foot diameter, Arecibo radio telescope, the world's largest and most sensitive, to observe the galaxy at different frequencies. The observations, made in April 2007, were the first use of the 800 megahertz wide-band mode of the telescope's main spectrometer.

The molecules were found by searching for radio emission at specific frequencies. Each chemical substance has its own unique radio frequency, much like people have unique fingerprints.

"We weren't targeting any particular molecule, so we didn't know what we were going to find -- we just started searching, and what we found was incredibly exciting," said Tapasi Ghosh, an Arecibo astronomer.

"The fact that we can observe these substances at such a vast distance means that there are huge amounts of them in Arp 220," said Emmanuel Momjian, a former Arecibo astronomer, now at the

National Radio Astronomy Observatory in Socorro, N.M. "It is indeed very intriguing to find that the ingredients of life appear in large quantities where new stars and planets are born."

The astronomy team, led by Arecibo astronomer Christopher Salter, announced the discovery Jan. 11 in a poster presented at the American Astronomical Society meeting in Austin, Texas. In addition to Salter, Momjian and Ghosh, the other researchers included Arecibo astronomers Robert Minchin and Mikael Lerner; Barbara Catinella, a former Arecibo astronomer now at the Max Plank Institute for Astrophysics in Germany; and Mayra Lebron, a former Arecibo astronomer now at the University of Puerto Rico.

The Arecibo Observatory is part of the National Astronomy and Ionosphere Center, a national research center operated by Cornell for the National Science Foundation.

Adapted from materials provided by Cornell University.

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Crash Warning System Monitors Nearby Traffic And Warns Of Possible Collisions

Model of sensor system for connected cars. (Credit: Image courtesy of ICT Results)

ScienceDaily (Jan. 13, 2008) — European researchers have demonstrated in the lab a collision warning system for cars that could alert the driver several seconds in advance of an imminent impact. The device could save thousands of lives and usher in the first steps towards the 'connected car'.

It knows its location, can talk to other cars and can tell the future. Are we entering the era of truly automated cars? The Collision Warning System (CWS) is the brainchild of the Reposit project, and they recently fired up a fully working prototype of their system.

The prototype can find its position using GPS, and find the position, speed and trajectory of neighbouring and oncoming traffic using an emerging car communication protocol called Vehicle2Vehicle (V2V).

It can use that information to calculate the relative position of other cars, and then extrapolate where they will be in a few seconds' time. If the data predicts a collision, it warns the driver.

"So far, we've got predictions about 1 to 3 seconds ahead of a collision… but anything from 2 seconds up gives drivers time to react. It works better at medium-to-high speeds, above 50km/h," reveals Jose Ignacio Herrero Zarzosa, coordinator of the Reposit 'relative position for collision avoidance systems' project.

High-performance GPS systems, that can locate a car within a metre or so, perform far better than low-performance GPS systems, but even with poor GPS technology Reposit has managed to get warning times to 1.5 seconds in a simulator, not too far from the useful minimum of 2 seconds. Zarzosa believes the system can do even better, with further work using vehicles' available sensors.

But the system does work, at least in a simulator, and that is a concrete result. The team has also perfected a simulator that other projects can use to model car collisions, another useful output. But will it be a success?

Unforgiving economics

It is possible, in time. Crucially, the system uses technologies, such as GPS and V2V, which are already becoming common or are emerging as a feature of modern cars. More and more cars come

with GPS already installed, explains Zarzosa, and many owners are self-installing a GPS system, so for these cars Reposit takes advantage of the installed base.

V2V is an emerging standard for communication between vehicles, and so it will become more common as time goes by. The Rosetta stone of the system, the programme that ties all the devices together, is just software and so relatively cheap.

That is very important. Keeping cost down is essential for any new car technology. The economics of the motor industry are unforgiving. “New car devices must be cheap if they are to be commercialised,” notes Zarzosa.

The Reposit team discovered that the rules for automobile innovation are unforgiving, too. Right now, there is no standard for integrating new functions into an existing car system. Every manufacturer uses different system integration methods. This significantly pushes up the cost of third-party technologies like Reposit,” warns Zarzosa.

Although the European Commission reports that it is working hard on this.

So far, the car industry finds Reposit’s work interesting, but remains unconvinced of the commercial application. The car industry is... very price sensitive, notes Zarzosa.

Even so, the popularity of GPS, and the emergence of V2V as a standard, means that the system will become more attractive over time. Before long, drivers might take the first, tentative steps into the era of connected cars.

Adapted from materials provided by ICT Results.

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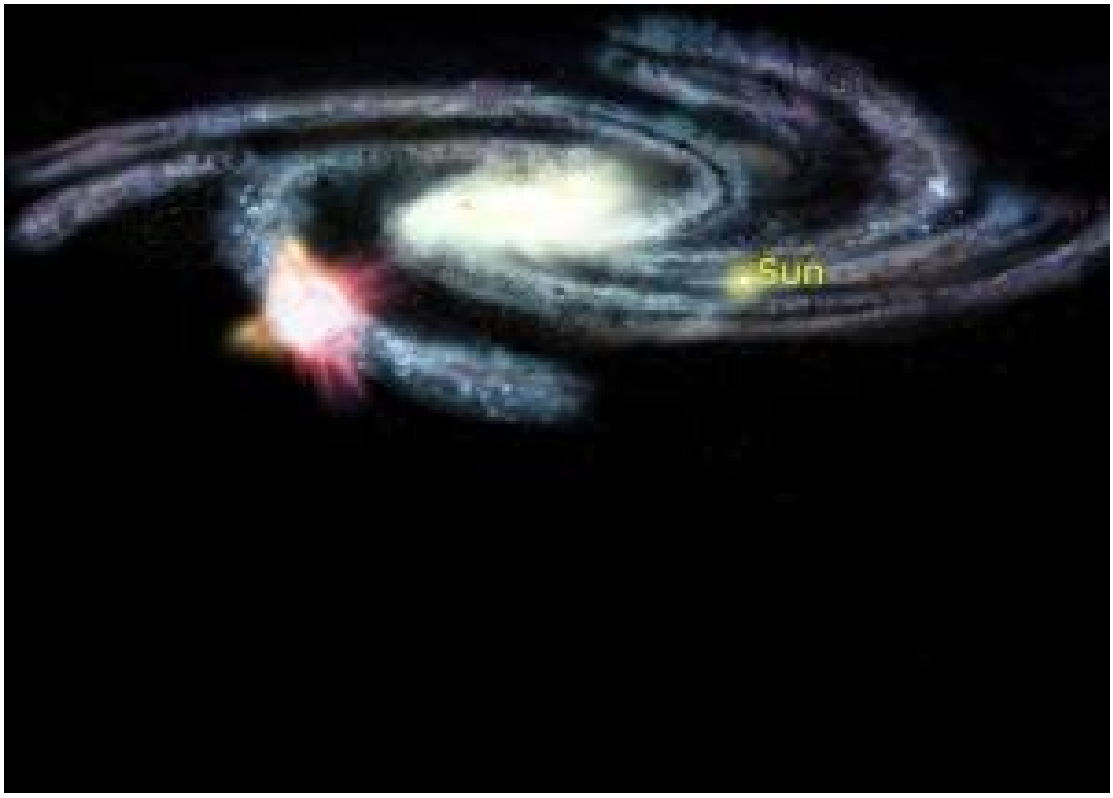
Massive Gas Cloud Speeding Toward Collision With Milky Way



Artist's conception of Smith's Cloud colliding with our own Milky Way Galaxy in approximately 40 million years. Projected impact location is on the left in this image. (Credit: Bill Saxton, NRAO/AUI/NSF)

ScienceDaily (Jan. 13, 2008) — A giant cloud of hydrogen gas is speeding toward a collision with our Milky Way Galaxy, and when it hits -- in less than 40 million years -- it may set off a spectacular burst of stellar fireworks.

"The leading edge of this cloud is already interacting with gas from our Galaxy," said Felix J. Lockman, of the National Radio Astronomy Observatory (NRAO), leader of a team of astronomers who used the National Science Foundation's Robert C. Byrd Green Bank Telescope (GBT) to study the object.

The cloud, called Smith's Cloud, after the astronomer who discovered it in 1963, contains enough hydrogen to make a million stars like the Sun. Eleven thousand light-years long and 2,500 light-years wide, it is only 8,000 light-years from our Galaxy's disk. It is careening toward our Galaxy at more than 150 miles per second, aimed to strike the Milky Way's disk at an angle of about 45 degrees.

"This is most likely a gas cloud left over from the formation of the Milky Way or gas stripped from a neighbor galaxy. When it hits, it could set off a tremendous burst of star formation. Many of those stars will be very massive, rushing through their lives quickly and exploding as supernovae. Over a few million years, it'll look like a celestial New Year's celebration, with huge firecrackers going off in that region of the Galaxy," Lockman said.

When Smith's Cloud was first discovered, and for decades after, the available images did not have enough detail to show whether the cloud was part of the Milky Way, something being blown out of the Milky Way, or something falling in.

Lockman and his colleagues used the GBT to make an extremely detailed study of hydrogen in Smith's Cloud. Their observations included nearly 40,000 individual pointings of the giant telescope to cover the cloud with unprecedented sensitivity and resolution. Smith's Cloud is about 15 degrees long in the sky, 30 times the width of the full moon.

"If you could see this cloud with your eyes, it would be a very impressive sight in the night sky," Lockman said. "From tip to tail it would cover almost as much sky as the Orion constellation. But as far as we know it is made entirely of gas -- no one has found a single star in it."

The detailed GBT study dramatically changed the astronomers' understanding of the cloud. Its velocity shows that it is falling into the Milky Way, not leaving it, and the new data show that it is plowing up Milky Way gas before it as it falls.

"Its shape, somewhat similar to that of a comet, indicates that it's already hitting gas in our Galaxy's outskirts," Lockman said. "It is also feeling a tidal force from the gravity of the Milky Way and may be in the process of being torn apart. Our Galaxy will get a rain of gas from this cloud, then in about 20 to 40 million years, the cloud's core will smash into the Milky Way's plane," Lockman explained.

The scientists presented their findings to the American Astronomical Society's meeting in Austin, Texas.

Adapted from materials provided by National Radio Astronomy Observatory.

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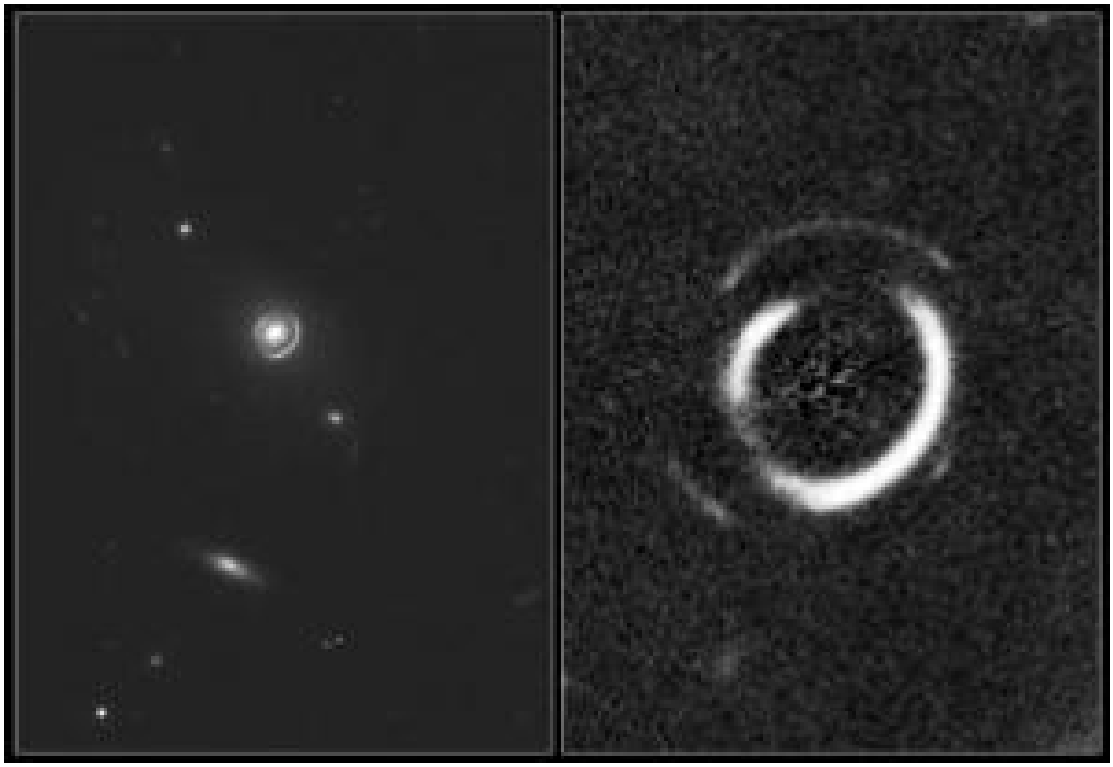
Hubble Finds Double Einstein Ring



This is an image of gravitational lens system SDSSJ0946+1006 as photographed by Hubble Space Telescope's Advanced Camera for Surveys. The gravitational field of an elliptical galaxy warps the light of two galaxies exactly behind it. The massive foreground galaxy is almost perfectly aligned in the sky with two background galaxies at different distances. (Credit: NASA, ESA, R. Gavazzi and T. Treu (University of California, Santa Barbara), and the SLACS team)

ScienceDaily (Jan. 12, 2008) — The NASA/ESA Hubble Space Telescope has revealed a never-before-seen optical alignment in space: a pair of glowing rings, one nestled inside the other like a bull's-eye pattern. The double-ring pattern is caused by the complex bending of light from two distant galaxies strung directly behind a foreground massive galaxy, like three beads on a string.

More than just a novelty, a very rare phenomenon found with the Hubble Space Telescope can offer insight into dark matter, dark energy, the nature of distant galaxies, and even the curvature of the Universe. A double Einstein ring has been found by an international team of astronomers led by Raphael Gavazzi and Tommaso Treu of the University of California, Santa Barbara. The discovery is part of the ongoing Sloan Lens Advanced Camera for Surveys (SLACS) program. They are reporting their results at the 211th meeting of the American Astronomical Society in Austin, Texas, USA. A paper has been submitted to The Astrophysical Journal.

The phenomenon, called gravitational lensing, occurs when a massive galaxy in the foreground bends the light rays from a distant galaxy behind it, in much the same way as a magnifying glass would. When both galaxies are exactly lined up, the light forms a circle, called an “Einstein ring”, around the foreground galaxy. If another more distant galaxy lies precisely on the same sightline, a second, larger ring will appear.

The odds of seeing such a special alignment are so small that Tommaso says that they “hit the jackpot” with this discovery.

"Such stunning cosmic coincidences reveal so much about nature. Dark matter is not hidden to lensing," added Leonidas Moustakas of the Jet Propulsion Laboratory in Pasadena, California, USA. "The elegance of this lens is trumped only by the secrets of nature that it reveals."

The massive foreground galaxy is almost perfectly aligned in the sky with two background galaxies at different distances. The foreground galaxy is 3 billion light-years away. The inner ring and outer ring are comprised of multiple images of two galaxies at a distance of 6 billion and approximately 11 billion light-years.

SLACS team member Adam Bolton of the University of Hawaii's Institute for Astronomy in Honolulu first identified the lens in the Sloan Digital Sky Survey (SDSS). "The original signature that led us to this discovery was a mere 500 photons (particles of light) hidden among 500,000 other photons in the SDSS spectrum of the foreground galaxy," commented Bolton.

"The twin rings were clearly visible in the Hubble image", added Tommaso. "When I first saw it I said 'wow, this is insane!' I could not believe it!"

The distribution of dark matter in the foreground galaxies that is warping space to create the gravitational lens can be precisely mapped. In addition, the geometry of the two Einstein rings allowed the team to measure the mass of the middle galaxy precisely to be a value of 1 billion solar masses. The team reports that this is the first measurement of the mass of a dwarf galaxy at cosmological distance (redshift of z=0.6).

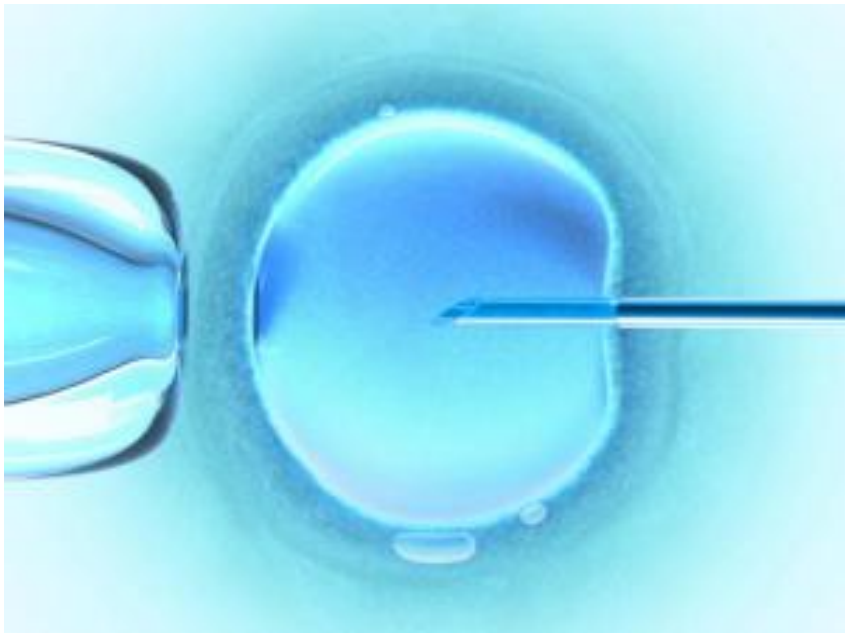
A sample of several dozen double rings such as this one would offer a purely independent measure. The comparative radius of the rings could also be used to provide an independent measure of the curvature of space by gravity.

Observations of the cosmic microwave background (a relic from the Big Bang) favour flat geometry. A sample of 50 suitable double Einstein rings would be sufficient to measure the dark matter content of the Universe and the equation of state of the dark energy (a measure of its pressure) to 10 percent precision. Other double Einstein rings could be found with wide-field space telescope sky surveys that are being proposed for the Joint Dark Energy Mission (JDEM) and recently recommended by the National Research Council.

Adapted from materials provided by ESA/Hubble Information Centre.

http://www.sciencedaily.com/releases/2008/01/080110102319.htm

Human Embryonic Stem Cell Lines Created Without The Destruction Of Embryos



Scientists have announced the development of five human embryonic stem cell lines without the destruction of embryos. (Credit: iStockphoto/Kiyoshi Takahase Segundo)

ScienceDaily (Jan. 12, 2008) — Advanced Cell Technology, Inc. together with colleagues announced the development of five human embryonic stem cell (hESC) lines without the destruction of embryos. These new results have the potential to end the ethical debate surrounding the use of embryos to derive stem cells. In fact, the NIH report to the President refers to this technology as one of the viable alternatives to the destruction of embryos.

The new method was published January 11 in the journal Cell Stem Cells, published by Cell Press.The peer-reviewed technique was initially carried out by ACT scientists under the direction of Robert Lanza, M.D., and then independently replicated by scientists on the West Coast.

Single cells were removed from the embryos using a technique similar to preimplantation genetic diagnosis (PGD). The biopsied embryos continued to develop normally and were then frozen. The cells that were removed were cultured utilizing a proprietary methodology that recreates the optimal developmental environment, which substantially improved the efficiency of deriving stem cells to rates comparable to using the traditional approach of deriving stem cells from the inner cell mass of a whole blastocyst stage embryo.

The stem cells were genetically normal and differentiated into cell types of all three germ layers of the body, including blood cells, neurons, heart cells, cartilage, and other cell types of potentially therapeutic significance.

“This is a working technology that exists here and now,” said Robert Lanza, M.D., Chief Scientific Officer at Advanced Cell Technology and senior author of the paper. “It could be used to increase the number of stem cell lines available to federal researchers immediately. We could send these cells out to researchers tomorrow. If the White House approves this new methodology, researchers could effectively double or triple the number of stem cell lines available within a few months. Too many needless deaths continue to occur while this research is being held up. I hope the President will act now and approve these stem cell lines quickly.”

There are several other important issues discussed in the paper. First, the stem cells were derived without culturing multiple cells from each embryo together, and at efficiency levels similar to that reported for conventional stem cell derivation techniques using blastocysts. Second, it addresses ethical objections that the derivation system required co-culture with hESCs from other embryos that were destroyed. The current study demonstrates that hESC co-culture is not an essential part of the derivation procedure. The stem cell lines generated in the present study appear to have the same characteristics as other hESC lines, including expression of the same markers of pluripotency, self-renewing capacity, genetic stability, and ability to differentiate into derivatives of all three germ layers of the body.

