Eureka! Daily discoveries for the scientifically bent

by Scott_LaFee

ELECTRON INK

POETRY FOR SCIENTISTS - The Johns Hopkins University Press has recently published volume six of 'The Papers of Thomas A. Edison,' covering April 1881 through March 1883. CNS Photo. CLOSET SPACE - Engineers at the Massachusetts Institute of Technology are designing a sleek BioSuit of nylon and spandex that looks more like something Spider-Man might wear for future astronauts. CNS Photo. HOUSE CENTIPEDE - The What's That Bug Web site at www.whatsthatbug.com will help you identify common and uncommon bugs. CNS Photo. PRIME NUMBERS - On the water, a mosquito's legs can support 23 times its body weight. CNS Photo. What's that bug?

www.whatsthatbug.com

Got a UFB (unidentified flying bug) in your backyard? You can try identifying it here. The webmasters are a pair of Southern California teachers who post images of insects in question and responses from readers.

Incidentally, that's a house centipede.

BRAIN SWEAT

What are the two words in the English language that begin and end with the letters "he?" ("Hehe" is not one of them.)

VERBATIM

It is often stated that of all the theories proposed in this century, the silliest is quantum theory. In fact, some say the only thing that quantum theory has going for it is that it is unquestionably correct.

- American Theoretical Physicist Michio Kaku

BRAIN SWEAT ANSWER

Headache and heartache

CLOSET SPACE

It remains to be seen whether astronauts will actually get to Mars by 2020 (NASA's stated goal), but if they do, they'll probably look better doing it.

In the 40 years that humans have been traveling in space, they haven't changed suits. That is, astronauts have always worn gas-pressurized outfits that are bulky, heavy and motion-limiting.

Engineers at the Massachusetts Institute of Technology are working on a sartorial solution, a sleek BioSuit of

nylon and spandex that looks more like something Spider-Man might wear.

The focus is on improved mobility, said Dava Newman, a professor of aeronautics and astronautics at MIT. The current spacesuits are OK for astronauts when they are, say, working on a solar panel of the International Space Station, but they are impracticably clunky for planetary ramblings.

"It's a whole different ballgame when we go to the moon or Mars, and we have to go back to walking and running or loping," Newman said.

Key to the BioSuit's design are non-extension lines built into the tight, stretchy fabric. These lines correspond with lines on the skin that don't extend when moving limbs, and thus serve as a sort of stiff exoskeleton of support while still providing maximum mobility and body flexibility.

The suit's tight fit exerts pressures similar to that on Earth, reducing the need for artificial gas pressurization and providing a new safety feature. When a traditional gas-pressurized suit is punctured, the astronaut must immediately return to a safe environment. With the BioSuit, a puncture can be wrapped like a bandage; the rest of the suit is unaffected.

Prototypes of the fashionable BioSuit aren't ready yet for space testing, but they seem to be fairly far down the runway.

POETRY FOR SCIENTISTS

The Johns Hopkins University Press has recently published volume six of "The Papers of Thomas A. Edison," covering April 1881 through March 1883. Found among those documents was this untitled prose

poem by the very inventive Edison (published in the August issue of Harper's):

"A Bowery angel smoking a palm tree stubbed his toe on a comet, and pimples came out on his toenail as big as mountains. He swore so much that God made eight new planets out of the conversation & peopled and fauna'd and flora'd them eccentrically. The almighty has a vein of humor. He made these planets and peopled them to give amusements to beings on the rest of the celestial plantation. The men were 800 miles long & 1/4-inch thick. They slept on telegraph poles, and animals with bodies as big as a pea with 900 eyes each as big as a saucer lived on these long men by catching them by the feet and sucking them in like macaroni."

SUPED UP REPUTATIONS

Are superheroes really so super?

Consider this bit of physical reality, from Stephen Strauss' book "The Sizesaurus":

If Superman, weighing 220 pounds, were standing on the ground and trying to stop a 55-ton truck traveling at 67 miles per hour, the coefficient of friction would mean that, because his ability to stop the truck is limited by his weight, it would take 14 miles for him to halt the runaway vehicle.

That hardly seems like a superheroic effort.

JUST ASKING

When they ship Styrofoam, what do they pack it in?

PRIME NUMBERS

16 million - Estimated amount of oil, in barrels, used to make containers for bottled water sold in the United States last year

2:1 - Ratio of the amount of water used to make the containers to the amount of bottled water consumed

23 - Number of times its body weight a mosquito's legs can support standing on water

56 - Percentage of typing, on average, done by the left hand

100 - Estimated amount, in tons, of cosmic dust hitting the Earth daily

Sources: Harper's; Peter Gleick, Pacific Institute; Dalian University, China; Simon Fraser University, Canada; The Crystal Palace Foundation.