Points of Interest

Artificial Brain "10 Years Away"

A detailed, functional artificial human brain can be built within the next 10 years, a leading scientist has claimed. Henry Markram, director of the Blue Brain Project, has already simulated elements of a rat brain. He told the TED Global conference in Oxford, England, that a synthetic human brain would be of particular use in finding treatments for mental illnesses.

> "It is not impossible to build a human brain, and we can do it in 10 years," he said.

Jonathan Fildes ***BBC News*** July 22, 2009
http://news.bbc.co.uk/2/hi/technology/8164060.stm

Angry Crows Recognize Humans

John Marzluff, of the University of Washington in Seattle, wanted to prove his gut feeling that the crows he studied could identify individual human faces, so he and his students donned a series of Halloween masks on campus. A caveman mask was worn when the scientists trapped the birds. They then let the birds see them in "neutral" masks – one resembling Vice-President Dick Cheney.

When the researchers later walked around campus, the crows "scolded" someone wearing the caveman mask, and continued to do so two years into the study. The same scientists and volunteers wearing Dick Cheney masks or other "neutral" faces did not hear nearly as much abuse from the crows, although they probably earned a lot of confused looks from passers-by.

Andrew Moseman ***Discover*** blog
August 26, 2008
http://blogs.discovermagazine.com/discoblog/2008/08/26/angry-crows-recognize-humans%E2%80%94even-dick-cheney/

A Pill for Longer Life?

Rapamycin, a drug commonly used in humans to prevent transplanted organs from being rejected, has been found to extend the lives of mice by up to 14% – even when given to the mice late in life. In flies and worms, drug treatments have been shown to prolong lifespan; but until now, the only robust way to extend life in mammals has been to heavily restrict their diet.

Kerri Smith ***Nature News*** July 8, 2009
http://www.nature.com/news/2009/090708/full/news.2009.648.html

Should Thursday Be the New Friday?

As government agencies and corporations scramble to cut expenses, one idea gaining widespread attention involves cutting something most employees would not mind losing: work on Fridays. Regular three-day weekends, without a decrease in the actual hours worked per week, could not only save money but also ease pressures on the environment and public health, advocates say.

Lynne Peeples ***Scientific American*** July 24, 2009
http://www.scientificamerican.com/article.cfm?id=four-day-workweek-energy-environment-economics-utah

A "Cloaking Device" for Earthquakes

Researchers at Aix-Marseille Université in France and at the University of Liverpool in the United Kingdom say they have found a way to make buildings essentially "invisible" to earthquakes. If perfected, the technique could protect skyscrapers and homes alike from even the most devastating temblors.

Using computers, the team modelled a device composed of layered, concentric rings of plastic, copper and four other materials of varying flexibility and stiffness – all designed to harmlessly deflect earthquake waves.

Phil Berardelli ***ScienceNOW*** Daily News July 24, 2009
http://sciencenow.sciencemag.org/cgi/content/full/2009/724/2

Strange! Humans Glow in Visible Light

The human body literally glows, emitting a visible light in extremely small quantities at levels that rise and fall with the day, scientists now reveal. Scientists in Japan employed extraordinarily sensitive cameras capable of detecting single photons. Five healthy male volunteers in their 20s were placed bare-chested in front of the cameras in complete darkness in light-tight rooms for 20 minutes every three hours from 10 a.m. to 10 p.m. for three days.

The researchers found that the body glow rose and fell during the day, with its lowest point at 10 a.m. and its peak at 4 p.m., and dropping gradually after that time. Faces glowed more than the rest of the body did.

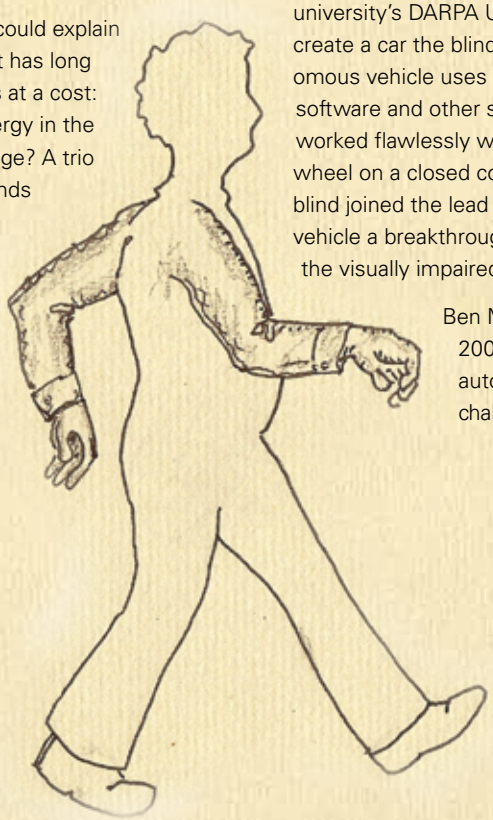
Charles Q. Choi ***LiveScience*** July 22, 2009 http://www.livescience.com/health/090722-body-glow.html

Out on a Limb: Arm-Swinging Riddle Is Answered

Biomedical researchers recently announced that they could explain why we swing our arms when we walk, a practice that has long piqued scientific curiosity. Swinging one's arms comes at a cost: we need muscles to do it, and we need to provide energy in the form of food for those muscles. So what's the advantage? A trio of specialists from the United States and the Netherlands has put the question to rigorous tests.

Arm-swinging turned out to be a plus, rather than a negative, the investigators found. It requires little torque, or rotational twist, from the shoulder muscles. Holding one's arms still as one walks requires 12% more metabolic energy than does swinging them. The arms' pendulum swing also helps dampen the bobbly up-and-down motion of walking, which is, itself, an energy drain for the muscles of the lower legs.

Yahoo! News July 28, 2009 http://news.yahoo.com/s/afp/20090728/sc_afp/sciencearmsoffbeat



Blue Rats Move Again after Food-Dye Injection

Rats with spinal cord injuries recovered their motor function after being injected with a blue food-colouring derivative – possibly opening the door to the first major treatment for human patients with spinal trauma, a new study says. The dye reduced the inflammation of the spinal cord, which allowed the rats to take clumsy steps within weeks.

Other than blue skin and eyes, "we can find no clinical effect on the rat," said Maiken Nedergaard, a neuroscientist at the University of Rochester Medical Center in Rochester, New York.

Christine Dell'Amore ***National Geographic*** News July 27, 2009 http://news.nationalgeographic.com/news/2009/07/photogalleries/blue-rats-food-dye-heals-pictures/index.html

Students Build a Car the Blind Can Drive

Virginia Tech undergraduates packed an all-terrain buggy with technology lifted from the university's DARPA Urban Challenge entry to create a car the blind can drive. The semiautonomous vehicle uses a laser range finder, voice software and other sensory technology, and it worked flawlessly when blind drivers took the wheel on a closed course. Advocates for the blind joined the lead researcher in calling the vehicle a breakthrough in independent living for the visually impaired.

Ben Mack ***Wired*** July 23, 2009 http://www.wired.com/autopia/2009/07/blind-driver-challenge/

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