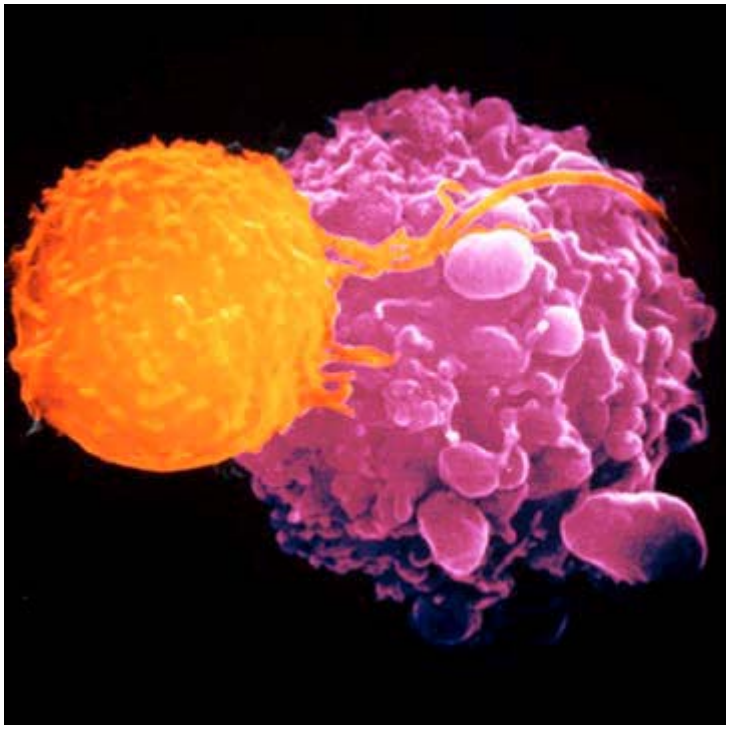
Other contributors to the study and publication include Young Chung and Irina Klimanskaya, Sandy Becker, Tong Li, Marc Maserati, and Shi-Jiang Lu of Advanced Cell Technology; Tamara Zdravkovic, Olga Genbacev, and Susan Fisher of the University of California, San Francisco; and Dusko Ilic and Ana Krtolica of StemLifeLine.

Journal article summary is available at:
http://www.cellstemcell.com/content/article/abstract?uid=PIIS193459090700330X

Adapted from materials provided by Advanced Cell Technology.

http://www.sciencedaily.com/releases/2008/01/080111102215.htm

New Way To Block Destructive Rush Of Immune Cells Found



ScienceDaily (Jan. 14, 2008) — Researchers have found a way to selectively block the ability of white blood cells to "crawl" toward the sites of injury and infection when such mobility drives disease, according to a study published January 14 in The Journal of Experimental Medicine. The results suggest a new treatment approach for autoimmune diseases like rheumatoid arthritis, lupus and multiple sclerosis, and for conditions made worse by misplaced inflammation, like atherosclerosis, stroke and transplant rejection, researchers said.

Where a single-celled amoeba moves to find food, human cells migrate as part of complex bodily functions like immunity. Disease-fighting cells for instance move toward bacteria and cells infected with viruses, which they target for destruction. Unfortunately, the same cells can mistakenly attack the body's own cells or drive inflammation too far, worsening the problem they rushed in to solve.

A team of researchers at the University of Rochester Medical Center has been studying proteins called integrins that enable T cells, a major subset of immune cells, to migrate. The integrin-related mechanisms described for the first time in the current paper suggest a way to shut down only those T cells currently in the act of disease-related migration, while leaving in place reserves needed in the likely event that another infection occurs during treatment. Making the mechanistic discoveries possible was a successful effort by the team to capture on video the first detailed images of fast-migrating T cells and the behavior of key proteins related to migration, which had been tagged with fluorescence. Twelve videos of T cells, and their key migration proteins, in action are part of the publication and are available online.

"There are many cases where it would be incredibly useful to precisely block integrin activation, and thus T cell migration," said Minsoo Kim, Ph.D., assistant professor of Microbiology and Immunology within the David H. Smith Center for Vaccine Biology and Immunology at the Medical Center, and lead author of the article. "Good examples include when our immune system attacks our own cells, or rejects a lifesaving transplant or clogs our blood vessels by mistake. The problem is that past, system-wide attempts that block all integrin activation, like the multiple sclerosis drug Tysabri, shut down not only unwanted inflammation in one locale, but also vital immune defenses elsewhere, leaving patients vulnerable to infection."

The Great Migration

Two mechanisms make cell migration, or programmed directional movement, possible. The first, called chemotaxis, tells the cell which direction to move in. Cell surface proteins sense and follow chemicals and molecules they are attracted to toward wherever those attractants are most concentrated. T cells, named after the thymus (T) where they mature, move toward the byproducts of bacteria and viruses.

The second migratory mechanism is propulsion. In between infections and injuries, inactive T cells ride along with the bloodstream. T cells "realize" when they pass by part of a blood vessel wall close to the site of an injury or infection. Integrins on their surfaces unfold and grab onto key proteins on the surface of blood vessel wall cells (e.g. ICAM), resisting the surrounding blood flow. The T cells then pass through the vessel wall, and once outside the bloodstream, crawl along the tissue scaffolding toward the site of injury.

In a T cell at rest, integrins are distributed evenly over the entire surface of the T cell. When the cell gets ready to move, however, activated integrins cluster on the leading edge of the cell in the direction the cell wants to move in. They bind to their counterpart adhesion proteins like ICAM on the surface that the T cell is moving across. The T cell then contracts using its cell skeleton to pull itself over the leading edge integrins. Finally, the integrins on the trailing edge of the cell let go. Without precise changes that enable the front end to gain traction, and the tail to let go, the cell cannot migrate.

Kim's team found that a subset of integrins, including lymphocyte function--associated antigen-1 (LFA-1), control whether or not the tail end of the T cell can "let go" (de- adhesion). Data revealed for the first time that a protein called non-muscle myosin heavy chain-IIA (MyH9) is recruited to LFA-1 at the trailing end of migrating T lymphocytes. Experiments that interfered with the association between MyH9 and the LFA-1 integrin were found to prevent the trailing edge of the crawling T cell from letting go, dramatically reducing the ability of T cells to move. Myosins are motor proteins that expend energy to enable cell skeletons to contract.

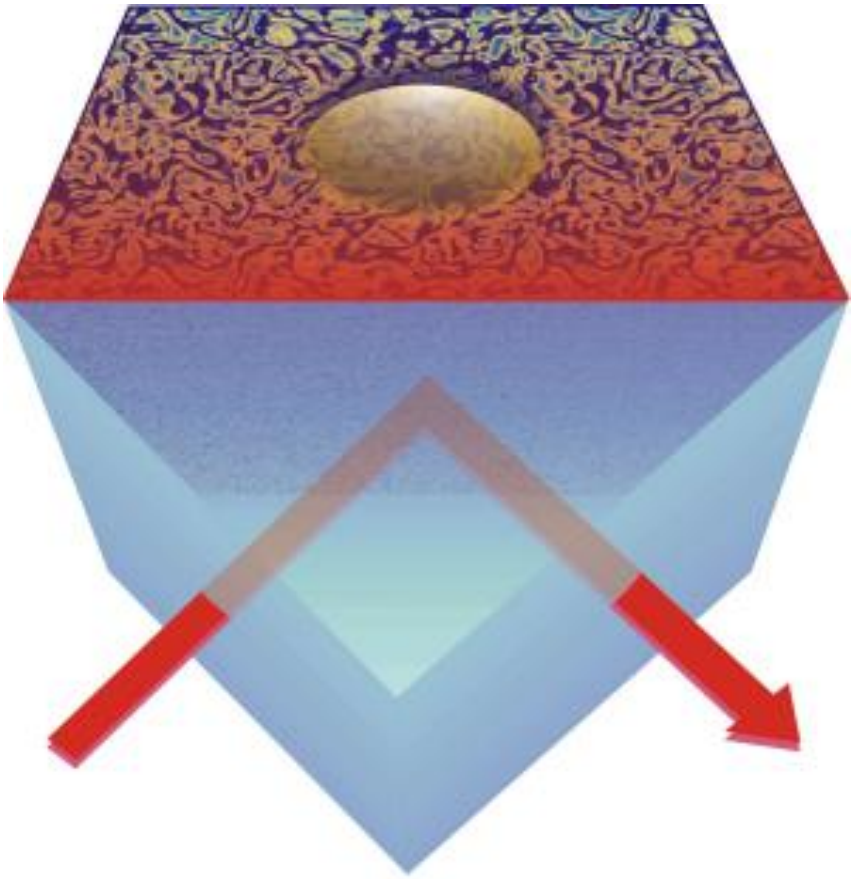
That contraction creates force that is used in many cases to move muscle fibers, but in the case of MyH9, to rip the trailing end of a migrating T cell foot away from the surface it is migrating across by breaking integrin-ICAM bonds. The results provide the first evidentiary support of the longstanding theory that cell skeleton contractile force is used to drive T cell migration, with MyH9 as the mechanical link. Captured images show fluorescently tagged actin (which partners with LFA-1 to grip the surface) gathering at the front end of the cell, and fluorescently tagged MyH9 gathering at the tail end in cycles, each time the cell takes a "step."The study was a joint effort by the Department of Surgery at Rhode Island Hospital, Brown Medical School, the Department of Physics at Brown University, the CBR Institute for Biomedical Research at Harvard Medical School and the departments of Chemical Engineering, Biomedical Engineering and Department of Microbiology and Immunology at the University of Rochester. The project was supported by the American Heart Association, the Rhode Island Foundation, the National Institutes of Health, the National Science Foundation and the Brown University Seed Grant.

In the next phase, the team will seek to develop better-targeted, anti-integrin therapies, with MyH9 among the rational targets for new classes of drugs. Toward that end, experiments currently underway are designed to determine which molecules regulate MyH9 activity during T cell migration."Initial clinical studies on T cell migration focused on overall blocking of migration, but general inhibition is a blunt tool," said Tim Mosmann, Ph.D., director of the David H. Smith Center for Vaccine Biology and Immunology. "As studies such as Dr. Kim's help us to understand the process more precisely, we should be able to design much more precise methods to block migration in the selected circumstances that cause problems, without crippling the essential immune responses to infections."

Adapted from materials provided by University of Rochester Medical Center.

http://www.sciencedaily.com/releases/2008/01/080114082323.htm

Forces Out Of Nothing: Nano-scale Mechanical Switches Or Sensors Now Possible



Floating measurements: A beam of light is reflected completely from the side of a glass container; just a little light leaks into it. How much of it the sphere reflects depends on its distance from the wall and therefore on the force that attracts it to the wall. (Credit: Ingrid Schofron /Max Planck Institute for Metals Research)

ScienceDaily (Jan. 14, 2008) — Stuttgart-based physicists observe the critical Casimir force and use it to cancel out an effect that brings nanomachines to a standstill. When a machine jams, it's the fault of the engineer - or of physics. The latter is true at least for the first simple nanomachines which are slowed down by the Casimir effect. This force only works on the scale of a few millionths of a centimetre and makes tiny machine parts cling together. Scientists from the Max Planck Institute of Metals Research and the University of Stuttgart have now observed a similar force in a mixture of two liquids. They have also found a way to reverse the effect of the force so that blockages might be avoided in future nanomachines. This will make it possible to miniaturise machines even further and produce nano-scale mechanical switches or sensors.

Nothing comes from nothing. Only in physics is this not always true. For example, two metal plates placed about half a micrometre apart in a vacuum and at a temperature of absolute zero exert a mysterious attraction on each other. The force pushing the plates together comes from the quantum mechanical fluctuations of the vacuum - so from nothing. This fluctuation represents variations in electromagnetic waves. These need to have a node on the surfaces of the two electrically conductive plates, which considerably limits the number of waves permitted between the plates. Outside of the plates they can spread without restriction. This results in the attraction between the plates.

The physicist Hendrik Casimir predicted this effect in theory as early as 1948; today it is the reason why the components in nanomachines adhere to each other. Clemens Bechinger, professor at the University of Stuttgart and a Max Planck Fellow since the beginning of the year, Christopher Hertlein

and other staff members have now observed a very similar force in experiments with a mixture of water and the oily liquid lutidine: the critical Casimir force. "This force is so weak that it is very difficult to detect," says Clemens Bechinger. The results nevertheless agree very well with the values that Siegfried Dietrich, director at the Max Planck Institute of Metal Research in Stuttgart and his team had predicted in theory. The scientists have now published the results jointly.

The critical Casimir force gets its name from the fact that it occurs close to a critical point, such as that in a mixture of water and lutidine. At low temperatures it forms a clear solution. However, if the solution is heated to around 34 degrees Celsius, it becomes two separate mixtures; physicists refer to these as two phases: one with a high water content and the other with a high lutidine content.

The temperature at which this happens is called the critical temperature. The two phases do not come into being abruptly at this critical point, like water solidifying into ice. It is more the case that below the critical temperature areas form in the mixture that contain more water or more lutidine. The closer the temperature gets to the critical point, the larger these fluctuating areas grow and the longer they remain intact. "The way the concentration of water and lutidine fluctuates in different parts of the mixture is similar to the quantum mechanical fluctuations in the vacuum," says Siegfried Dietrich. The fluctuations in concentration should create an attraction between surfaces in a similar way. The researchers have now proven that this is exactly what they do.

"We observed a plastic sphere with a diameter of a micrometre floating in a glass with lutidine and water," says Christopher Hertlein. The temperature of the solution was initially much lower than the critical point. The researchers then heated it up gradually. When the temperature was only 0.2 degrees away from the critical point, the plastic sphere moved towards the glass surface.

The physicists used evanescent optical fields to determine the distance of the sphere to the glass surface by scattering them at the plastic sphere. They shined light towards the glass at a sharp angle so that it was reflected almost completely. Only a tiny part of the light leaked into the liquid. How much reaches the plastic sphere and how much this part is scattered depends very much on the distance of the sphere to the glass surface.

The researchers succeeded in using the distance of the sphere to calculate the force working on it. It was tricky: the tiny sphere moved very rapidly because it was constantly colliding with the heated molecules of the liquid. The critical Casimir force therefore only manifests itself in the form of statistical blips towards the glass surface. "We can only detect these statistical blips because our measuring method is several thousand times more sensitive than atomic force microscopy," says Clemens Bechinger: "That means we can measure in the range of one femtonewton". Atomic force microscopy measures the attraction which a surface exerts on a fine measuring arm. Using the optical measuring method, the physicists in Stuttgart have now established that the critical Casimir force only amounts to 600 femtonewtons, which is less than a millionth of the weight of a flea.

However, this force pushes the plastic sphere to the glass surface only when the glass and the sphere both prefer water or both prefer oil. If the two surfaces are coated so that only one of the two surfaces favors oil, the critical Casimir force pushes the sphere away from the glass surface. Then areas with a lot of water form on one surface and some with a lot of oil on the other. Since it takes energy to make contact between the water and the oil phases, the sphere is repelled.

"This is the effect that our theoretical calculations led us to expect," says Dietrich. The researchers expect that this experimental proof may offer the possibility of stopping blockages in nanomachines. These machines, on a scale of a few millionths of a centimetre, could one day be used as actuators in medicine, for example. They could allow less invasive operations or medication to be transported directly to the focus of disease. However, one of the reasons machines like this have failed up to now is partly due to the Casimir force of the quantum mechanical vacuum fluctuation, which brings them to a standstill. "If these machines would work not in a vacuum, but in a liquid mixture close to the critical point, that could be changed," says Siegfried Dietrich. Then the machine parts could be coated so that the Casimir force has a repelling effect, meaning that the machine runs smoothly. This is one of the

objectives that Dietrich's theoretical group and Bechinger's experimental group will be pursuing in the future.

[PH]

Journal reference: Christopher Hertlein, Laurent Helden, Andrea Gambassi, Siegfried Dietrich, Clemens Bechinger. Direct measurement of critical Casimir forces. Nature, January 10, 2008 (DOI: 10.1038/nature06443)

Adapted from materials provided by Max Planck Institute of Metals Research.

http://www.sciencedaily.com/releases/2008/01/080112163117.htm

High Blood Pressure In Older Adults Traced To Gene's Effects In Blood Vessels

ScienceDaily (Jan. 14, 2008) — Scientists have identified the gene that sets off a sequence of events in the blood vessels of otherwise healthy adults that can lead to high blood pressure. The disease process eventually makes conditions in vessels ripe for the creation of blockages that can cause heart attacks, strokes and circulatory problems.

The finding in a study led by Ohio State University researchers might lead to new therapeutic options for high blood pressure, especially hypertension associated with aging. Obesity and aging contribute to increasing cases of high blood pressure, which currently affects an estimated 50 million Americans.

Despite more intensive treatments available for hypertension, little has been done to prevent it. A change in the structure of the blood vessels, called vascular remodeling, increases with age and triggers the onset of the disease. When remodeling occurs, blood vessel walls increase in thickness, decreasing the diameter of the channel through which blood normally flows.

The gene, called profilin 1, has been traced to a series of interactions within the smooth muscle cells of blood vessels that causes those cells to increase in size. This in turn narrows the channel through which blood flows, causing stress on vessel walls, injuring the lining of the vessel walls and making it easier for blockages to develop. By identifying this pathway, researchers hope to pinpoint the most effective therapeutic target to interfere with the disease process.

The researchers used genetically altered mice that produce excessive amounts of the human profilin 1 gene in the vascular smooth muscle cells and observed the changes to the vessels that followed, which led to high blood pressure by the time the mice were 6 months old – the rough equivalent to middle age in humans.

“We created the disease in the animals and then went backwards to understand how the disease developed. This is an important finding because vascular disease originates in the smooth muscle cells, which have significant impact on the dysregulation of blood pressure that leads to heart disease,” said Hamdy Hassanain, assistant professor of anesthesiology at Ohio State University and senior author of the study.*

Blood vessels contain three important layers – the endothelium that lines the vessel walls, the smooth muscle cells responsible for regulating blood flow, and the lumen, the open channel through which blood travels. In healthy young humans, the production of compounds by the cells in these layers remains balanced, allowing for normal vessel function and unrestricted blood flow.

Hassanain developed a transgenic mouse that produces excess human profilin 1 in the smooth muscle cell area with the intent to cause stress in the vessel walls that leads to hypertrophy, or an enlargement of the smooth muscle cells that eventually leads to structural and functional changes in the entire vessel. The mice were developed to test the theory that the impaired regulation of the profilin 1 gene would eventually lead to high blood pressure, and observe how that happens.

“Vascular remodeling is a known problem as people get older. Their blood vessels tend to stiffen, even in healthy adults. This causes stress on the vessels, which leads to hypertension,” Hassanain said.

At the heart of the vessel activities is a protein called actin within the smooth muscle cells, and its relationship to profilin 1. In the presence of too much profilin1, actin is transformed from a loosely configured protein into a more rigid fibrous state. This change in actin's nature increases the size and the stiffness of smooth muscle cells.

The cells undergo other changes that prepare them for cell division, but under these conditions, the vessel lining releases a substance, nitric oxide, that won't allow the cells to divide. The smooth muscle

cells' resulting growth pushes inward, putting pressure on the lumen and restricting blood flow, resulting in high blood pressure.

“Profilin 1 is a tool that triggers events that make the vessel more constricted and leads to the signal that results in vascular remodeling. Because we have understood the pathway of the disease process, we might be able to control vascular remodeling,” Hassanain said.

Once a vessel is remodeled, more trouble is typically ahead. Diseased vessels are often characterized by injuries to the endothelium, where the lining of the vessel loses its protective layer. Once the lining is injured and vulnerable, smooth muscle cells will start to migrate inward, creating sticking points for fats, debris and other blood remnants.

“That's the first hint of plaque. The smooth muscle cell migration is the tip of the iceberg of the plaque,” Hassanain said. “We're talking about all vessels, but when we're talking about this narrowing effect in the brain, this could lead to stroke, and in the coronary artery, it could lead to heart attack. It's all the same phenomenon.”

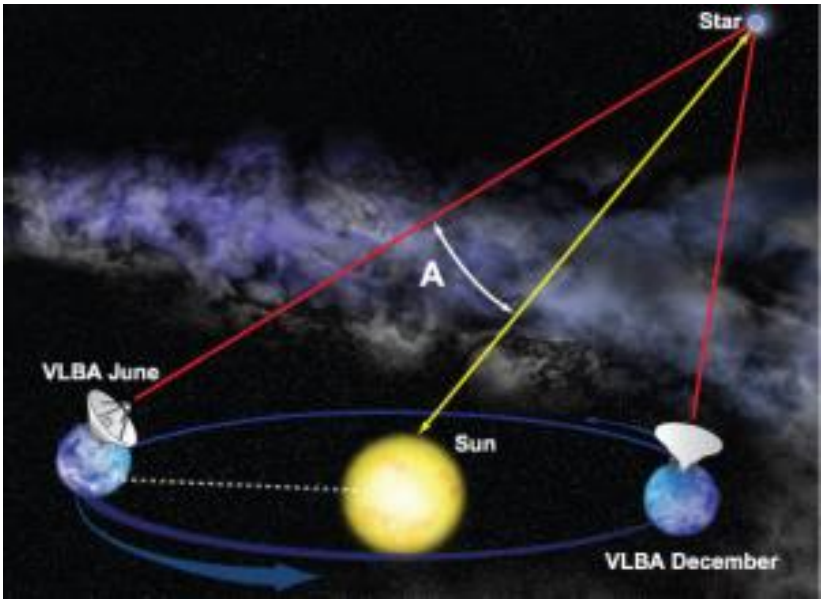
*The findings were published in the Dec. 28, 2007 issue of the Journal of Biological Chemistry.

Other Ohio State co-authors of the study are Mazin Alhaj, Maqsood Chotani, Zeinb Aboelnaga, Mohamed Hassona, Gerard Nuovo and Jay Zweier, all of the Davis Heart and Lung Research Institute; Osama El-Sayed of cardiology; and Sheik Wisel of surgery; additional co-authors are Mariana Morris of Wright State University and Pascal Goldschmidt-Clermont of the University of Miami. First author Moustafa Moustafa-Bayoumi completed his Ph.D. in Hassanain's lab at Ohio State and is now at California State Polytechnic University .

Adapted from materials provided by Ohio State University.

http://www.sciencedaily.com/releases/2008/01/080110114453.htm

Radio Telescopes' Sharp Vision Yields Rich Payoffs



Very Long Baseline Interferometry provides extremely high precision that can extend use of the parallax technique to many more celestial objects. Parallax is a direct means of measuring cosmic distances by detecting the slight shift in an object's apparent position in the sky caused by Earth's orbital motion. (Credit: Bill Saxton, NRAO/AUI/NSF)

ScienceDaily (Jan. 14, 2008) — Having the sharpest pictures always is a big advantage, and a sophisticated radio-astronomy technique using continent-wide and even intercontinental arrays of telescopes is yielding extremely valuable scientific results in a wide range of specialties. That's the message delivered to the American Astronomical Society's meeting in Austin, Texas, by Mark Reid of the Harvard-Smithsonian Center for Astrophysics, a leading researcher in the field of ultra-precise astronomical position measurements.

"Using radio telescopes, we are measuring distances and motions of celestial bodies with unprecedented accuracy. That's helping us better understand many processes ranging from star formation to the scale of the entire Universe," Reid said.

The observing technique, called Very Long Baseline Interferometry (VLBI), was pioneered in 1967, but has come into continuous use only in the past 10-15 years. The National Science Foundation's Very Long Baseline Array (VLBA), a system of 10 radio-telescope antennas ranging from Hawaii to the Caribbean, was dedicated in 1993. There are other VLBI systems in Europe and Asia, and large radio telescopes around the world cooperate regularly to increase sensitivity. VLBI observations routinely produce images hundreds of times more detailed than those made at visible-light wavelengths by the Hubble Space Telescope.

Several groups of researchers from across the globe use the VLBA to study stellar nurseries in our own Milky Way Galaxy and measure distances to regions where new stars are forming. The key has been to improve measurement accuracy to a factor of a hundred times better than that produced by the highly successful Hipparcos satellite. Using small clouds of gas in star-forming regions that strongly amplify radio waves, called cosmic masers, the astronomers measured the tiny shift in the object's position in the sky caused by the Earth's orbit around the sun. This, in turn, yielded highly accurate distances by the simple surveying technique of triangulation, the "gold standard" of distance measuring techniques available to astronomers.

"Knowing the distance accurately means we also know the luminosities, masses and ages of the young stars much more accurately, and that is vital to understanding how star formation works," Reid said.

In addition, he pointed out, the VLBA observations have shown the motions of the young stars in the Milky Way are much more complicated than simple circular motion. Massive young stars appear to be born orbiting the Milky Way considerably slower than older stars. "This might be explained by the interaction of giant molecular clouds, the ultimate sites of massive star formation, as they 'surf' spiral density waves in the Milky Way."

An international team of scientists lead by Reid has used VLBI to detect the slight change in apparent position of the object at the Milky Way's center caused by our Solar System's orbit around that center. "It takes our Solar System more than 200 million years to circle the center of our Galaxy, and yet we can detect that motion in only a couple weeks with the VLBA-truly astounding!" Reid said.

The VLBA studies of the Galactic Center have shown that an object called Sagittarius A* (A-star) is at the exact gravitational center of our Galaxy. That means, the scientists say, that the object must be incredibly massive. "The VLBA measurements, combined with infrared observations of stellar orbits around this object, provide overwhelming evidence that it's a supermassive black hole," Reid explained. "These observations are also going to make it possible to re-define the coordinate system used to map the entire Galaxy," Reid added.

Looking farther outward, astronomers achieved a longstanding goal of measuring the spin of another galaxy. In 2005, Reid and his colleagues measured both the rotational spin and the motion in space of the galaxy M33, nearly 2.4 million light-years from Earth. Astronomers in the 1920s had attempted such a feat, but their results were not accurate enough. "This achievement had to wait for the VLBA," Reid said. This and subsequent work has put strong limits on the amount of unseen "dark matter" around the giant Andromeda galaxy, which M33 orbits. A continuing goal is to use VLBI observations to measure the orbits of these and other galaxies within the Local Group of galaxies to which our own Milky Way belongs.

In 1999, astronomers set a new standard for a distance measurement outside the Local Group of galaxies when they used the VLBA to make a direct geometric distance measurement to a galaxy called NGC 4258, 23.5 million light-years from Earth. That measurement, accurate to within 7 percent, caused other scientists to revise their indirect-measurement techniques for the rest of the Universe. The NGC 4258 distance was calculated by measuring the motion of masers in a disk of gas containing water molecules and orbiting a supermassive black hole at the galaxy's center.

"Now, other galaxies are being observed in hopes of extending direct distance measurement even farther out in the Universe," Reid said. "One candidate, called UGC 3789, at a distance of about 160 million light-years, will be measured with about 10 percent accuracy. Our goal is to further improve these measurements and to measure 5 to 10 other galaxies in order to determine the Hubble constant (the expansion rate of the Universe) to 3 percent accuracy. This would put limits on key parameters of the dark energy that apparently is accelerating the expansion of the Universe," Reid added.

The kind of accurate measurement of distances and motions that VLBI observations provide can benefit numerous other areas of astronomy, Reid pointed out. For example, the distances to pulsars have been measured directly with the VLBA, yielding better understanding of their characteristics. The technique also could reveal planets circling some nearby stars.

"Anytime you can do something as dramatic as improving measurement accuracy by a hundredfold, you're bound to get a great scientific payoff," Reid said. "We're looking forward to exciting new results in the coming years," he added.

Adapted from materials provided by Harvard-Smithsonian Center for Astrophysics.

http://www.sciencedaily.com/releases/2008/01/080112152526.htm

Almost Half Of People Claiming Head Injuries Fake It For Financial Reasons, Study Suggests

ScienceDaily (Jan. 14, 2008) — How can it be proved that a patient is lying when they say that they have a cognitive problem, such as memory or concentration problems or anxiety? There are many people who exaggerate their injuries and even feign them in order to receive more money from insurance companies or obtain a sick leave, according to a pioneering research in Spain.

This research was carried out in the Department of Personality, Assessment and Psychological Treatment of the University of Granada by Doctor Raquel Vilar López. The conclusions of her study, which focused on patients who suffered from head injuries, speak for themselves: nearly half of the people who go to court feign psycho-cognitive disorders with the objective of profiting from this in some way. They are not hypochondriacs or overanxious or obsessive patients, they just lie in order to receive some sort of compensation, such as money. They are the so called 'simulators'.

Until now, in Spain no reliable system existed to detect if a person was faking their symptoms. For this reason the study by Vilar López coordinated by Manuel Gómez Río and Miguel Pérez García is so important: for the first time, Spanish health professionals have a set of reliable tools to prove empirically if a patient is lying when they declare, for example, that their memory problems renders them unfit for work.

Validated Evidence

The work by this researcher has validated a series of 'tests' which, when used on patients without them being aware of it, detect which patients are simulators and which are not. These neuropsychological tests were included in a three-hour-long battery of neuropsychological tests which assesses other cognitive aspects of the patient in order to disguise the actual tests and in this way obtain the desired information.

Raquel Vilar López explains that in her research she adapted a series of tests that where already known in the United States – a country with a long history of work in the field of neuropsychology – to the Spanish context, because "the neuropsychological tests cannot be extrapolated without adjustments from a context to another". The percentage of patients who suffer from head injuries that feign symptoms is nearly the same as that obtained by the American researchers.

The study carried out in the UGR also included a method which has become very popular recently due to several television programs: the lie detector, an instrument which registers the physiological responses of blood pressure, heart beat, breathing rate and galvanic skin response.

Vilar López used this equipment with a group of 80 Psychology students as the "analogous group", that is, as no patient would admit being a simulator, a group of people without any disorders were asked to fake them in order to confirm the validity of the test. Furthermore, 54 actual patients were analyzed by the doctor. These patients belonged to different departments of the University Hospital Virgen de las Nieves in Granada.

The researcher explains that "although the lie detector itself has no scientific rigor, it could be an efficient instrument if combined with other tools, as for example the tests that we have validated".

Part of the results of her research were presented at the last 'International Neuropsychological Society' and 'National Academy of Neuropsychology' conferences and also published in the scientific journal 'Archives of Clinical Neuropsychology'.

Adapted from materials provided by Universidad de Granada.

http://www.sciencedaily.com/releases/2008/01/080111100631.htm

Two Steps Closer To Understanding Genetic Underpinnings Of Autism

ScienceDaily (Jan. 14, 2008) — The American Journal of Human Genetics (AJHG), describes what might be a corner piece of the autism puzzle--the identification and subsequent validation of a gene linked to the development of autism by three separate groups of scientists.

Autism is a perplexing disease whose cause remains unexplained. It has long been suggested that environmental factors, linked with genetics, play a role in causing the disorder. As recently as last week, researchers in California published a study that found no proof linking autism with a mercury-based preservative found in childhood vaccines. While there are no clear-cut answers, researchers are one step closer to understanding autism's genetic cause.

In March 2006, Dr. Stephan, Director of TGen's Neurogenomics Division, led a team of researchers at TGen and collaborators at the Clinic for Special Children (CSC) in Strasburg, PA, that identified a gene called CNTNAP2. When mutated, this gene indicated a predisposition to autism in a specific population of Old Order Amish children from Pennsylvania.

One of the most important principles in science is the ability to replicate results. Now, three groups of researchers from Yale University, the University of California, Los Angeles, and the Johns Hopkins University, have replicated the initial finding in the general population, unequivocally implicating this gene as causing the newly defined Type 1 autism. All three studies plus Dr. Stephan's commentary are published in the January edition of AJHG.

According to Dr. Erik Puffenberger, Laboratory Director of the Clinic for Special Children, "Our previous finding of association between loss of CNTNAP2 function and autistic behavior has been validated in the general population. This is a very exciting step for autism research. It also highlights the enormous potential of the 'small science' approach. Our initial work used only four affected Amish children. Careful study of these four patients uncovered the association between CNTNAP2 and autistic behaviors. From that small beginning, CNTNAP2 has now been implicated as a significant risk factor for autism."

Autism spectrum disorder (ASD) is a broadly used term for a set of developmental disorders that emerges in infants and young children. ASD impairs a child's intuitive thought, language and social development to varying degrees. Most individuals diagnosed with ASD require lifelong supervision

and care; the most severely affected are unable to speak. ASD is the fastest growing developmental disability in the U.S. Two decades ago, roughly one child in 10,000 was diagnosed with ASD; it now affects one in 150 births.

"The field of genetics is replete with examples where researchers are unable to reproduce results. Here we have independent confirmation in multiple groups using large samples sizes," said Dr. Stephan. "Now that the results of the initial CNTNAP2 gene finding have been replicated, it strongly supports the notion that the 'broken version' of CNTNAP2 is recognized as a cause of autism in the general population."

In collaboration with the Phoenix-based Southwest Autism Research & Resource Center (SARRC), a nonprofit community-based organization dedicated to research, education and resources for individuals with ASDs and their families, TGen will apply these research findings to children in Arizona who have been diagnosed with ASD.

"The heterogeneity of the disorder has frustrated our past efforts in the search for causes of autism," said Dr. Raun Melmed, medical director and co-founder of SARRC. "This exciting discovery will further our capacity to individualize approaches to the diagnosis and treatment of autism."

The next step, noted Dr. Stephan in the commentary, is to develop a diagnostic to test for the CNTNAP2 mutation. If physicians could implement behavioral interventions early enough, children with autism may have a better chance of developing normally.

Adapted from materials provided by Translational Genomics Research Institute.

http://www.sciencedaily.com/releases/2008/01/080110144803.htm

Previous Findings Regarding Widely Used Asthma Treatment Challenged

ScienceDaily (Jan. 14, 2008) — A new study published recently in The Lancet reveals that one of the most commonly used asthma medicines -- long-acting beta-agonists -- may not be associated with adverse events in people based on their genotype (gene variation), as previous studies had shown.

The study analyzed the effects of long-acting beta-agonist therapy, used in combination with inhaled corticosteroids, in asthmatics who have a specific beta-2 adrenergic receptor (ADRB2) genotype.

Investigators analyzed data from two clinical trials performed by AstraZeneca Pharmaceuticals LP. In each trial, patients were randomized to receive one of two different long-acting beta-agonists. In the case of each of the therapies, asthma symptoms and control improved, but no differences were observed based on the ADRB2 genotype.

"These results are extremely important because previous studies on short-acting beta-agonists showed evidence for an adverse genotypic effect," said Eugene R. Bleecker, M.D., Thomas H. Davis Professor of Medicine, co-director of Center for Human Genomics at Wake Forest Baptist, and lead-investigator for the study. "Smaller studies on long-acting beta-agonists have produced conflicting results."

Current guidelines recommend the use of combination therapy, with long-acting beta-agonists and inhaled corticosteroids, to control moderate to severe persistent asthma.

"With over 2,000 patients in this study receiving combination therapy, it was reassuring that no adverse safety effects could be attributed to an individual's genotype," said Bleecker.

Ten percent of the U.S. population suffers from asthma. Each year, approximately 4,000 people die with asthma as the underlying cause.

Co-investigators were Deborah A. Meyers, Ph.D., professor of pediatrics, co-director of Center for Human Genomics, and section head of Medical Genetics at Wake Forest, Dirkje Postma, M.D., professor of pulmonary medicine, University of Groningen, The Netherlands, and Helen J. Ambrose, Ph.D., Mitch Goldman, M.D., and Rachel Lawrence, B.Sc., of AstraZeneca Pharmaceuticals LP.

Conflict of interest statement: There was no pharmaceutical support of the analysis. Bleecker has received grant support to perform clinical trials from AstraZeneca, has served as a consultant AstraZeneca, and has presented Continuing Medical Education and other lectures sponsored by AstraZeneca. Meyers has received grant funding from AstraZeneca for directing a two-day postgraduate course on human genetics and pharmacogenetics in 2006 and 2007. Postma has received research funding from AstraZeneca. Ambrose, Goldman and Lawrence are employees of AstraZeneca and hold stock in the company. All the pharmaceutical industry grant support was administered through their respective University/Medical Centers for the above authors and no financial support was received by any of the authors for the studies presented in this report.

Adapted from materials provided by Wake Forest University Baptist Medical Center.

http://www.sciencedaily.com/releases/2008/01/080110163853.htm

Aroma Of Chocolate Chip Cookies Prompts Splurging On Expensive Sweaters

Female study participants in a room with a hidden chocolate-chip cookie scented candle were much more likely to make an unplanned purchase of a new sweater -- even when told they were on a tight budget -- than those randomly assigned to a room with a hidden unscented candle (67 percent vs. 17 percent). (Credit: iStockphoto/ Elena Elisseeva)

ScienceDaily (Jan. 12, 2008) — Exposure to something that whets the appetite, such as a picture of a mouthwatering dessert, can make a person more impulsive with unrelated purchases, finds a study from the February 2008 issue of the Journal of Consumer Research. For example, the researchers reveal in one experiment that the aroma of chocolate chip cookies can prompt women on a tight budget to splurge on a new item of clothing.

"We found that an appetitive stimulus not only affects behavior in a specific behavior domain, but also induces a shared state that propels a consumer to choose smaller--sooner options in unrelated domains," explains researcher Xiuping Li (National University of Singapore). "Similarly, the presence of an attractive woman in the trading room might propel an investor to choose the investment option providing smaller but sooner rewards."

In the first experiment, Li asked participants to act as "photo editors of a magazine" and choose among either appetite stimulating pictures of food or non-appetite stimulating pictures of nature. A control group was shown no pictures at all. All were then asked to participate in a lottery that would either pay them less money sooner or more money later.

Those who had been exposed to the photos of food were almost twenty percentage points more likely to choose the lottery with the chance of a smaller, more immediate payoff than those who were exposed to the photos of nature (61 percent vs. 41.5 percent) and eleven percentage points more likely to choose the short-term gain than those who had not been exposed to any stimulus (61 percent vs. 50 percent).

Similarly, another experiment used a cookie-scented candle to further gauge whether appetitive stimulus affects consumer behavior. Female study participants in a room with a hidden chocolate-chip cookie scented candle were much more likely to make an unplanned purchase of a new sweater -- even when told they were on a tight budget -- than those randomly assigned to a room with a hidden unscented candle (67 percent vs. 17 percent).

"The scent of the appetitive stimulus led to reduced happiness with remote gains, which implied that participants in a present-oriented state were less sensitive to future values," Li explains. "In addition, [this] experiment showed that participants were more likely to satisfy their current and spontaneous desire if they were exposed to the unrelated appetitive stimulus before they made the decision."

Li concludes: "If retailers want to push their customers to shop more rather than stay longer, they should not only maintain a pleasant environment but also an environment full of temptations and excitement."

Xiuping Li, "The Effects of Appetitive Stimuli on Out-of-Domain Consumption Impatience." Journal of Consumer Research: February 2008.

Adapted from materials provided by University of Chicago Press Journals.

http://www.sciencedaily.com/releases/2008/01/080108140137.htm

New York City Death Rate Reaches Historic Low

ScienceDaily (Jan. 14, 2008) — The death rate in New York City reached an all-time low in 2006, the Health Department reported today, as the number of deaths fell to 55,391 -- down from 57,068 in 2005 and 60,218 in 2001. Mortality declined in eight leading categories, including diabetes, HIV, chronic lung disease and kidney failure. The only leading killer that increased significantly was substance use (up 8%). Heart disease and cancer remained the city's biggest killers, claiming 21,844 lives and 13,116 lives, respectively. The figures come from the latest Annual Summary of Vital Statistics, the definitive registry of births and deaths in New York City.

The Annual Summary also provides new details on New Yorkers' life expectancy. Those figures, based on 2005 data, show that women's life expectancy rose by 2.5 months, reaching a record 81.3 years. Male life expectancy held steady at 75.7 years in 2005, while overall life expectancy increased from 78.6 years to 78.7 years.

"New Yorkers are living longer, healthier lives," said Dr. Thomas R. Frieden, New York City Heath Commissioner, "but too many New Yorkers are still dying from preventable causes. The leading causes of premature death can be prevented by quitting smoking, controlling blood pressure and cholesterol, reducing risky sex and using condoms to avoid HIV, and living free of alcohol and drug dependence. We are working with community groups and health providers to help all New Yorkers achieve better health."

Leading Causes of Death in New York City, 2006

The report reveals a steady decline in smoking-related deaths, which have fallen by 11% since 2002 (from 8,722 to 7,744 among adults 35 and older). Deaths from smoking-induced cardiovascular disease fell by 14% from 2002 to 2006. Fatal lung cancer fell by 8% during the same period, and deaths from chronic airway obstruction declined by 17%. Recent declines in NYC's smoking rate should yield similar benefits in future years. Smoking-related deaths are calculated by methods published by the federal Centers for Disease Control and Prevention; these estimates do not include deaths from exposure to second-hand smoke.

While overall cancer deaths declined among people under 65 in 2006, the toll from colon cancer rose by 17%. Colonoscopy screening can prevent colon cancer deaths by identifying the condition at its earliest, most treatable stages. New York City has dramatically improved its screening rate in recent years -- 60% of adults over 50 had received colonoscopies when surveyed last year, up from 52% in 2004 - but colon cancer progresses slowly, so the increase in screening may not affect the death rate for several more years.

Deaths from HIV disease fell by nearly 15% in one year -- from 1,419 in 2005 to 1,209 in 2006 -- and the toll declined for both sexes and all ethnic groups. Numbers this low have not been seen since 1984, when New York City recorded 952 deaths from AIDS. Researchers attribute the continuing decline to several factors, including a lower infection rate among injecting drug users (thanks in part to syringe exchange programs), increased health services for injecting drug users, a declining population of injecting drug users, expanded HIV testing and referral to care, and slower disease progression among people receiving antiretroviral therapy. HIV mortality is still concentrated among NYC's minority populations, with roughly 34% of HIV deaths occurring among black men and 21% among black women; 11% of HIV deaths occur among white men and 3% among white women.

New HIV diagnoses have recently increased among young men who have sex with men, but the trend has yet to affect mortality rates.

The toll from diabetes fell 6% to 1,708 in 2006, after rising by more than 4% a year earlier, but experts take little comfort in the new number. Premature deaths from diabetes (those among people under 65) increased by 6.4% during the same period, reflecting a worsening citywide epidemic. Type-2 diabetes,

which is closely tied to obesity, is a leading cause of blindness, amputations, kidney failure and heart attack.

The report charts a 12% drop in deaths from influenza and pneumonia, which together constitute the city's third leading killer. Likely explanations include normal variation and a mild flu season. It is not too late to get a flu vaccination this season. Influenza has yet to have widespread transmission and vaccine is plentiful -- call 311 for clinic locations.

Births in New York City, 2006

In 2006, 125,506 babies were born in New York City, an increase of nearly 3,000 over the 2005 total. The 2.3% increase fell short of the 3% rise seen nationally, but it marked the biggest baby boom New York City has seen since 1988. The number of live births to teenagers increased by 1.3%. The Bronx had the highest number of teen births with 2,514 babies -- 11.8% of the borough-wide total was born to teenagers. Teen births were less common in the city's other boroughs, accounting for 7% of the total in Brooklyn, 6.1% in Queens, 6% in Staten Island, and 5.8% in Manhattan. The Health Department, through its Healthy Teens Initiative, is working with health care providers to improve access to contraception and reproductive health care. The new report shows a continuing decline in the infant mortality rate (the proportion of children who die before their first birthday each year). The citywide rate has fallen by 16.9% in the past 10 years, from 7.1 per 1,000 live births in 1997 to 5.9 in 2006, but that figure masks sharp racial and economic disparities. Black babies remain twice as likely to die in the first year of life as white babies, and in the Bronx, one of the nation's poorest areas, the infant mortality rate was 7.1 deaths per 1,000 births in 2006, up from 6.3 in 2005. The national infant mortality rate was 6.8 per 1,000 in 2004, the most recent year on record.

The leading causes of infant mortality, both in New York City and nationally, are birth defects, premature birth and low birth weight. The Health Department is taking steps to reduce infant mortality and address its disparate impact by expanding its Nurse-Family Partnership program, a home-visiting program for low income, first-time mothers; offering home visits to families with new babies in parts of Harlem, Brooklyn and the Bronx; promoting breastfeeding through the Breastfeeding Initiative; providing portable cribs and safe-sleep education through the New York City Safe Sleep Initiative; and supporting access to contraceptive services to help prevent unplanned pregnancies, known to increase the risk of infant mortality.

Other Highlights of the 2006 Vital Statistics Summary

- Heat-related deaths rose from 6 in 2005 to 49 in 2006, the result of two summer heat waves.
- The number of deaths from exposure to cold fell from 16 in 2005 to 9 in 2006.
- Fatal occupational injuries increased from 88 in 2005 to 99 in 2006, attributable to an increase in construction-related injuries. The annual number has hovered near 100 since reporting started in 1996.
- Deaths due to chronic lung disease decreased by 12.3% from 2005 to 2006.
- There were 200 fewer alcohol-attributable deaths in adults aged 20 and older, which decreased 12%, from 1,771 in 2001 to 1,563 in 2006.

Vital Statistics Annual Summaries are now available online as far back as 1961 at: http://www.nyc.gov/html/doh/html/vs/vs.shtml.

The Annual Summary of Vital Statistics is the Health Department's yearly report of births, deaths and other vital events in New York City. It is compiled by the agency's Bureau of Vital Statistics. Tables, graphs, and figures provide New York City health statistics according to ethnic group, gender, age, health-center district, community district and borough of residence. Death rates are age-adjusted to facilitate comparisons over time and among geographic areas. *Adapted from materials provided by New York City Health Department.*

http://www.sciencedaily.com/releases/2008/01/080109104254.htm

Heart Tests Offer New Options For Diagnosis

ScienceDaily (Jan. 14, 2008) — Consider this: more people die from heart disease each year than anything else. Catching it early increases your chances for not only surviving heart disease, but leading a full, active life. Cardiac catheterization has long been the standard method for doctors to check your heart for dangerously blocked vessels, the leading cause of heart attacks. But is it the best way to determine whether you could be at risk? During cardiac catheterization, an interventional cardiologist inserts a catheter into an artery through a small incision in the groin or arm. Through this catheter, the physician can perform an angiogram by injecting an opaque dye that makes the vessels show up like dark tree branches on a monitor. If there are any blockages, even tiny ones, the physician can usually see them and, in many cases, can immediately repair them without requiring the patient to undergo a second procedure.

Cardiac catheterization is certainly less invasive than undergoing open-heart surgery to repair vessels, but it still carries some surgical risks, such as bleeding, swelling, or bruising, but more serious complications may include infection, damage to the heart or blood vessels, and blood clots. Death is rare but possible, occurring about one percent of the time. That said, about a quarter of patients who undergo catheterization turn out to have no blockages at all. So what if those patients could get a diagnosis without the risk? A new generation of scanning technology allows physicians to see inside the body with amazing detail, without any incisions. Instead of the dark tree branches of an angiogram image, the physician can see full-color, 3-D images of the heart and the blood vessels that supply it and the rest of the body.

"New computed tomography (CT) scans--similar to an X-ray, but in much greater detail--use multiple 'slices' or imaging planes to gather detailed information of the heart and blood vessels," says Dr. Debabrata Mukherjee, director of the Peripheral Intervention Program and associate director of the cardiac catheterization laboratories at the UK HealthCare Linda and Jack Gill Heart Institute at the University of Kentucky. He is also an associate professor of internal medicine at the UK College of Medicine. Use of this imaging technology in diagnosis heart disease has grown so widely that Dr. Mukherjee has authored a textbook to help other physicians understand the best use of these imaging technologies, and UK plans to open a new facility dedicated soley to cardiac imaging at the Gill Heart Institute in 2008. Other imaging technology includes MRI (magnetic resonance imaging), which utlizies a powerful magnet instead of radiation; and nuclear medicine, which involves injecting radioactive tracer molecules to measure blood flow. While these imaging options are not new, the level of precision and detail has improved dramatically. By combining these technologies, physicians can get a better view of the heart than ever before.

This is good news for patients with risk factors--high blood pressure, high cholesterol, diabetes--whose level of heart disease is unknown. However, patients with more urgent cases, or patients with other problems such as irregular heartbeats, are better served by catheterization. Imaging also may not be as good as angiogram in displaying tiny blockages or certain kinds of blockages, such as calcium deposits rather than fatty plaque.

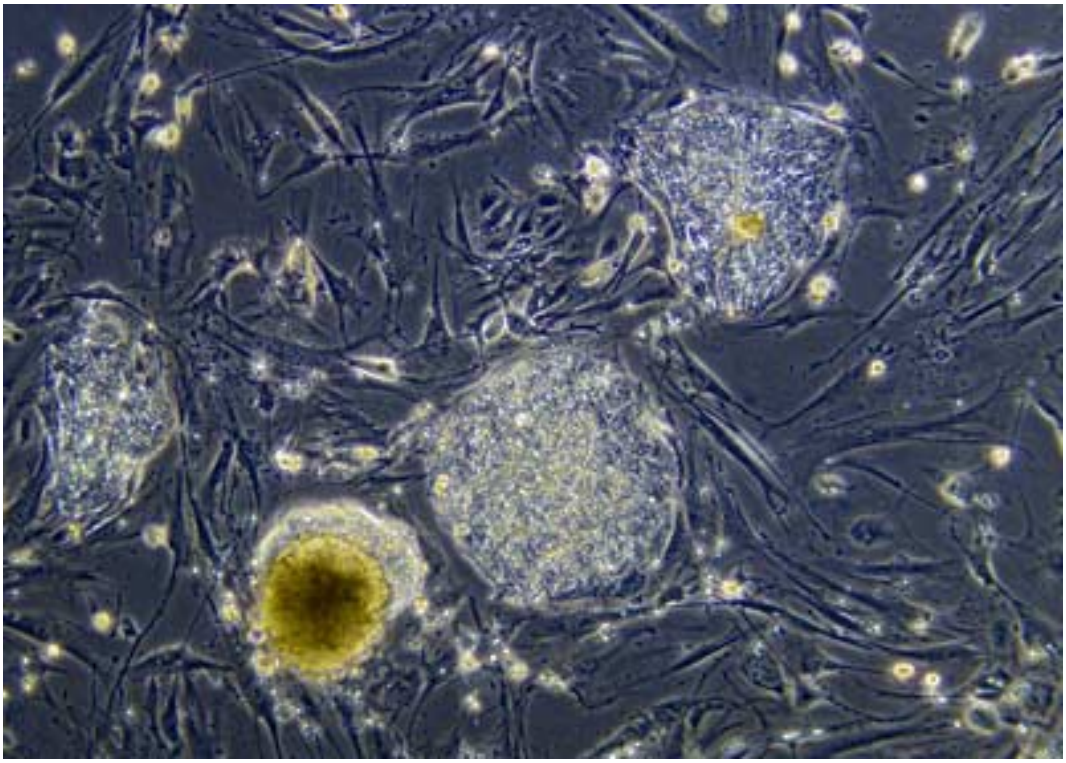
But for those who would otherwise be treated with a wait-and-see approach, imaging can provide quick, detailed answers for them and their physician. "This non-invasive form of imaging of the blood vessels appears safer than putting catheters directly into blood vessel and may identify life threatening blockages in the heart in appropriately indicated patients," Dr. Mukherjee says.

Most importantly, Dr. Mukherjee recommends discussing with your doctor the risks and benefits of any procedure if you're trying to determine the health of your heart.

Adapted from materials provided by University of Kentucky.

http://www.sciencedaily.com/releases/2008/01/080111202851.htm

Stem Cells Make Bone Marrow Cancer Resistant To Treatment



ScienceDaily (Jan. 14, 2008) — Scientists at the Johns Hopkins Kimmel Cancer Center say they have evidence that cancer stem cells for multiple myeloma share many properties with normal stem cells and have multiple ways of resisting chemotherapy and other treatments.

A report on the evidence, published in the Jan. 1 issue of the journal Cancer Research, may explain why the disease is so persistent, the Johns Hopkins scientists say, and pave the way for treatments that overcome the cells' drug resistance. Multiple myeloma affects bone marrow and bone tissue.

"Cancer stem cells that have distinct biology and drug sensitivity as compared with the bulk of a cancer may explain why multiple myeloma, like many other cancers, so often relapses even after chemotherapy puts patients into remission," says Richard J. Jones, M.D., professor and director of bone marrow transplant at Hopkins' Kimmel Cancer Center and one of the scientists who authored the new report.

The existence of cancer stem cells - a topic of some controversy in cancer biology - is seen by some scientists as a useful explanation for the long history of difficulty in overcoming some cancers' persistence.

The Hopkins investigators previously had uncovered a rare stem cell in myeloma, accounting for less than one percent of all the cancer's cells. Working with cell samples from myeloma patients, the team found that this stem cell originates from immune system B-cells and is capable of giving rise to the malignant bone marrow cells characteristic of the disease.

In the current study, the scientists isolated stem cells from the blood of four patients with multiple myeloma and transplanted them into mice. All of the animals developed hind-limb paralysis and showed signs of cancer in the bone marrow. By contrast, plasma cells that were transplanted from multiple myeloma patients to mice did not engraft. The Hopkins scientists say that recreating the disease in mice provides more evidence that these cells act as cancer stem cells.

The Johns Hopkins scientists also compared the response of these special stem cells with the bulk of multiple myeloma plasma cells, to four different chemotherapy medications commonly used to treat patients with the disease: dexamethasone, lenadilomide, bortezomib and 4-hydroxycyclophosphamide. While all four agents significantly inhibited the growth of the plasma cells, none inhibited the stem cells.

To their surprise, the research team noted that the multiple myeloma stem cells resemble other types of adult stem cells and exhibit similar properties that may make them resistant to chemotherapy. They found that the stem cells contain high levels of enzymes that neutralize toxins, like cancer drugs, and expel them through miniature pumps on their cell surface. The investigators believe that these drug-fighting enzymes and pumps - also plentiful in normal stem cells - may help cancer stem cells resist treatment.

"Nature made normal stem cells very hearty for a reason, namely to survive and help repair damaged tissues and organs after injury or illness," says William Matsui, M.D., an assistant professor of oncology at Hopkins and the study's lead investigator. "To us, it makes sense that the same processes that protect normal stem cells also exist in cancer stem cells to make them resistant to chemotherapy. We need to develop new ways to target the specific biology of cancer stem cells to prevent the continued production of mature tumor cells and disease relapse."

"Standard cancer therapy is like mowing the weed - it gets rid of the disease transiently but the dandelion always grows back. We need to get rid of the root to cure disease, and therefore need a different type of therapy - mowing won't work," says Jones.

Matsui says the work also may make it possible to track the rare myeloma stem cells as a marker of how well a patient is doing during treatment.

Multiple myeloma is the second most common blood cancer and strikes more than 14,000 Americans each year. Close to 11,000 will die from the disease.

The study was supported by the National Institutes of Health, the American Society of Clinical Oncology and the Pearse family. Additional participants in the research were Qiuju Wang, James P. Barber, Sarah Brennan, B. Douglas Smith, Ivan Borrello, Ian McNiece, Lan Lin, Richard F. Ambinder, Craig Peacock, D. Neil Watkins and Carol Ann Huff from Johns Hopkins.

Adapted from materials provided by Johns Hopkins Medical Institutions.

http://www.sciencedaily.com/releases/2008/01/080111123313.htm

Can Your Brain Control Your Blood Pressure?

ScienceDaily (Jan. 14, 2008) — It is a health concern that tens of thousands of people battle every day-- the struggle to keep their blood pressure in check. Oftentimes, it involves numerous medications and lifestyle changes. In some cases even that combination is not enough, and patients are faced with potentially life-ending consequences. The struggles are real for many people around the world.

That is why a FDA-approved clinical trial at the UK College of Medicine is so important.

Surgeons recently implanted the RheosR System into the first clinical trial patient. When the device was turned on, the patient's blood pressure measurements significantly decreased. The patient reported no discomfort.

The device is designed to reduce blood pressure by using small electrical signals to influence the body's blood pressure regulation system, called the baroreflex. The Rheos System is a pacemaker-like device that is implanted under the skin in the upper chest cavity and connected to two leads that are placed on the carotid arteries.

UK cardiothoracic surgeon Dr. Sibu Saha is one of the trial's primary investigators. "Hypertension is a silent killer and a major risk factor for stroke. I see its effects on patients every day. The Rheos device has shown promise in managing what was previously uncontrolled hypertension. I am pleased to be a part of this landmark trial," said Saha.

UK is one of only 24 medical centers participating in the trial and the only one in Kentucky. Patients will be monitored during a 5-year time period. The purpose of the UK trial is to assess safety, efficacy, and device performance.

High blood pressure affects about 72 million people in the United States.

Adapted from materials provided by University of Kentucky.

http://www.sciencedaily.com/releases/2008/01/080111202445.htm

Young Adults More Likely To Quit Smoking Successfully

ScienceDaily (Jan. 12, 2008) — Young adults are more likely than older adults to quit smoking successfully, partly because they are more likely to make a serious effort to quit, say researchers at the Moores Cancer Center at the University of California, San Diego.

The study also found that young adults, aged 18 to 24, are more likely to have tried to quit smoking than older adults, aged 50 to 64. "Most previous studies focused on smokers aged 35 and older who have smoked for 20 years or more," said John P. Pierce, Ph.D., director of the UC San Diego's Cancer Prevention and Control Program."That has led to an overemphasis on drug treatments to help cessation, whereas this study emphasized the importance of implementing a smoke free home if a smoker wants to quit successfully."

The study utilized the largest available national data sample, the 2003 Tobacco Use Supplement to the U.S. Current Population Survey, to evaluate the relationship between smoking cessation rates and tobacco-related behaviors between age groups. Eighty-four percent of those 18 to 24 years old reported seriously trying to quit in the prior year compared to just 64 percent of those 50 to 64 years old. Additionally, the proportion of recent smokers who had quit for at least six months generally decreased as age increased. The older the smoker is, the less likely he or she is to quit or even try to quit. Young adult smokers were also more likely to come from smoke-free homes, were less likely to use pharmaceutical aids, and typically smoked fewer cigarettes a day.

"It is likely that high cessation rates among 18 to 24 year olds also reflect changing social norms over the previous decade," said Karen Messer, Ph.D., Moores UCSD Cancer Center. "Future tobacco control efforts aimed at increasing cessation rates among young adult smokers should continue to target social norms."

The study also showed that smokers who lived in a smoke-free home were four times more successful at quitting than those not in a home with a smoker.

"It has been hypothesized that young people who take up smoking with restrictions at work and home are likely to develop lower levels of dependence than smokers who took up the habit without such restrictions," said Pierce. "Smoke-free homes place barriers around important potential smoking situations, such as after a meal. This study emphasizes that these barriers may be sufficient to prevent relapse and offer a partial explanation for the strong association of smoke-free homes and successful quitting."

The pharmaceutical aids, such as nicotine patches, inhalers, anti-depressive pills or nasal sprays, were helpful for smokers aged 35 to 49 years old.

In addition, while many studies have show that African-Americans have more difficulty quitting than Non-Hispanic White smokers, this study showed African-Americans were less likely to quit but more likely to report trying to quit.

The study "Smoking Cessation Rates in the United States: A Comparison of Young Adult and Older Smokers," was published in the Jan. 2, 2008 American Journal of Public Health.

This study was supported by grants from the Tobacco Related Disease Research Program and from the University of California.

Adapted from materials provided by University of California, San Diego Health Sciences.

http://www.sciencedaily.com/releases/2008/01/080111193824.htm

Breakthrough In Lowering Bad Cholesterol, Fatty Acid Levels Reported

ScienceDaily (Jan. 12, 2008) — There is "heartening" news out of the University of Alberta for those who may have overindulged during the recent holidays.

U of A medical researchers have found a way to reduce the amount of bad cholesterol and fatty acids that end up in the blood from food the body metabolizes, a key discovery that could lead to new drugs to treat and reverse the effects of Type 2 diabetes and heart disease related to obesity.

In a series of recently published articles,* Dr. Richard Lehner and his colleagues report they successfully decreased the level of LDL (low-density lipids) -- the so-called bad cholesterol -- in the blood of mice and hamsters by manipulating a particular enzyme.

It's well-known that eating too much fat and sugar and too little exercise will make you fat, and that obesity often leads to diabetes and heart disease. Lehner's group studied the mechanisms behind this.

"We established the proof of principle of how these metabolic pathways work," he says. "We discovered the activity of an enzyme that releases fatty acids from fat cells and the liver into the blood and how to inhibit this from happening."

Drugs called statins are used to lower LDL levels in patients, but do not treat obesity. What makes the U of A researchers' findings noteworthy is their discovery of how to inhibit LDL and triglycerides, which are another form of fat in the blood and a leading risk in obesity-related Type 2 diabetes as well as heart disease.

Lehner is director of the Group on Molecular and Cell Biology of Lipids in the U of A's Faculty of Medicine and Dentistry. The research is being supported by the Canadian Institutes of Health Research and the Heart and Stroke Foundation.

Lehner is also a senior scholar for the Alberta Heritage Foundation for Medical Research.

"There is a substantial pharmacological interest in the enzymes that control TG (triglycerides -- fatty acids) and cholesterol metabolism in tissues," he says.

This unique discovery is an important scientific breakthrough, but one that requires further testing, he notes.

He also notes that a pill would not be "a magic bullet." People still need to make the right lifestyle choices by exercising and eating properly, he says.

*Journal of Lipid Research (December 2007); Journal of Biological Chemistry (November 2007, March 2007)

Adapted from materials provided by University of Alberta.

http://www.sciencedaily.com/releases/2008/01/080110085145.htm

Saliva Test To Detect Breast Cancer Could Be Done By Dentist, Study Suggests

ScienceDaily (Jan. 11, 2008) — Researchers at The University of Texas Health Science Center at Houston can identify and quantify specific protein markers in human saliva to provide an early, non-invasive diagnosis of breast cancer, according to a new study.

The study describes how the onset of breast cancer produces a change in the normal type and amount of proteins in glandular secretions from the salivary glands. The protein profile in a healthy person is altered by the presence of cancer.

Lead researcher Charles Streckfus, D.D.S., a University of Texas Dental Branch at Houston professor of diagnostic sciences with an expertise in salivary function and molecular epidemiology, collaborated on the groundbreaking study with William Dubinsky, Ph.D., a biochemist and professor of integrative biology and pharmacology at The University of Texas Medical School at Houston; and Lenora Bigler, Ph.D., clinical research professor with the UT Dental Branch.

"Why not the dentist?" said Streckfus. "Most folks, especially women and children, visit the dental office way more often than they ever see the physician. Saliva is a non-invasive, quicker way for detection."

The study is being applied to a "lab-on-a-chip" technology platform developed by biochemists at The University of Texas at Austin. The ultimate goal is to bring this type of diagnostic test, which is capable of detecting the presence of cancer before a tumor forms, into the dental office or other health care facilities. The technology aims to improve the ease and effectiveness with which dental professionals and other health care providers can provide quick, accurate diagnostic information and physician referrals to their patients.

"The unique collaborative opportunities at the UT Health Science Center at Houston, The University of Texas M. D. Anderson Cancer Center and the Texas Medical Center fostered this study and made these remarkable findings possible," said UT Health Science Center at Houston President James T. Willerson, M.D. "A major strength of UT-Houston is putting together outstanding scientists in an environment of collaboration and cooperation. I am so very proud of Drs. Streckfus, Dubinsky and Bigler and their colleagues at M. D. Anderson and UT Austin."

Unlocking Saliva's Secrets

Dubinsky said saliva holds the codes to many medical secrets. "Saliva is a complex mixture of proteins. We go through a process that compares different samples by chemically labeling them in such a way that we can not only identify the protein, but determine how much of it is in each sample," said Dubinsky. "This allows us to compare the levels of 150-200 different proteins in cancerous versus non-cancerous specimens to identify possible markers for disease."

In the study, researchers analyzed saliva samples from 30 patients. They found 49 proteins that differentiated healthy patients from those with benign breast tumors and those with malignant breast tumors.

These findings suggest that patients can be tested for breast cancer by examining certain protein markers in their saliva during a visit to a dentist's office or other health care facilities.

According to the Susan G. Komen for the Cure Foundation, an estimated 25 million women globally will be diagnosed with breast cancer, and an estimated 10 million will die from the disease in the next 25 years if no cure is found, making early detection critical. Current tools for detecting breast cancer include ultrasounds, regular blood test screenings, mammograms and biopsies -- all of which the researchers hope will eventually be supplemented by salivary diagnostics.

Streckfus said that being able to chemically distinguish between benign and malignant tumors through a saliva test eliminates possible false positive results. The supplemental chemical confirmation could allow experts to immediately determine the patient's next treatment option, whether it be surgery, a biopsy or further testing.

"Dentistry has entered an exciting new era," said Catherine M. Flaitz, D.D.S., dean of the UT Dental Branch at Houston. "On every front, our researchers are exploring links between oral health and the overall health of patients, often with astonishing findings. We're working to bring those discoveries out of the lab and into the real world of dentists' and physicians' offices. We have a special opportunity to collaborate with some of the most talented clinicians and scientists within the world's largest medical center to evaluate the significance of oral biomarkers for predicting health and disease. It is such a rewarding time to be part of this great profession. "

'Lab-on-a-chip' Technology

The McDevitt Group, led by John McDevitt, professor of chemistry and biochemistry at UT Austin, is working with Streckfus and his colleagues to design the diagnostic device, which may eventually be reduced from the size of a refrigerator to a cellular phone. With a working prototype, a dentist can evaluate a patient's saliva sample in a routine office visit, with no delay for laboratory work.

The device will be tested in clinical trials in collaboration with Funda Meric-Bernstam, M.D., associate professor of surgical oncology at M. D. Anderson, and Mark Powell, M.D., of the Health and Human Services Department in Marin County, Calif.

By bringing the lab discoveries to the clinic, the ultimate goal of the collaborative effort is FDA approval under the current pending patent.

Streckfus and his collaborators are continuing to pursue salivary diagnostics for other types of cancer, such as ovarian, endometrial, cervical and head and neck cancers.

The study is published in the Jan. 10, 2008 issue of the journal "Cancer Investigation."

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

http://www.sciencedaily.com/releases/2008/01/080110123921.htm

Doctors Underestimate The Power Of Screening For Problem Drinking, Study Shows

ScienceDaily (Jan. 14, 2008) — A 10-minute screening and talk with a doctor about problem drinking delivers almost as much bang for the buck to the health system as childhood immunization and advice about taking aspirin to prevent stroke and heart attack, according to a new systematic review — but just 8.7 percent of problem drinkers report receiving such information.

The review, which appears in the February issue of the American Journal of Preventive Medicine, included data from 10 randomized controlled trials of alcohol problem screening and advice by primary care doctors.

“Reviewing this data and stepping back, it really struck me how truly important this finding is,” said lead author Leif Solberg, M.D., associate medical director for care improvement research at Health Partners in Minneapolis. “It’s a service most physicians don’t offer.” Solberg added that most doctors now recognize the importance of offering advice on quitting smoking, but with drinking, physicians are not onboard.

“I think most of my fellow physicians would think that their impact on alcohol use is close to zero,” he says.

“Alcohol screening and brief therapy are very cost-effective compared to other recommended medical services, yet they are employed least often of any of them,” said Alex DeLuca, M.D., former chief and medical director of the Smithers Addiction Treatment and Research Center in New York, who was not involved with the systematic review.

Brief intervention for alcohol is in the top-five most cost-effective preventive services, according to the research — coming in equal to or higher than many common screening services like Pap smears and bowel cancer screening.

DeLuca said of the review, “The analysis of cost-effectiveness was sophisticated and appropriate, and the calculations for alcohol services were comparable to the other services, supporting the relevance of the overall model and methodology used. The article supports prioritizing alcohol screening and counseling.”

The review found that screening and brief counseling reduced problem drinking by 17.4 percent over a period that varied from six months to two years among studies. This means that more than one in six problem drinkers who received these brief interventions no longer fit that definition six months to two years later.

Although that might seem like a small reduction, with one-fourth of people aged 18 to 54 engaging in problem drinking, cutting the numbers by that amount results in a large effect on the population as a whole.

Review studies relied on different definitions of problem drinking, but the task force viewed it as drinking more than seven drinks per week for women or more than 14 for men — or drinking more than three drinks on one occasion for women or four drinks per occasion for men. It includes risky behaviors such as drinking and driving, and binge drinking, which are not severe enough to meet the criteria for alcoholism or alcohol dependence.

Some reasons physicians tend not to screen for alcohol problems in general practice are a sense that a short talk with a doctor will not help alcoholics quit and a perception that those who are not alcoholics do not need advice on cutting back or stopping drinking.

However, Solberg said, “The value of this service comes without the difficulty of treating dependence — this is problem drinking.” Study co-author, Michael Maciosek, Ph.D., research investigator at

Health Partners, added, “The effectiveness does not depend on stopping drinking — it’s reducing the quantity or the number of times there is binge drinking.”

DeLuca said that many physicians are afraid of getting involved in “lengthy, uncomfortable encounters” with patients who could be defensive about drinking too much and they are generally pessimistic about the outcomes of treatment for alcohol problems, despite the strong research support for both brief interventions for problem drinkers and other therapies for alcoholics.

In terms of costs, the review found that each screening and counseling session cost about $10 per patient and saved the health care system about the same amount over five years in terms of reduced costs due to accidents, injuries and other alcohol-related health problems. It did not include savings due to possible health benefits of moderate drinking.

“Physicians do not screen for substance use disorders enough or provide brief counseling – even though if they did, many, many people would be spared much misery and illness and cost. So, patients, if the docs won’t bring it up, you should,” DeLuca advised.

Adapted from materials provided by Center for the Advancement of Health.

http://www.sciencedaily.com/releases/2008/01/080111203957.htm

Cranberries Help Combat Urinary Tract Infections In Women, Researcher Finds

ScienceDaily (Jan. 14, 2008) — Cranberry juice, long dissed as a mere folk remedy for relieving urinary tract infections in women, is finally getting some respect.

Thanks to Prof. Itzhak Ofek, a researcher at Tel Aviv University's Sackler Faculty of Medicine, the world now knows that science supports the folklore.Prof. Ofek's research on the tart berry over the past two decades shows that its juice indeed combats urinary tract infections.

And, he's discovered, the refreshing red beverage has additional medicinal qualities as well. Prof. Ofek has found that cranberry juice exhibits anti-viral properties against the flu, can prevent cavities, and lessens the reoccurrence of gastric ulcers. Unhappily for half the human race, however, new research published this year in the journal Molecular Nutrition & Food Research on ulcers, suggests that, like urinary tract infections, the healing power of cranberries apply only to women.

Medicinal "Teflon"

The remarkable healing property in cranberries stems from a heavy molecule known as non-dialyzable material or NDM. This molecule, isolated by Prof. Ofek and his colleagues, seems to coat some bodily surfaces with Teflon-like efficiency, preventing infection-causing agents from taking root.

Surprisingly, NDM appears to have no effect on some of the good bacteria in our bodies, says Prof. Ofek. His seminal research on the subject, in collaboration with Prof. Nathan Sharon from the Weizmann Institute, appeared in the world's leading medical journal, the New England Journal of Medicine, in 1991. "We understood that there was something in cranberry juice that doesn't let infections adhere to a woman's bladder," Prof. Ofek says. "We figured it was a specific inhibitor and proved this to be the case."

A Unique Mouthwash

After the 1991 study, Prof. Ofek conjectured that if cranberries could protect against bacterial invasion in the bladder, "Could they work wonders elsewhere?" He took the question Tel Aviv University's School of Dental Medicine, and together with Prof Ervin Weiss, produced positive results.

"We found that NDM inhibits adhesion of oral bacteria to tooth surfaces and as a consequence reduced the bacterial load that causes cavities in the mouth," says Prof. Ofek. "And after a clinical trial, we formulated a mouthwash based on cranberries which was patented by Tel Aviv University."

From Mouth to Midsection

But Prof. Ofek wasn't content to stop at cavities. Working with Prof. Ervin Weiss and Prof. Zichria Rones at Hadassah Medical and Dental School, he found that NDM inhibits the flu virus from attaching to cells and prevented experimental flu infections in animal models.

Most recently, Prof. Ofek collaborated with Dr. Haim Shmuely, a resident physician at the Beilinson Hospital and lecturer at Tel Aviv University, to find that cranberry also inhibits two-thirds of the "unhealthy" bacteria that clings to gastric cells, which lead to ulcers.

"The results were very interesting," says Prof. Ofek. "Cranberry helped reduce the load of this bacteria, Helicobacter pylori, in the gut. In combination with antibiotics, it reduced repeat ulcers from approximately 15 percent to about 5 percent."

Ladies Only

The one drawback to this research is that it only holds true for women, showing once again cranberry's affinity for the female. "The whole thing with cranberries seems to be female-oriented," admits Prof. Ofek.

He continues, "The take-home message is that ... this fruit [has] a polyphenolic material. We still don't know its chemical formula, but it seems to target a fraction of bacteria and viruses."

Today, a cranberry research team comprised of scientists from across Israel, and headed by Professors Ofek and Weiss, are investigating the berry's healing powers. Recently, it was found that cranberry NDM may also act as an anti-cancer agent. The scientific research methods behind the research have been patented by Tel Aviv University.

Prof. Ofek's recommendation is that women drink two glasses a day to treat certain infections. And because "there is still so much we don't know about cranberries, I would suggest that men also drink two glasses a day," he concludes.

The American cranberry juice company Ocean Spray funded a majority of Prof. Ofek's early research and his later research on ulcers. He is currently on sabbatical at the University of Tennessee in Memphis.

Adapted from materials provided by Tel Aviv University.

http://www.sciencedaily.com/releases/2008/01/080110123918.htm

Older Arctic Sea Ice Replaced By Young, Thin Ice

Thick, multi-year Arctic sea ice is disappearing, giving way thin, young ice, according to University of Colorado at Boulder study. (Credit: James Maslanik, University of Colorado)

ScienceDaily (Jan. 13, 2008) — A new study by University of Colorado at Boulder researchers indicates older, multi-year sea ice in the Arctic is giving way to younger, thinner ice, making it more susceptible to record summer sea-ice lows like the one that occurred in 2007.

The team used satellite data going back to 1982 to reconstruct past Arctic sea ice conditions, concluding there has been a nearly complete loss of the oldest, thickest ice and that 58 percent of the remaining perennial ice is thin and only 2-to-3 years old, said the lead study author, Research Professor James Maslanik of CU-Boulder's Colorado Center for Astrodynamics Research. In the mid-1980s, only 35 percent of the sea ice was that young and that thin according to the study, the first to quantify the magnitude of the Arctic sea ice retreat using data on the age of the ice and its thickness, he said.

"This thinner, younger ice makes the Arctic much more susceptible to rapid melt," Maslanik said. "Our concern is that if the Arctic continues to get kicked hard enough toward one physical state, it becomes increasingly difficult to reestablish the sea ice conditions of 20 or 30 years ago."

A September 2007 study by CU-Boulder's National Snow and Ice Data Center indicated last year's average sea ice extent minimum was the lowest on record, shattering the previous September 2005 record by 23 percent. The minimum extent was lower than the previous record by about 1 million square miles -- an area about the size of Alaska and Texas combined.

The new study by Maslanik and his colleagues appears in the Jan. 10 issue of Geophysical Research Letters. Co-authors include CCAR's Charles Fowler, Sheldon Drobot and William Emery, as well as Julienne Stroeve from CU-Boulder's Cooperative Institute for Research in Environmental Sciences and Jay Zwally and Donghui Yi from NASA's Goddard Space Flight Center in Greenbelt, Md.

The portion of ice more than five years old within the multi-year Arctic icepack decreased from 31 percent in 1988 to 10 percent in 2007, according to the study. Ice 7 years or older, which made up 21 percent of the multi-year Arctic ice cover in 1988, made up only 5 percent in 2007, the research team reported.

The researchers used passive microwave, visible infrared radar and laser altimeter satellite data from the National Oceanic and Atmospheric Administration, NASA and the U.S. Department of Defense, as well as ocean buoys to measure and track sections of sea ice.

The team developed "signatures" of individual ice sections roughly 15 miles square using their thickness, roughness, snow depth and ridge characteristics, tracking them over the seasons and years as they moved around the Arctic via winds and currents, Emery said. "We followed the ice in sequential images and track it back to where it had been previously, which allowed us to infer the relative ages of the ice sections."

The replacement of older, thicker Arctic ice by younger, thinner ice, combined with the effects of warming, unusual atmospheric circulation patterns and increased melting from solar radiation absorbed by open waters in 2007 all have contributed to the phenomenon, said Drobot. "These conditions are setting the Arctic up for additional, significant melting because of the positive feedback loop that plays back on itself."

"Taken together, these changes suggest that the Arctic Ocean is approaching a point where a return to pre-1990s ice conditions becomes increasingly difficult and where large, abrupt changes in summer ice cover as in 2007 may become the norm," the research team wrote in Geophysical Research Letters.

Adapted from materials provided by University of Colorado at Boulder.

http://www.sciencedaily.com/releases/2008/01/080111100652.htm

Biofuel: Major Net Energy Gain From Switchgrass-based Ethanol

Switchgrass grown in this study yielded 93 percent more biomass per acre and an estimated 93 percent more net energy yield than previously estimated in a study done elsewhere. (Credit: Image courtesy of University of Nebraska-Lincoln)

ScienceDaily (Jan. 14, 2008) — Switchgrass grown for biofuel production produced 540 percent more energy than needed to grow, harvest and process it into cellulosic ethanol, according to estimates from a large on-farm study by researchers at the University of Nebraska-Lincoln.

Results from the five-year study involving fields on farms in three states highlight the prairie grass' potential as a biomass fuel source that yields significantly more energy than is consumed in production and conversion into cellulosic ethanol, said Ken Vogel, a U.S. Department of Agriculture-Agricultural Research Service geneticist in UNL's agronomy and horticulture department.

The study involved switchgrass fields on farms in Nebraska, North Dakota and South Dakota. It is the largest study to date examining the net energy output, greenhouse gas emissions, biomass yields, agricultural inputs and estimated cellulosic ethanol production from switchgrass grown and managed for biomass fuel.

"This clearly demonstrates that switchgrass is not only energy efficient, but can be used in a renewable biofuel economy to reduce reliance of fossil fuels, reduce greenhouse gas emissions and enhance rural economies," Vogel said.

The joint USDA-ARS and Institute of Agriculture and Natural Resources study also found greenhouse gas emissions from cellulosic ethanol made from switchgrass were 94 percent lower than estimated greenhouse gas emissions from gasoline production.

In a biorefinery, switchgrass biomass can be broken down into sugars including glucose and xylose that can be fermented into ethanol similar to corn. Grain from corn and other annual cereal grains, such as sorghum, are now primary sources for ethanol production in the U.S.

In the future, perennial crops, such as switchgrass, as well as crop residues and forestry biomass could be developed as major cellulosic ethanol sources that could potentially displace 30 percent of current U.S. petroleum consumption, Vogel said. Technology to convert biomass into cellulosic ethanol is

being developed and is now at the development stage where small commercial scale biorefineries are beginning to be built with scale-up support from the U.S. Department of Energy.

This study involved 10 fields of 15 to 20 acres each with four in Nebraska near Atkinson, Crofton, Lawrence and Douglas; four in South Dakota near Highmore, Bristol, Huron and Ethan; and two in North Dakota near Streeter and Munich. Trials began in 2000 and 2001 and continued for five years. Farmers were paid for their work under contract with UNL and documented all production operations, agricultural inputs and biomass yields. The researchers used this information to determine the net energy estimates. Switchgrass grown in this study yielded 93 percent more biomass per acre and an estimated 93 percent more net energy yield than previously estimated in a study done elsewhere of planted prairies in Minnesota that received low agricultural inputs, Vogel said. The study demonstrates that biomass energy from perennial bioenergy crops such as switchgrass can produce significantly more energy per acre than low input systems. Less land will be needed for energy crops if higher yields can be obtained.

Researchers point out in the study that plant biomass remaining after ethanol production could be used to provide the energy needed for the distilling process and other power requirements of the biorefinery. This results in a high net energy value for ethanol produced from switchgrass biomass. In contrast, corn grain ethanol biorefineries need to use natural gas or other sources of energy for the conversion process.

In this study, switchgrass managed as a bioenergy crop produced estimated ethanol yields per acre similar to those from corn grown in the same states and years based on statewide average grain yields.

"However, caution should be used in making direct ethanol yield comparisons with cellulosic sources and corn grains because corn grain conversion technology is mature, whereas cellulosic conversion efficiency technology is based on an estimated value," Vogel said.

Vogel said he does not expect switchgrass to replace corn or other crops on Class 1 farm land. He and his colleagues are developing it for use on marginal, highly erodible lands similar to that currently in the Conservation Reserve Programs. All the fields in this study met the criteria that would have qualified for this program. Using a conservation cellulosic conversion value, researchers found that switchgrass grown on the marginal fields produced an average of 300 gallons of ethanol per acre compared to average ethanol yields of 350 gallons per acre for corn for the same three states.

The researchers point out that this was a base-line study. The switchgrass cultivars used in this study were developed for use in pastures. New higher yielding cultivars are under development for specific use in bioenergy production systems.

Switchgrass yields continue to improve, Vogel said. Recent yield trials of new experimental strains in the three states produced 50 percent higher yields than achieved in this study.

"Now, we really need to use an Extension effort to let farmers know about this new crop," Vogel said.

Richard Perrin, UNL agricultural economist, was the primary economic analyst for this study. Other authors were Marty Schmer, USDA-ARS agricultural science research technician and UNL doctoral student, and Robert Mitchell, USDA-ARS agronomist at UNL.

Decades of switchgrass research at UNL put scientists in the position to start studying the crop as a biomass energy source in 1990.

"UNL and the USDA-ARS have been pioneers in switchgrass research since the 1930s, domesticating it as a pasture grass," Vogel said.

Vogel has led research to develop switchgrass cultivars for biomass production. The UNL-USDA team also has developed recommendations for how best to manage switchgrass to maximize biomass yields.

Future research will include further studies of improving management practices including work on improving establishment and harvesting methods, improving biomass yield, and improving conversion efficiency and net and total energy yields, Vogel said.

Switchgrass in this study employed UNL's best management practices for switchgrass, including no-till seeding, herbicides, weed control and adaptive cultivars. This study was also based on farm fields up to 20 acres instead of smaller research-scale plots typically less than about 100 square feet.

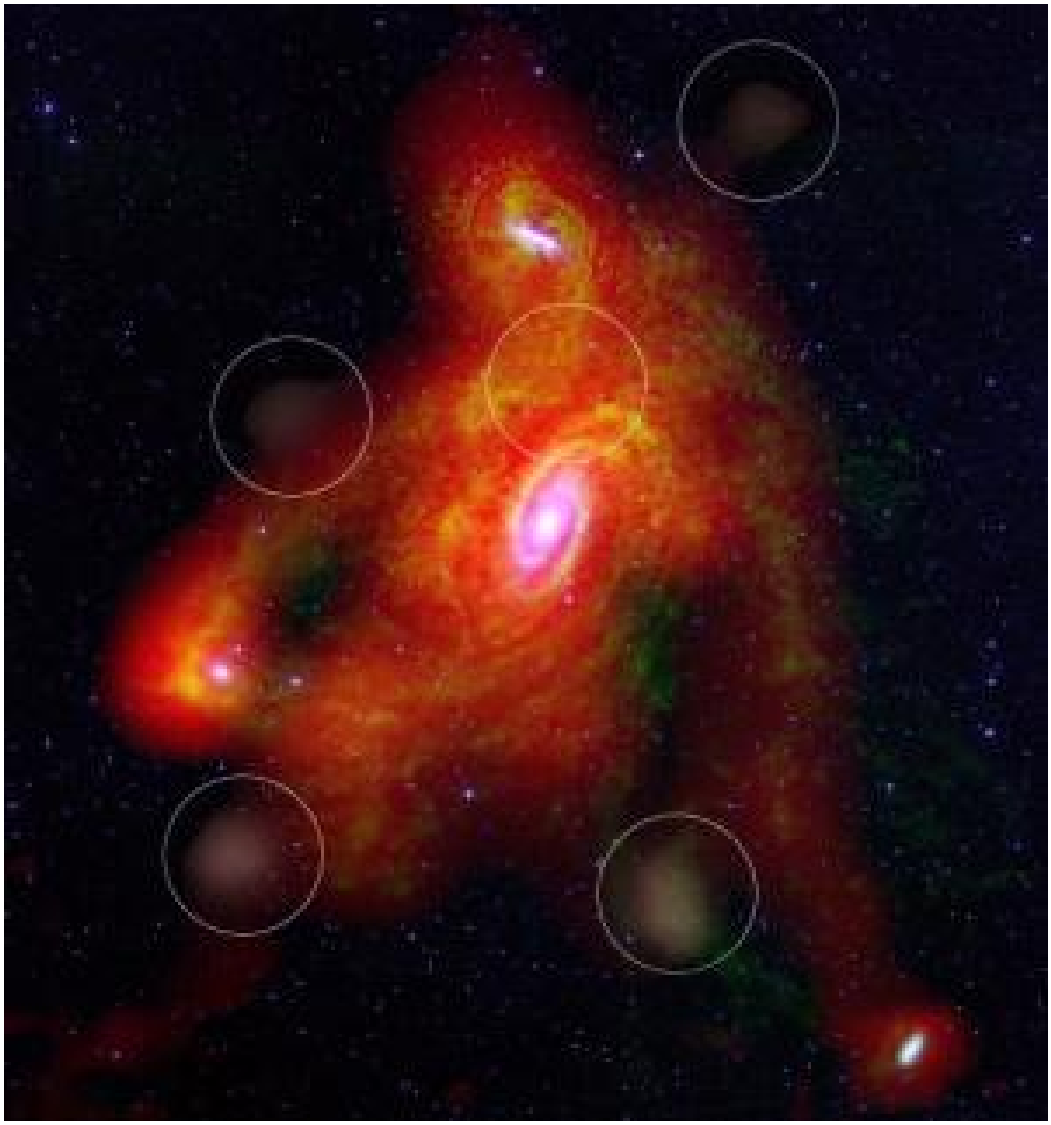
Six cellulosic biorefineries that are being co-funded by the U.S. Department of Energy also are in the works across the U.S. that should be completed over the next few years. These plants are expected to produce more than 130 million gallons of cellulosic ethanol per year, according to the U.S. Department of Energy.

Researchers reported their findings in the Proceedings of the National Academy of Sciences January 7.

Adapted from materials provided by University of Nebraska-Lincoln.

http://www.sciencedaily.com/releases/2008/01/080109110629.htm

View Of New Hydrogen Clouds In The M81 Group Of Galaxies



The spiral galaxy M81 and its satellite, M82, are seen in visible light (white); intergalactic hydrogen gas revealed by the GBT is shown in red; and additional hydrogen gas earlier detected by the Very Large Array is shown in green. (Credit: Credit: Chynoweth et al., NRAO/AUI/NSF, Digital Sky Survey.)

ScienceDaily (Jan. 14, 2008) — A composite radio-optical image shows five new clouds of hydrogen gas discovered using the National Science Foundation's Robert C. Byrd Green Bank Telescope (GBT).

The spiral galaxy M81 and its satellite, M82, are seen in visible light (white); intergalactic hydrogen gas revealed by the GBT is shown in red; and additional hydrogen gas earlier detected by the Very Large Array is shown in green.

The M81 Group of galaxies, 11.8 million light-years from Earth, are interacting gravitationally with each other, as shown clearly by the gas streaming among them. The newly-discovered gas clouds, each containing from 14 to 57 million times the mass of our Sun, are similar to gas clouds also found near our own Milky Way Galaxy.

Astronomers analyzing these M81 Group clouds conclude that they are likely remnants of earlier interactions among the galaxies and that this indicates that their analogs near the Milky Way had a similar origin.

The research team is: Katie Chynoweth, a graduate student at Vanderbilt University; Glen Langston of the National Radio Astronomy Observatory (NRAO); Min Yun of the University of Massachusetts; Felix J. Lockman of NRAO; Kate Rubin of Lick Observatory; and Sarah Scoles of Cornell University. The astronomers presented their findings to the American Astronomical Society's meeting in Austin, Texas.

The National Radio Astronomy Observatory is a facility of the National Science Foundation, operated under cooperative agreement by Associated Universities, Inc.

Adapted from materials provided by National Radio Astronomy Observatory.

http://www.sciencedaily.com/releases/2008/01/080112155258.htm

Third of adults 'always dieting'
One in three adults in the UK is now on a permanent diet, a survey suggests.

A poll of 2,000 people for supermarket giant Tesco found the over-55s were most likely to go on a diet at some stage every month.

Among this group, 15% try to restrict their calorie intake every day - double the number of any other age group.

Experts have warned that 60% of adults will be overweight by the year 2050 if action is not taken to tackle rising rates of obesity.

> **What is needed is developing a plan for a long-term, healthy lifestyle, substituting good habits for bad, and setting goals that can be realistically achieved**
> Donna Dawson
> Psychologist

Alan Johnson, the Health Secretary, has warned that obesity poses a potential crisis on the same scale as climate change.

Government experts have calculated that 70,000 lives could be saved if Britons followed simple healthy eating guidelines.

However, research has suggested that "yo-yo" diets are ineffective, and may actually carry a risk of weight gain in the longer term.

The latest survey found that 15% of adults spend between 30 minutes and an hour each day worrying about their weight.

More than one in 20 women admitted to fretting about their figures for more than three hours a day.

Feeling good

Self-confidence was one of the main reasons respondents gave for watching what they eat.

Six out of 10 women and more than four out of 10 (44%) men said they hoped that losing weight would help them feel better about themselves.

One in five respondents were trying to lose weight to improve their love lives.

Another reason given for losing weight was to look more like celebrities, attractive friends or colleagues.

Psychologist Donna Dawson said: "Men and women in the UK have a strong desire to feel better about themselves, and one of the ways they believe they can achieve this is through dieting and losing weight.

"However, it is important to understand that constant, yo-yo dieting which is doomed to failure will only work to undermine self-confidence.

"What is needed is developing a plan for a long-term, healthy lifestyle, substituting good habits for bad, and setting goals that can be realistically achieved."

Dr Ian Campbell, medical director of the charity Weight Concern, said he was not surprised by the findings.

"I think it's important that we do take our weight seriously, and monitor our food intake and activity levels regularly.

"Two thirds of us are already overweight. However we need to move away from the concept of "dieting" towards one of "healthy diet".

"The best thing the supermarkets could do to help this would be to place their focus on healthy food choices."

Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/1/hi/health/7176836.stm

Published: 2008/01/09 00:19:34 GMT

What Awaits the Met
By RACHEL DONADIO

THOUGH expected, the news last week that Philippe de Montebello would retire as director of the Metropolitan Museum of Art elicited a range of emotions among museumgoers: pride and sadness at the end of a stellar era, and anxiety about the future.

“I was shaky,” said Jerry Saltz, the art critic for New York magazine, striking a common note. “Because just at a time when big museums are getting things like new wings so spectacularly wrong, the Met has been getting things close to perfect.” Mr. de Montebello is indeed leaving strong, following several recent gallery renovations and a run of well-attended, scholarly, rigorous and critically acclaimed exhibitions. What happens next at the Met has relevance for all major institutions undergoing a generational shift — and all museums in this young century. Here are some themes certain to arise.

The Art of the Undead

A major concern is how the world’s leading encyclopedic museum will approach contemporary art. In recent years, the Met has organized scattershot exhibitions by relatively young artists like Neo Rauch and Kara Walker. This past fall, crowds came — and some critics groaned — when the Met put Damien Hirst’s shark in formaldehyde on view. Is that a sign of things to come?

“The Met’s approach to contemporary art has been extremely erratic and pretty bad, really,” said Peter Schjeldahl, the art critic for The New Yorker. But, he added, “I don’t see that that should be a priority for that place,” especially “in a city full of museums that have that mandate.” Still, as the New York Times art critic Michael Kimmelman put it last week, “so many artists have made the Met their lifelong schoolroom,” and their work “would be illuminated next to older art in innumerable ways, not to mention vice versa.”

Showing more contemporary art “would be wonderful for Chelsea,” said the gallery owner Marianne Boesky, since championing work by relatively new artists would drive up their prices. But is that a good role for the Met? “I’d think very gingerly about placing the Metropolitan’s imprimatur on objects,” said the gallery owner Richard Feigen. “I’d be very, very covetous of those baptismal certificates.”

The Money Dance

Although the Met's endowment is a healthy $2.5 billion, fundraising is a constant concern. If many younger collectors are focusing on contemporary art, how will the collecting habits of future board members affect the museum's mission?

Directors and trustees are forever engaged in "a seduction dance," said Maxwell Anderson, the director of the Indianapolis Museum. The director's goal, he said, is "getting people of means who care about the mission of the museum in the door as supporters, then acquainting them with the majesty of the offer."

But who will be leading the dance? Mr. de Montebello "could walk across Fifth Avenue into some wealthy guy or gal's apartment and say: 'I need X amount of money to do something we've never done before. We have no track record on this.' And they'd say, 'Philippe, if you say so, fine,' " said Jed Perl, the art critic for The New Republic. At other institutions, Mr. Kimmelman wrote, "collectors and hedge fund managers seem to treat museums as their servants and publicity agents." Will the next director have the cultural authority to set the agenda, or will the trustees have better taste than the director?

The Rightful Owners

In 2006, Mr. de Montebello deftly struck a deal with the Italian government to return 21 objects Italy says were looted, in exchange for the long-term loan of other antiquities. But the story isn't going away. In the fall, Yale announced it would return to Peru a group of artifacts excavated from Machu Picchu in 1912. Every so often, new Holocaust art restitution cases emerge. In a globalized world, where assertions of cultural nationalism are just as politicized as they were when museums first built their collections on expatriated art, restitution claims could be "the biggest trouble" facing the Met's next director, said Peter Plagens, a former art critic for Newsweek.

The Space

Forbidden from expanding further into Central Park, under Mr. de Montebello, the Met carved out more exhibition space underground, even under the grand staircase. Unlike every other museum in the world, the Met hasn't embarked on a new wing or an annex for its vast holdings. Will that change? Could it? Should it? Again, directors and boards don't always see eye to eye. "In the business world, if you don't grow, supposedly you're dying," Mr. Perl said. "But I think that's a very dangerous model to impose on the cultural group."

The Power of the Curator

In recent years, the directors of the Museum of Modern Art, Boston Museum of Fine Arts and Brooklyn Museum, among others, have been accused of diminishing the power of their curators. But the Met has remained a bastion of curatorial authority, where curators, not board members or directors, take the lead in conceiving exhibitions based on sound scholarship. "I keep them in line but they keep me in line," Mr. de Montebello once said of the Met's 100 plus curators. Will his successor continue that approach?

Mr. de Montebello is "the beau ideal of curatorial leadership," said Elizabeth Easton, the director of the Center for Curatorial Leadership. In a news conference last week, Mr. de Montebello reasserted his priorities. "Art is first," he said. By contrast, "other institutions have embraced as a primary part of their mission the museum experience, in opposition to the experience of coming to look at a work of art."

Mr. de Montebello once referred to the Met as "a great ship that you don't turn around that easily." Maybe so, but things change fast. "If you'd said to people 15 years ago, 'The Guggenheim will become a kind of rental room for Eurotrash and that the Modern will become a museum that's unfriendly to curators,' everyone would have said, 'You're crazy,' " Mr. Perl said. Yet both those things have arguably come to pass. "The problem," he said, "is institutional history is not an assurance for the future."

http://www.nytimes.com/2008/01/13/weekinreview/13donadio.html?_r=1&ref=weekinreview&oref=slogin

School reports going electronic
The traditional school report is to be replaced by an electronic version delivered by e-mail, Schools Minister Jim Knight is set to announce.

Parents are to be promised much more up-to-date information about their children's progress, on the desktop.

This will include "real-time reporting" on pupils' work and behaviour in all secondary schools in England by 2010.

Mr Knight wants to get technology "at a good price" for low-income families who have no access to a computer.

Speaking at the BETT educational technology show in London, the schools minister says the real-time reporting will "break down barriers" between school and home.

> **I don't see why the government shouldn't be able to get technology at a good price for low-income families**
> Jim Knight

He will say that electronics such as computers and mobile phones should be used to give parents information about their children's school work.

This would give parents access to "frequently-updated information on children's achievement, progress, attendance, behaviour and special needs wherever, whenever they want, using password-protected, secure, online systems".

Primary schools in England will be expected to provide a similar service for parents by 2012.

'Security risks'

But there have been warnings from teachers about "Big Brother-style monitoring of everything a child does at school".

The Professional Association of Teachers says "personal contact must not be replaced by cold, electronic data" and it warns about the "data security risks" that will be created for schools.

HAVE YOUR SAY
I'd rather not have more of my children's information put onto computers
Vicki Shepherd

Mary Bousted, general secretary of the Association of Teachers and Lecturers, raised concerns about whether too much information would be generated - for both parents and teachers.

"We would also have concerns about adding to teachers' workloads. Providing reports is part of their job, but it should not be made into a daily occurrence," she said.

The National Union of Teachers said until it was clearer what was meant by "real-time reporting" that it would "treat this aspiration with caution".

'**Digital divide**'

Mr Knight says using the internet and mobile phones will help build links with "hard to reach" parents and will "deepen the school-parent relations".

There will also be efforts to make sure that children from more deprived backgrounds do not lose out because of a lack of computer equipment at home, with a pilot scheme examining ways of reducing this "digital divide".

There are a million children living in homes without access to a computer, says Mr Knight, who intends to negotiate with providers.

"I don't see why the government shouldn't be able to get technology at a good price for low-income families," he says.

As an example of a school already using technology to connect with parents, the minister pointed to Djanogly City Academy, Nottingham, where "parents have secure, online access to up-to-the-minute information about many aspects of their children's life in school".

Cramlington Community High in Northumberland encourages parents to e-mail teachers to discuss children's progress, and the Cardinal Wiseman Catholic Technology College in Birmingham has a website with an "e-portal" for parents.

Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/2/hi/uk_news/education/7176741.stm

Published: 2008/01/09 00:07:35 GMT

Waterfalls as Art To Be Installed in East River

BY KATE TAYLOR - Staff Reporter of the Sun
As if it didn't already have enough, the East River seems to attract water: Last summer, its big draw was a floating swimming pool; this summer, it will be waterfalls — created by an artist.

Olafur Eliasson, a Danish–Icelandic artist whose installation "The Weather Project" drew 2 million people to the Tate Modern in 2003 and 2004, has designed what will likely be the city's biggest public art project since Christo and Jeanne-Claude's "The Gates": a series of freestanding waterfalls in the East River.Mayor Bloomberg and the Public Art Fund, a private nonprofit organization that produced, among other works, Anish Kapoor's "Sky Mirror" and Jeff Koons's "Puppy," both at Rockefeller Center, are scheduled to announce Mr. Eliasson's project at the South Street Seaport tomorrow.

According to a source whom the mayor told about the project, the waterfalls will rise about 60 to 70 feet above the water — more than half as high as the roadway of the Brooklyn Bridge. They will be visible from the area around the Seaport, from Brooklyn Heights, and from the Governors Island Ferry.Someone who was briefed on the waterfalls project last year said that, at that time, it was estimated to cost between $9 million and $11 million.

The waterfalls project will coincide with a retrospective of Mr. Eliasson's work, called "Take Your Time," which will run at the Museum of Modern Art and P.S.1 between April 20 and June 30. The exhibition, currently at the San Francisco Museum of Modern Art, is the first major retrospective of his work in America.Mr. Eliasson is known for creating immersive environments that take their inspiration from nature and play tricks with viewers' perceptions. With "The Weather Project," Mr. Eliasson used mist, mirrors, and 200 monofilament light bulbs to create an image of a glowing sun in the Tate Modern's Turbine Hall. In a work called "Green River," in 2000, he poured nontoxic dye into a river in Stockholm, turning it green. In an early work called "Beauty" (1993), he created a rainbow in a gallery by projecting light across a fine mist of water.

Born in Copenhagen to Icelandic parents, Mr. Eliasson has long been interested in waterfalls, which form an important part of the landscape of Iceland. A piece called "Reversed Waterfall" (1998), which will be included in the P.S.1 exhibition, uses a system of pumps and basins to send water jetting uphill. In 2005, he created a 20-foot outdoor waterfall as part of an exhibition at Dundee University in Scotland. Many of Mr. Eliasson's works have a subtle environmental message. "The Weather Project" was partially intended to make viewers contemplate their personal experience of weather and climate. The exhibition at SFMOMA includes a work called "Your mobile expectations: BMW H2R project," in which Mr. Eliasson removed the outer shell of a BMW hydrogen-powered race car and replaced it with a translucent surface of steel mesh, reflective steel panels, and ice. A 1999 series of photographs, called "The glacier series," documented glaciers in various stages of melting.

Mr. Eliasson is one of a number of contemporary artists working on a scale that requires vast workspaces and fleets of assistants. According to a 2006 profile in the New Yorker, he has a 15,000-square-foot studio in a former train depot in East Berlin and employs about 40 people there, including mathematicians, technicians, lighting designers, and architects.The New York City Economic Development Corp. estimated that Christo and Jeanne-Claude's "The Gates," a series of some 7,500 saffron-yellow gates that were installed in Central Park for 16 days in February 2005, attracted 1.5 million out-of-town visitors and generated $254 million in economic activity for the city. The project cost more than $20 million and was financed entirely by the artists. A spokesman for the mayor declined to confirm plans for the waterfalls project.

http://www.nysun.com/article/69413

TV threat to children's reading

By Hannah Goff
BBC News education reporter

Children should spend less time playing computer games and more time reading with their parents, the Children's Secretary Ed Balls has said.

There was a danger that reading was getting pushed out by television, the internet and computer games, he warned

Flanked by Gordon Brown at the Number 10 launch of the National Year of Reading, Mr Balls said 15% of children were never read to by their parents.

The prime minister said reading was not just a joy, but a route out of poverty.

> **Out of school, children are using the internet and computers, but too often they are playing games and not reading**
> Ed Balls
> Children's Secretary

He added: "It's not just the joy of reading, father-to-son or in the classroom.

"It's also the benefits of reading. It's probably one of the best anti-poverty, anti-deprivation, anti-crime, anti-vandalism policies you can think of."

Launching the nationwide campaign to get more adults and more children reading and enjoying books, Mr Balls made a plea to parents to spend more time reading with their children.

"Out of school, children are using the internet and computers, but too often they are playing games and not reading," he told the gathering of authors and representatives of reading projects.

There were now lots of different ways children could spend their time such as playing on their computers and watching numerous television channels, Mr Balls said.

"With more parents working, there's a danger that reading gets pushed out."

Plea to ministers

He added: "All parents have to strike the right balance. TV is great - children learn from TV.

"And, as parents, we all have to plonk our children down in front of the TV from time to time to make dinner.

"Computers are great as well but we have also got to make space for reading too."

Former children's laureate Michael Morpurgo asked for teachers to be given more time in school to "pass on the love of books" without having to have a learning outcome.

"My plea to ministers to give that time to free up teachers."

He suggested teachers could spend half an hour at the end of each day reading aloud to children simply for enjoyment.

Celebrity endorsement

"It's the time for letting children look out of the school window and dream."

He also argued that using phonics, a literacy method where words are broken down into sounds, to promote reading was "putting the cart before the horse".

"All of that is useless if there is no enjoyment," he said.

Mr Balls said: "Teaching the fun and enjoyment of reading - I think that is completely right and I want schools to be doing more of that."

TV presenter Richard Madeley said getting celebrities to promote reading to children would help ensure the campaign did not simply preach to the converted.

It would be great if figures like racing driver Lewis Hamilton came on board, he said, and explained they would not have been able to achieve what they did without learning to read.

Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/2/hi/uk_news/education/7177045.stm

Published: 2008/01/08 15:34:37 GMT

What the New Museum Needs Is A New Museum
*Posted by **Jen Graves** on JANUARY 11 at 18:15 PM*

Kim Jones, *Self Love*

Robert Storr's talk last night at the University of Washington was by turns thoughtful and impatient—the work of a man waiting for something new. "What the New Museum needs is a New Museum," he said in response to a question about the health of art given the drop in the number of alternative spaces around the country. "Start-ups. Adaptational activity."

Storr is not an official representative of start-ups or of adaptational activities. He runs the Yale School of Art, formerly worked as a curator at the Museum of Modern Art, and championed older artists at the Venice Biennale he curated this summer. Joking about the lists that *Artforum* publishes at the end of every year, he said he's been listed, dropped, and made a comeback in his career, and now, "I think I'm going to be dropped definitively."

But Storr did shine a few lights forward last night, with his belligerently moderate opinions. He's not buying the purist myth of the avant-garde, but he also said, "I frankly don't want somebody else's skull with a bunch of diamonds on it," he said. He's tired of art that's about the market, or about money, and he's tired of Marxist-based 1980s critical theory.

"Critical theory has bred its own Frankenstein," he explained. "There are so many artists that ironize, jam, play, and flip the system of art evaluation. … There's also a lack of honesty [among artists]—and I see it among my students—about their engagement, their relationship, with the market and with marketing."

Fair enough.

Getting a jab in, he dissed the journal *October* for its visual asceticism and overtone of somber seriousness: "Ros [Krauss, who split off from *Artforum* to form *October* after artist Lynda Benglis posed with a dildo on the pages of *Artforum*] didn't mind when Bob [Morris] put in a photo of himself all buffed up, because she was living with him and she liked his work, but that a beautiful woman would be sassy enough to show up him at his own game…"

But when someone in the audience followed Storr's lead of criticizing *Artforum* for its lists, adding that it is fat and overrun with ads, Storr made an about-face. He retorted that those who think the magazine is

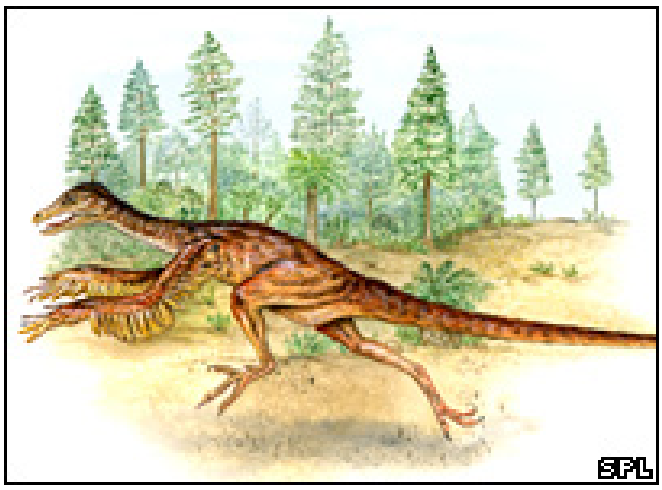
shallow should consider their own reading habits: do you actually read the magazine or do you mostly just look at the pictures?
Storr was in the mood to be contradictory: his slide lecture, before the spirited Q&A period began, was about the artist Kim Jones, whose retrospective is at the Henry Art Gallery through Jan. 27.
Storr made a great case for Jones's work as a stalemate between vulnerability and aggression. In his war drawings, the allegory is literal. Jones sets the dots and the Xs against each other, but he plays both sides. And consider his Mudman costume—the sticks of the armature jut out in a way that's threatening to the people around him, but they also cut into his soft body as he wears them. He's both the attacker and the victim when he walks the streets (or in the Henry's case, the gallery) with that thing on.
Storr skipped over the episode early in Jones's career, when he burned live rats to death in a public performance after having done the same thing casually and privately as a member of the Marine Corps in Vietnam in 1967 and 1968. At the end of the Q&A, I asked Storr how he felt about it. Here's what he said:
"I feel like if I had seen it, it would have hurt me. I wouldn't have done it. I also feel like it was undertaken with the utmost of seriousness, and that it meant something that it was done."

http://slog.thestranger.com/2008/01/what_the_new_museum_needs_is_a_new_museu

Flesh wound reveals dino secrets

By Helen Briggs
Science reporter, BBC News

A fossil unearthed in China has given scientists a rare glimpse of what dinosaurs were like in the flesh.



The plant-eating *Psittacosaurus* had a thick layer of shark-like skin hidden under scales or feathers.

Palaeontologists believe this tough outer coating supported the dinosaur's organs and protected it from predators.

Tooth marks suggest the dinosaur was torn open by a scavenger, giving a unique insight into their biology, 100 million years after this one's death.

The research is published in the Royal Society's journal Proceedings B.

'Unprecedented understanding'

Soft tissues such as skin are rarely preserved in the fossil record, leading to heated debate over what dinosaurs looked like, and whether they were covered in primitive feathers or scales.

The *Psittacosaurus* , or parrot lizard, specimen gives the first detailed picture of what dinosaurs were like deep under the skin.

> **To have the skin folded on the fossil so that you can see the cross section through it is remarkable**
> Mark Witton, University of Portsmouth

The bipedal herbivore, which grew to about the size of a gazelle, had tough, scaly skin with more than 25 layers of collagen - similar to that of today's sharks, reptiles and dolphins.

"As noted from the studies on modern-day animals, this fibre structure plays a critical part in the stresses and strains the skin may be subjected to and is ideally suited to providing support and protection," explained Professor Theagarten Lingham-Soliar of the University of KwaZulu-Natal, Durban, South Africa, in the paper.

" *Psittacosaurus* gives a remarkable, unprecedented understanding of the dinosaur skin."

'Prehistoric pig'

The specimen comes from an area of China that has yielded a treasure trove of uniquely-preserved fossils.

"Discoveries like this from China are certainly churning out new surprises," commented Mark Witton of the School of Earth and Environmental Sciences at the University of Portsmouth, UK.

"To have the skin folded on the fossil so that you can see the cross section through it is remarkable."

He said the skin of the dinosaur would have been "incredibly tough" and probably served to protect the animal from attack by predators.

"We imagine this *Psittacosaurus* as a tubby little animal walking around on its back legs," he added.

" *Psittacosaurus* may have been a bit like a prehistoric pig, wandering around woodlands and forests and eating all manner of plants, scavenging the odd carcass and maybe eating the odd little animal here and there."

The Chinese specimen appears to have met its match during the life and death struggles of the Lower Cretaceous.

Tooth marks and fractures in the skin suggest it was attacked by another dinosaur, and then covered by sediment rapidly after its demise, allowing soft tissue to be preserved in remarkable detail.

Story from BBC NEWS:
http://news.bbc.co.uk/go/pr/fr/-/2/hi/science/nature/7177181.stm

Published: 2008/01/09 11:24:12 GMT

Scholars blow the canon apart

Rosemary Sorensen | *January 11, 2008*

THEY used to call it the art world Olympics.

Jaynie Anderson, Herald Chair of Fine Art-University of Melbourne and Prof of Art History. Picture: Andrew Henshaw

But that was something of a misnomer because, unlike the real Olympics, the Congress of the International Committee of the History of Art focused on Europe. The UNESCO-sponsored congress used to be very much about Western art, with the history of other places simply ignored as irrelevant.

As far back as 1975, however, the committee, known as CIHA, realised it was too Eurocentric. It took until the early 1990s, however, for an expansion to take effect. It was decided that the conference, held every four years like the Olympics, should shift out of Europe and into centres that had previously been left out of art history. Centres such as Australia.

Next week, the 32nd congress of CIHA will be held at the University of Melbourne. It will bring together more than 600 participants from a record 47 countries, a number convener Jaynie Anderson, professor of art history at the university, is proud of. It signals, even before the talking begins, that her theme - Crossing Cultures - has been recognised as the hot topic for art history at the beginning of the 21st century.

"Art history has expanded to many areas of the world, but the canon in Europe and the US has still not changed much," says Thomas DaCosta Kauffman, a professor in the art and archeology department at Princeton University, who will bring his own interest in the influence of geography on art to the conference program next week.

"Intense and complex questioning of art history has been going on at least for 30 years, but what is interesting about the Australian conference is that more of the world, or at least its interrelations, will be discussed."

Following the congress, Anderson will become president of CIHA, replacing Ruth B. Phillips, who holds the Canada research chair in modern culture at Ottawa's Carleton University.

Howard Morphy, a specialist in indigenous art at the Australian National University in Canberra, says that Canada, New Zealand and Australia are way ahead on the path to redefining art history because of the way indigenous cultures have influenced the thinking of scholars, historians, anthropologists and, more broadly, curators, gallery directors and the people who visit art galleries. Collectors, too, of

course, have hastened the need for discussions about what art is and how it relates to the culture in which it is created, as the interest in acquiring indigenous art has rapidly increased.

Simplified, this conference is about looking at art history back to front: from the places where art used to be invisible towards places that used to define what art was (and wasn't). As Anderson says, it's about "the contribution that countries like Australia can make to world art".

In 1997, Anderson returned to Melbourne, where she was born, in order to head the University of Melbourne's fine arts department. She had been teaching for two decades at Oxford University. Her doctoral thesis on Italian Renaissance artist Giorgione eventually became a book.

In 2000, at the CIHA conference in London, she was sounded out about hosting the 2008 event. At the time, she says, it seemed so far away, it was difficult to get colleagues across the world to commit to taking part. They'd wave her away saying, yes, I'm keen, but talk to me later. The 2004 conference in Montreal was, she says, disappointing. There had not been the kind of groundswell of interest that has marked this event, which has attracted such grand participants as Harvard-based cultural critic and champion of post-colonial theory Homi Bhabha and the British Museum's director Neil McGregor. A grant from the J. Paul Getty Trust has also made it possible for scholars to attend from universities that would not have been able to fund their travel.

The formidable gathering will open on Sunday in the splendour of the Great Hall of the National Gallery of Victoria and close the following Friday at Government House, at a reception hosted by Victorian Governor David de Kretser. Anderson is only slightly disappointed she could not convince federal Arts Minister Peter Garrett that his attendance would be advantageous. The previous incumbent, George Brandis, had been keen, but then, Anderson says, he is an intellectual.

National Gallery of Australia chairman Rupert Myer is a member of the advisory committee and will also be a speaker at one of the keynote events. When Anderson told him the theme of the conference - how art history was changing to take into account conflict, migration and the convergence of cultures - Myer responded by saying: "That's the history of my family."

"It's the history of so many families in Australia, which is why we understand so readily the complexities of the topics," Anderson says. "Crossing cultures is a metaphor for the lives of so many Australians, for we are all immigrants or descendants of immigrants, even indigenous peoples, the first Australians who may have arrived here some 50,000 years ago. What has been a part of the Australian experience from the beginning has now become a common global theme."

Morphy dates his epiphany to his time as a young researcher 30 years ago in London. When he accepted a scholarship from the Australian National University on the proviso that he study the culture of the Yolngu people of eastern Arnhem Land, he was able to begin developing his theories about the dynamic nature of art practice, in contrast to the evolutionary model that developed in Western art theory.

"There's been increasingly a breakdown globally of the idea that there is a canon of fine art," Morphy says. "Art history was established post-Enlightenment as a European discipline, so the view was that art happened in European culture, while the rest of the world was carrying on not necessarily separate, but independently of what was happening there. European art history became the reference point. Now we're recognising the relative autonomy of different art traditions."

In the early 20th century, Australian artist Margaret Preston was derided for her interest in Aboriginal art: that debate has been replaced by a more sophisticated discussion about the importance of recognising the context and meaning of art from different cultures. Different traditions now have a degree of equality, Morphy says, "which doesn't destroy the difference between the art practices and it doesn't mean you can't appreciate what is common to them, but it means you must place the art in context".

As an anthropologist, he would like art historians to learn to translate art in the same way as a language must be translated.

Anderson, an art historian steeped in the Italian Renaissance, is no less adamant about the need for a radically new approach.

"This conference is edgy," she says, "I've been surprised that the political edginess of art history has not been exploited more.

"People think art history is not political, so there's been very little political analysis.

"We want to make it a bit more inviting, a bit more exciting."

Crossing Cultures: Conflict Migration Convergence, the 32nd Congress of the International Committee of the History of Art, will be held at the University of Melbourne, January 13-18.

http://www.theaustralian.news.com.au/story/0,,23034197-16947,00.html

Art at Sculpture Park is a touchy subject

By Stuart Eskenazi
Seattle Times staff reporter

The vulnerability of the artwork at Seattle Art Museum's Olympic Sculpture Park is a touchy subject, as is the conspicuous placement of less-than-subtle blue sandwich boards throughout the park that offer more-than-direct guidance to visitors.

"OUCH!," the signs say. "Even the lightest touch harms the art. Scratches and residue cause major damage over time. Help the art survive. Please DO NOT TOUCH."

Nearly a year after opening, Seattle's outdoor art park appears to be holding up pretty well. Yet it has suffered some wear and tear, as much from the sloppy wet kiss of Mother Nature as from the poor judgment of those who think rubbing hands across the artwork or engraving initials into them is a fine thing to do.

"We were compelled to put the signage up, knowing full well that it irritates some people," said Nicholas Dorman, SAM's chief conservator. "We were in a tough spot. We needed to make the signs prominent because if they are too discreet, no one will see them. It's a question of balance. If the signs can deter 25 percent of people from touching the art, then they're probably worth having."

People began touching the sculptures even before the park opened to the public on Jan. 20, 2007. At a special members-only event, some museum patrons mindlessly drew pictures or wrote their names in the snow that dusted sculptures that evening. Even those who should know better apparently don't know any better.

"I'm just amazed how people will see art, especially outdoor sculpture, as something they should physically interact with," said Rae Edwards, who coordinates the volunteers who help conserve Big Rock Garden, an outdoor sculpture park in Bellingham. "I think there's some education that's really needed there."

Also, no doubt, the breaking of habit.

People are conditioned to treat public sculpture as art within their reach. We're accustomed to picnicking beside Isamu Noguchi's "Black Sun" at Volunteer Park, leaning against Gerard Tsutakawa's "The Mitt" outside Safeco Field and sunbathing on Michael Heizer's "Adjacent, Against, Upon" at Myrtle Edwards Park.

And now we're supposed to keep our grubby little hands off the public art at Olympic Sculpture Park? Hey, wait — it calls itself a park, not a museum!

Park officials can't escape the fact that their "don't touch" policies can come across as contradictory, especially since some of the sculpture — such as Louise Bourgeois' "Eye Benches" and Roy McMakin's "Love & Lost" — are designed to be sat and snacked upon. That makes it all the more difficult to protect those other sculptures where contemplation from a safe distance is more suitable.

Adding to the challenge, if not the confusion, is the park's lack of an admission fee. Some visitors take free entry to mean that they have free run of the place, which isn't so. Contrast that to the controlled environment of an indoor art museum that charges a fee and employs ropes and docents to separate visitors from the art.

Olympic Sculpture Park officials are sensitive about coming across as overly protective of outdoor art, but they also have to deal with the fact that some visitors have engraved their initials into the rust surface of Richard Serra's "Wake." Others have used Tony Smith's "Stinger" as a Jungle Jim, seemingly oblivious to the damage that climbing can cause.

"Tony actually liked people to interact with his sculptures," said Sarah Auld, director of Smith's estate (the artist died in 1980). "The problem when people interact by climbing is not the footprints, it's the belt buckle or rivet in the jeans that scratches the surfaces."

No arrests were made in 2007 related to damaging the art, although police were called on a few occasions, said Dorman, adding that if a particular case of vandalism seemed malicious and egregious enough, SAM wouldn't hesitate to press charges.

Beyond the big blue signs, park officials have employed several approaches to keep vandals at bay.

Security guards patrol the grounds on foot and bikes around the clock. A guard inside a control center constantly monitors security cameras strategically located throughout the park. Infrared lights at entrances trip when visitors enter the park after hours.

Park designers also have been strategic in getting visitors to respect the art, such as by planting flower beds as barriers around sculptures.

But people are hard to read. Edwards said she was certain no one would try to climb on a hollow aluminum sculpture installed last summer at Big Rock Garden in Bellingham. And no one did. Instead, visitors stuck their heads in the hole and banged on the aluminum to hear the echo noise.

Nature also has wielded its wrath at Olympic Sculpture Park. The saltwater environment is particularly hard on sculptures made of steel or wood. A few works already have undergone at least one additional layer of protective clear-coating.

Several park sculptures require routine power washings, which must be delicate so as to not damage the fragile surfaces. Cleanings and repairs are expensive, sometimes requiring the bringing in of a huge lift and boom or scaffolding.

"These look like hulking pieces of metal," Dorman said. "But people can cause damage to them, even though they may look so invulnerable."

Some sculptures are weathering the elements better than others. Here are status reports on the conditions of some that have suffered the most during the Olympic Sculpture Park's inaugural year:

"Stinger," by Tony Smith

" 'Stinger' is like a palette," said Sarah Auld, director of the Smith estate. "Those planes are very inviting, seductive, hard to leave alone if one is so inclined to engage them."

"Stinger's" shiny, smooth black surface just begs to be touched. But it's only a tease. "When people run their hand across a sculpture, they may not realize that the ring they are wearing is scratching the surface," said SAM conservator Nicholas Dorman (pictured, pointing out a scratch on "Stinger"). Park officials try to keep the piece squeaky clean at all times because when its black surface it gets covered with dust, some visitors feel compelled to write their names in it, as if the sculpture were a chalkboard.

The fortress-like sculpture is a come-on unto itself. It has three closed sides and one open side — a virtual gate where visitors may enter to consider the interior of the piece. A few people, however, have taken the cosseted confines of "Stinger" as an invitation to shoot up or perform other questionable acts.

The worst damage to "Stinger" came when some joker tossed a combination padlock from a passing car on Broad Street, denting the artwork. Workers had to retouch and repolish the piece.

"Wake," by Richard Serra

"Wake's" curved steel surfaces are covered with a naturally forming patina of rust, which some visitors apparently cannot resist touching or defacing. Dorman said etches and scratches — not oils from hands — are Wake's biggest nemeses.

"People remove the layer of rust by etching into the steel," Dorman said. "The rust will return over time, but it takes time."

Visitors sometimes use the pea-gravel bed upon which "Wake" is installed to engrave their names or initials into the sculpture. In the summer, a park security guard positioned around the clock at "Wake" had to ask several people each day to restrain themselves.

"Some actually were surprised that they were not allowed to do that," Dorman said.

"Riviera," by Anthony Caro

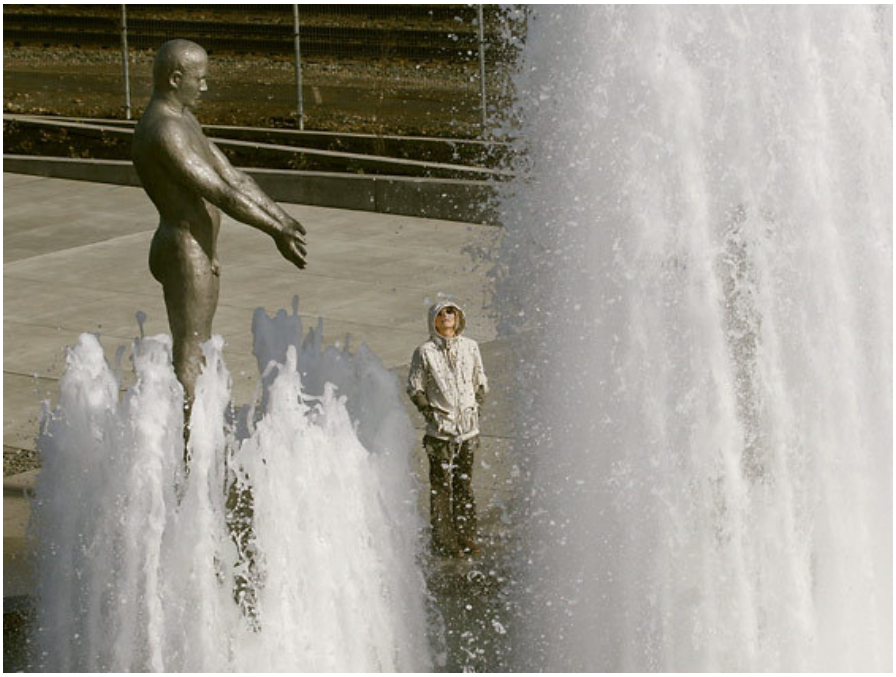
"Riviera's" vertical and horizontal pieces of steel have had to undergo a new layer of protective coating to guard against the wet. But the greatest degradation to the art has occurred in the isolated instances when visitors thought it appropriate to chain their bicycles to the piece.

"Eagle," by Alexander Calder

"Eagle's" orange paint fades in the sun. The sculpture had been displayed at SAM's Asian Art Museum at Volunteer Park before moving to the waterfront and was repainted before the move. It likely will need another coat in the next 10 years, Dorman said.

"Eagle" often needs to be power-washed as crows enjoy using the sculpture as a perch — and a toilet.

Against the wishes of park conservators, "Eagle" was installed on grass so as to make it more inviting to visitors. But grass clippings gathered at the feet of the sculpture, which isn't good for it. So now the park gardener clips and removes the blades closest to "Eagle" by hand.



"Bunyon's Chess," by Mark di Suvero

Rain is taking its toll on this sculpture's steel beams, cables and wood logs. Its previous owner displayed the fragile artwork in a sheltered environment. Now out in the open, the logs get wet and then dry, and that cycle has an aggressive effect on the wood, Dorman said. As a result, park officials must constantly monitor the condition of the piece.

"Father and Son," by Louise Bourgeois

Someone poured bubbles into the pool of the fountain, which may sound cute, but really isn't. Soap from the bubbles can break down the coating on the sculpted figures.

"Seattle Cloud Cover," by Teresita Fernández

One glass panel cracked and had to be replaced, but the cause of the damage was undetermined.

"Love & Loss," by Roy McMakin

Some sculptures at the park are meant to be interactive, such as the benches and tables within "Love & Loss." Paint is chipping on some of this sculpture's surfaces. And someone once gouged the table's

enameled surface, which park officials then replaced.

"Eye Benches," by Louise Bourgeois

Bike pedals, Dorman said, are the cause of visible scratches on the polished stone surfaces of the benches. Things could be worse. On two separate occasions, a car heading north on Alaskan Way didn't make the sharp right turn onto Broad Street and plowed into the plaza where two pair of "Eye Benches" sit. In each case, though, the car spared the benches.

"Neukom Vivarium," by Mark Dion

Is a nurse log art? That philosophical question begs an answer, which is one reason museum officials insist on having a volunteer "interpreter" inside the greenhouse where the log is exhibited. The other reason is security — to prevent visitors from disturbing the log and its ever-changing environment. Vivarium has regular hours — 10 a.m.- 3 p.m. weekdays and 10 a.m.-2 p.m. on weekends — but has not always been open during those hours because sometimes no volunteer is available to staff the exhibit.

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http://seattletimes.nwsource.com/html/thearts/2004116768_sculpture10.html?syndication=rss

Don't just stand there, think

New research suggests that we think not just with our brains, but with our bodies

By Drake Bennett | January 13, 2008

WHEN YOU READ something confusing, or work a crossword puzzle, or try to remember where you put your keys, what do you do with your body? Do you sit? Do you stand? Do you pace? Do you do anything with your hands? Do you move your eyes in a particular pattern?

How you answer questions like these, it turns out, may determine how long it will take for you to decipher what you're reading, solve your puzzle, or get your keys back.

The brain is often envisioned as something like a computer, and the body as its all-purpose tool. But a growing body of new research suggests that something more collaborative is going on - that we think not just with our brains, but with our bodies. A series of studies, the latest published in November, has shown that children can solve math problems better if they are told to use their hands while thinking. Another recent study suggested that stage actors remember their lines better when they are moving. And in one study published last year, subjects asked to move their eyes in a specific pattern while puzzling through a brainteaser were twice as likely to solve it.

The term most often used to describe this new model of mind is "embodied cognition," and its champions believe it will open up entire new avenues for understanding - and enhancing - the abilities of the human mind. Some educators see in it a new paradigm for teaching children, one that privileges movement and simulation over reading, writing, and reciting. Specialists in rehabilitative medicine could potentially use the emerging findings to help patients recover lost skills after a stroke or other brain injury. The greatest impact, however, has been in the field of neuroscience itself, where embodied cognition threatens age-old distinctions - not only between brain and body, but between perceiving and thinking, thinking and acting, even between reason and instinct - on which the traditional idea of the mind has been built.

"It's a revolutionary idea," says Shaun Gallagher, the director of the cognitive science program at the University of Central Florida. "In the embodied view, if you're going to explain cognition it's not

enough just to look inside the brain. In any particular instance, what's going on inside the brain in large part may depend on what's going on in the body as a whole, and how that body is situated in its environment."

Or, as the motto of the University of Wisconsin's Laboratory of Embodied Cognition puts it, "Ago ergo cogito": "I act, therefore I think."

The emerging field builds on decades of research into human movement and gesture. Much of the earlier work looked at the role of gestures in communication, asking whether gesture grew out of speech or exploring why people gestured when they were talking on the telephone.

But today, neuroscientists, linguists, and philosophers are making much bolder claims. A few argue that human characteristics like empathy, or concepts like time and space, or even the deep structure of language and some of the most profound principles of mathematics, can ultimately be traced to the idiosyncrasies of the human body. If we didn't walk upright, for example, or weren't warm-blooded, they argue, we might understand these concepts totally differently. The experience of having a body, they argue, is intimately tied to our intelligence.

"If you want to teach a computer to play chess, or if you want to design a search engine, the old model is OK," says Rolf Pfeifer, director of the artificial intelligence lab at the University of Zurich, "but if you're interested in understanding real intelligence, you have to deal with the body."

. . .

Embodied cognition upends several centuries of thinking about thinking. Rene Descartes, living in an age when steam engines were novelty items, envisioned the brain as a pump that moved "animating fluid" through the body - head-shrinkers through the ages have tended to enlist the high-tech of their day to describe the human cognitive system - but the mind, Descartes argued, was something else entirely, an incorporeal entity that interacted with the body through the pineal gland.

While a few thinkers, most notably the French philosopher Maurice Merleau-Ponty in the 1940s, challenged Descartes' mind-body separation, it remained the dominant model up through the 20th century, though its form evolved with the times. After the development of the modern computer in the years after World War II, a new version of the same model was adopted, with the brain as a computer and the mind as the software that ran on it.

In the 1980s, however, a group of scholars began to contest this approach. Fueled in part by broad disappointment with artificial-intelligence research, they argued that human beings don't really process information the way computers do, by manipulating abstract symbols using formal rules. In 1995, a major biological discovery brought even more enthusiasm to the field. Scientists in Italy discovered "mirror neurons" that respond when we see someone else performing an action - or even when we hear an action described - as if we ourselves were performing the action. By simultaneously playing a role in both acting and thinking, mirror neurons suggested that the two might not be so separate after all.

"You were seeing the same system, namely the motor system, playing a role in communication and cognition," says Arthur Glenberg, a professor of psychology and head of the embodied cognition laboratory at Arizona State University.

This realization has driven much of the recent work looking at how moving and thinking inform and interfere with each other. For example, a pair of studies published in 2006 by Sian Beilock, now an assistant professor of psychology at the University of Chicago, and Lauren Holt, one of her former students, examined how people who were good at certain physical activities thought about those activities.

In one study, Beilock and Holt had college hockey players, along with a non-hockey-player control group, read a sentence, sometimes hockey-related, sometimes not. Then the subjects would be shown a

picture and asked if it corresponded with the sentence. Hockey players and non-hockey players alike almost invariably answered correctly, but on the hockey-related sentences the response times of the hockey players were significantly faster than the nonplayers. In a second study, the researchers found similar results with football players. According to Beilock, the difference in response time wasn't a matter of knowledge - after all, all of the subjects in the study got the vast majority of the questions right. What it suggested, Beilock argues, is that the athletes' greater store of appropriate physical experiences served as a sort of mental shortcut.

"People with different types of motor experiences think in different ways," she argues.

These sorts of results aren't simply limited to thinking about sports, or other highly physical activities. A 2003 study by Michael Spivey, a psychology professor at Cornell, and his student Elizabeth Grant, found that people who were given a tricky spatial relations brainteaser exhibited a distinctive and unconscious pattern of eye movements just before they arrived at the answer. The subjects seemed to unconsciously work through the problem by enacting possible solutions with their gaze.

A study published in August by Alejandro Lleras and Laura Thomas, two psychologists at the University of Illinois, built on those results by inducing the eye movements Spivey had discovered. Lleras and Thomas found that doing so greatly improved the rate at which people solved the problem - even though most never figured out that the eye movements had anything to do with it.

"The subjects actually think that the eye-tracking task is very distracting," Lleras says. "They think we're doing this to keep them from solving the problem."

Other studies have looked at non-spatial problems and at memory. Work led by Susan Goldin-Meadow, a psychology professor at the University of Chicago, has found that children given arithmetic problems that normally would be too difficult for them are more likely to get the right answer if they're told to gesture while thinking. And studies by Helga Noice, a psychologist at Elmhurst College, and her husband Tony Noice, an actor and director, found that actors have an easier time remembering lines their characters utter while gesturing, or simply moving.

The body, it appears, can subtly shape people's preferences. A study led by John Cacioppo, director of the Center for Cognitive and Social Neuroscience at the University of Chicago, found that subjects (all non-Chinese speakers) shown a series of Chinese ideographs while either pushing down or pulling up on a table in front of them will say they prefer the ideographs they saw when pulling upward over the ones they saw while pushing downward. Work by Beilock and Holt found that expert typists, when shown pairs of two-letter combinations and told to pick their favorite, tend to pick the pairs that are easier to type - without being able to explain why they did so.

What's particularly interesting to neuroscientists is the role that movement seems to play even in abstract thinking. Glenberg has done multiple studies looking at the effect of arm movements on language comprehension. In Glenberg's work, subjects were asked to determine whether a string of words on a computer screen made sense. To answer they had to reach toward themselves or away from themselves to press a button.

What Glenberg has found is that subjects are quicker to answer correctly if the motion in the sentence matches the motion they must make to respond. If the sentence is, for example, "Andy delivered the pizza to you," the subject is quicker to discern the meaning of the sentence if he has to reach toward himself to respond than if he has to reach away. The results are the same if the sentence doesn't describe physical movement at all, but more metaphorical interactions, such as "Liz told you the story," or "Anne delegates the responsibilities to you."

The implication, Glenberg argues, is that "we are really understanding this language, even when it's more abstract, in terms of bodily action."

Some linguists, cognitive scientists, and philosophers go further - arguing that the roots of even the most complex and esoteric aspects of human thought lie in the body. The linguist George Lakoff, of the University of California, Berkeley, along with Rafael Nunez, a cognitive scientist at the University of California, San Diego, have for several years advanced the argument that much of mathematics, from set theory to trigonometry to the concept of infinity, derives not from immutable properties of the universe but from the evolutionary history of the human brain and body. Our number system, they argue, and our understanding of addition and subtraction emerge from the fact that we are bipedal animals that measure off distances in discrete steps.

"If we had wheels, or moved along the ground on our bellies like snakes," Lakoff argues, "math might be very different."

These ideas have met intense opposition among mathematicians, but also among some cognitive scientists, who believe they reflect an overreaching reading of a promising but still sketchy set of experimental results.

"I think these findings are really fantastic and it's clear that there's a lot of connection between mind and body," says Arthur Markman, a professor of psychology at the University of Texas. He remains skeptical, though, that the roots of higher cognition will be found in something as basic as the way we walk or move our eyes or arms.

"Any time there's a fad in science there's a tendency to say, 'It's all because of this,'" Markman says. "But the thing in psychology is that it's not all anything, otherwise we'd be done figuring it out already."

While embodied cognition remains a young field, some specialists believe that it suggests a rethinking of how we approach education. Angeline Lillard, a psychology professor at the University of Virginia, says that one possibility is to take another look at the educational approach that Italian educator Maria Montessori laid out nearly 100 years ago, theories that for decades were ignored by mainstream educators. A key to the Montessori method is the idea that children learn best in a dynamic environment full of motion and the manipulation of physical objects. In Montessori schools, children learn the alphabet by tracing sandpaper letters, they learn math using blocks and cubes, they learn grammar by acting out sentences read to them.

To Lillard, the value of embodied cognition in education is self-evident.

"Our brains evolved to help us function in a dynamic environment, to move through it and find food and escape predators," she says. "It didn't evolve to help us sit in a chair in a classroom and listen to someone and regurgitate information."

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http://www.boston.com/bostonglobe/ideas/articles/2008/01/13/dont_just_stand_there_think/

Censored at the airport

John Wayne officials modified a sculpture without the artist's permission, saying two figures depicted dead people and might upset travelers.
By Mike Boehm, Los Angeles Times Staff Writer
January 15, 2008
RICHARD WHITE thinks the title of his ceramic sculpture "Insignificant Works of Art" was taken too literally by the official in charge of art exhibitions at John Wayne Airport, resulting in a double dose of disrespect: First the piece was censored, with the removal of two of its 10 figures, then what remained was put on display in a makeshift configuration -- all without White's being notified.

The group show that contained the work -- "Orange County Contemporary Ceramics" -- opened Oct. 25 and is scheduled to run through Feb. 21 at the Santa Ana airport, in an area where only ticketed passengers are allowed. White's piece, however, is no longer a part of it. He didn't see the display until late November, when he escorted his two young daughters to a flight. Upset by the changes, he asked that "Insignificant Works" be removed.

The piece, chosen by a guest curator, was a series of five pairs of male and female figures, intended, in the artist's words, as a "commentary concerning relationships and their ramifications." The missing figures, both about 2 feet tall, were men pegged to the wall by their collars, with slumped shoulders and hanging heads.

At first fearing they had been broken or stolen, White, a 55-year-old ceramics professor at Saddleback College in Mission Viejo, began a series of e-mail exchanges in which he learned that Jeffrey Frisch, the airport's arts coordinator since 1998, had removed the two figures because he thought they depicted dead people -- which might be upsetting for some passengers. The airport then complied with White's request to have his work taken out of the show and returned to him. Another artist, Jorg Dubin, withdrew in support of White.

Frisch, White said in a recent interview, "is a sculptor himself, so he should have known you don't take parts of a piece out" and then present the remnant as the artist's work.

"It's a humiliating experience," he said. "It's important to you, and the public isn't able to see what you did. They see something else."

Following the rules

Frisch declined to be interviewed and referred questions to Jenny Wedge, spokeswoman for the Orange County-run airport. In e-mails that White forwarded to The Times, Frisch had explained that his rules for airport art are "no nudity . . . no profanity and . . . nothing controversial."

On top of that, Frisch wrote, is a responsibility not to add to the anxiety some travelers feel before flying. He said he vetoed White's two figures because they might "easily engender anxiety and upset in the viewer."

Wedge, the airport spokeswoman, said that Frisch's concerns about death imagery arose when he first saw White's ceramics on the day they were to be hung. Nobody on the airport staff had looked at the photos the artist had provided in advance, she said. "We should have let him know" about the changes, "and it should have happened sooner," Wedge said.

She added that in the future, it might be "a good idea" for the airport's art staff -- Frisch, who is a full-time employee, and a five-member Airport Arts Commission appointed by the Orange County Board of Supervisors -- to view photos of objects proposed for display.

Wedge said there was no intention to compromise White's work or show disrespect for his art.

"It's unfortunate it worked out this way," she said. "We have a little different way of looking at art here because of the context in which it's being shown. We want to help passengers have an enjoyable experience."

White said that if Frisch had shared his concerns promptly and not taken liberties by displaying an incomplete and rearranged work, "I wouldn't have been that upset."

Not the first time

As it happens, White's case is far from a first. Officials at Los Angeles International Airport also have tried on occasion to spare the traveling public any presumed offense by art chosen by the city's Cultural Affairs Commission.

In 2001, the issue was images of nude male figures -- with private parts discreetly hidden -- that artist Susan Narduli had sandblasted into a terminal floor. After some LAX employees objected, airport officials covered the figures with brown paper.

Three years later, officials darkened a display case after receiving complaints from employees and passersby about disturbing imagery in a tapestry by a collective of 115 artists -- one panel showed a bare-breasted woman holding a bleeding heart, with the World Trade Center in flames behind her. In both cases, L.A.'s Cultural Affairs Commission had the final say, and it ruled the works acceptable.

Abe Garfield, assistant director and curator of San Francisco Airport Museums, the cultural wing of San Francisco International Airport, outlined standards similar to Frisch's in Orange County: "Our rule of thumb has always been no weapons, no nudity, no blood and gore -- make it something that won't be upsetting for somebody about to get on a plane." But, he added, "Sometimes you can be overly cautious. You don't just want to put out pablum all the time."

Garfield said that works are considered in context and that a life-size wooden male nude from New Guinea with an undisguised phallus passed muster and generated no viewer objections because its meaning clearly was ceremonial rather than sensual.

At Oakland International Airport, where the Oakland Museum of California is contracted to provide exhibitions, the unwritten rule is to keep them "noncontroversial: no politics, religion, no sex, no nudity, no death," said Cherie Newell, the museum executive who oversees the program. "Some artists feel we sell out, but we feel we can educate the public and show quality artwork without the triggers that could anger people."

At John Wayne Airport in 1990, the then newly constituted Airport Arts Commission ruled unanimously that "Winged Figure," a painting of a nude, Icarus-like figure, could be shown. But the painting by Jim Morphesis wound up at the Laguna Art Museum instead. The artist had been miffed when the image was not used as originally intended, as a commemorative poster for the opening of the airport's remodeled terminal; a single airport official found it offensive and held up the printing of the posters until it was too late for the opening ceremonies.

"Airport people want their art to be Muzak," said Svetlana Mintcheva, director of the arts program for the National Coalition Against Censorship, after being told of White's experience at John Wayne. Airports are entitled to show whatever art they want, she said, but they should have specific guidelines and procedures about who decides and what is considered out of bounds.

"When you have somebody removing something for vague reasons because it reminds them of something, you open a very wide door. Some imaginary person could always be offended," Mintcheva said. Blaming art for passengers' anxiety makes no sense, she added, given that they experience the threat of terrorism just by going through airport security.

Another opportunity

At home in San Clemente, sculptor White mused that "Insignificant Works of Art," which will be part of a group show opening April 12 at Armstrong's Gallery in Pomona, may be "kind of groundbreaking" in setting a threshold for mildness among censored art objects.

"To me they look depressed; to [Frisch] they looked dead," he said. "But even if they were dead, I don't see how that is something you have to protect the public from, without a knife stuck in the head, bullet holes and guns, or something like that."

The risk of being censored never entered his mind, White said. He thought his piece was "kind of dark, but it didn't seem offensive."

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http://www.latimes.com/entertainment/news/arts/la-et-airportart15jan15,1,1148983.story?track=rss&ctrack=1&cset=true

Those still are the days

Our popular culture is increasingly defined by an unhealthy refusal to let go of the past

John Harris
Monday January 14, 2008
The Guardian

As proved by a recent G2 cover story, with two years until 2010, now may be as good a time as any to ask the inevitable question: how will this decade - the "noughties", if we must - be reduced to historical shorthand? G2's answer combined consumerist dazzle with encroaching dread: the condition, to quote Jenny Turner's introductory essay, of living in "the bit that came between 9/11 and whatever massive changes are about to make themselves manifest".
As well as geopolitical angst and technological luxury, the spirit of the age also revolves around a big paradox: that in an era of supposedly rapid change, our popular culture is defined by a mass refusal to let go of the past. Pat references to postmodernism won't work here, because what's afoot is far more culturally stifling than that very worn-out term implies. Think about it this way: whereas, say, 1968 and 1958 denoted two different worlds, how is it that 2008 and 1998 seem so close?

Pop is a pretty good place to start. The idea that the people's music was ever defined by built-in obsolescence now looks absurdly quaint. Last year's highest-earning US tour was by the Police, while over here, the world was seemingly tilted off its axis by the reunion of the three surviving members of Led Zeppelin. The new year brought news that an end-of-the-pier extravaganza known as Here & Now is on to its seventh tour, filling the UK's indoor arenas with crowds eager to see 80s throwbacks such as Bananarama and Rick Astley. Should you want to relive the 90s, take your pick from back-together bands such as the Verve and My Bloody Valentine, or look at the lists of this year's most eagerly awaited albums - among them offerings from Oasis, REM, Madonna and Lenny Kravitz.

If, like me, you spent some of Christmas disconsolately trawling the detritus that issues from your Skybox - five year-old editions of Never Mind the Buzzcocks, a bit of Bullseye, The World at War - you'll know that TV exhibits similar symptoms. Cinema can feel much the same, partly thanks to Hollywood's fondness for putting jump-leads on old favourites. Most remarkably of all, an almost neurotic retrospection increasingly carries over into the small change of everyday lives. Across the globe, 18 million people subscribe to Friends Reunited, keen to rekindle playground bonds that are usually best forgotten, and one of the appeals of more cutting-edge social networking to anyone over 20 is much the same.

A case might be made for all this future denial being an inevitable response to our horizons being cast in terms of post-9/11 dread and ecological apocalypse - but past generations had the threat of the cold war going nuclear to deal with, and they managed to keep moving ahead. More relevant, perhaps, is the reinvention of what age entails, and the power wielded by people who affect to stay young by endlessly reviving their past. Pin this on the baby boomers if you want, but I can recall a friend in the early 1990s marvelling that our generation seemed united by a tendency to drink five pints and talk about the Clangers. In terms of extending history worship into utter ephemera, my lot have been much, much worse.

The best bet, however, might be to recognise that fixating on the past is an in-built aspect of the human condition, but limited technology used to keep it in check. We had space and productive capacity only for so much stuff: a hidden hand cleared the cultural world of outdated clutter. And now? Bandwidth and memory grow exponentially, TV channels extend into the distance, and providing the means by which the classes of 77, 87 and 97 can get back in touch is a cinch. The same technology that we once thought would propel us into a fast-changing future stokes nostalgic appetites and condemns us to a present so laden with repetition that it's beginning to feed back on itself.

Nineties nostalgia is growing fast. Today's sober look back at the current decade will surely be tomorrow's dewy-eyed retro-fest: expect a reunion of the Darkness in 2010, with endless reruns of Life

on Mars taking things into the realms of inter-referential lunacy. As the world carries on spiralling who-knows-where at speed, in pop-cultural terms, time crawls. Having thought about all this for a couple of days, I've got a very old-fashioned headache.

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http://music.guardian.co.uk/pop/comment/story/0,,2240299,00.html?gusrc=rss&feed=39