

This Week

- 84 Yolks of Yore: Oldest Animals Found
Richard Monastersky
- 84 Did water carve canyon on Mars?
Ron Cowen
- 85 Beavers bite trees, benefit baby beetles
Mari N. Jensen
- 85 Blood tests establish early HIV case
Nathan Seppa
- 86 How low will we go in fishing for dinner?
Janet Raloff
- 86 Protein switch curls bacterial propellers
Corinna Wu
- 87 New Budget Provides Lift for Science
John Travis

Articles

- 89 Staging Germ Warfare in Foods
Science harnesses bacteria to fend off food poisoning and spoilage
Janet Raloff
- 92 Light from the Early Universe
Discerning patterns in galaxies from long ago
Ron Cowen



Cover: The production of cheese, yogurt, buttermilk, and many sausages relies on a fermentation step that is fostered by added bacteria. These bacteria also make proteins that can kill many food-poisoning microbes. Scientists are working to harness these proteins for use as a new type of food preservative. **Page 89**

Visit SCIENCE NEWS ONLINE for special features, columns, and references.

<http://www.sciencenews.org>

Letters

Crime and retardation

In "Excess crimes by mentally retarded on own" (SN: 12/6/97, p. 359), researchers imply that the rates of reported criminal activity in mentally retarded and in nonretarded populations reflect the true crime rates.

Isn't it possible that the higher crime rate of the retarded individuals is caused by their decreased ability to escape detection?

*Carol Withrow
Salt Lake City, Utah*

The researchers cite longitudinal evidence that low-IQ offenders are no more likely than other offenders to be arrested. See Terrie Moffitt's chapter in "Crime and Justice: A Review of Research" (1990, M. Tonry and N. Morris, eds., University of Chicago Press). —B. Bower

High crime rates among the mentally retarded who are living independently is no surprise to me. For years it has been known that the mentally retarded are targets of

physical abuse by frustrated parents and low-paid institutional caretakers. My own research over the past 25 years shows that crime in all groups is directly proportional to corporal punishment history.

One could easily design a study that would compare the retarded persons and their controls regarding exposure to corporal punishment. I have no doubt that the differences would be remarkable.

*Ralph S. Welsh
Clinical Psychologist
Bridgeport, Conn.*

Levitation for burn victims?

In "Floating Frogs" (SN: 12/6/97, p. 362), Andre Geim states that levitating a person is "a complete waste of money for no reason." The expense is not mentioned in the article, but an excellent reason for levitating people would be to care for acute burn victims.

*David H. Kaplan
East Granby, Conn.*

This does sound like a good application of lev-

itation, but such magnets would probably cost millions of dollars—far more than the average burn unit can afford.

—C. Wu

Immunological musings

"The Dark Side of Immunizations" (SN: 11/22/97, p. 332) made no distinction between killed virus vaccines and attenuated live virus vaccines, such as the polio vaccine, which permanently implant the attenuated virus in the gut.

Autoimmune diseases have been triggered in laboratory animals by chronic administration of an antigen. Might not the continual stimulation of the immune system by a live virus vaccine trigger an autoimmune disease?

*Elliott H. Sigman
Pasadena, Calif.*

Immunologist J. Barthelow Classen replies: "That is a valid point. It's hard to say how many kids are chronically infected with a live virus. It's not a lot, but maybe it's similar to the

Letters continued on p. 91

Blinded by beauty

A fetching face and other aspects of human sexual attractiveness have evolved, at least in part, as signs of an individual's physical health and suitability for mating, according to a recent body of research. But even without plastic surgery, looks can deceive.

Extremely handsome or pretty people are mistakenly rated as healthier than their plainer peers, a new study finds. Estimates of physical health prove most accurate for folks with moderately attractive faces, report psychologist S. Michael Kalick of the University of Massachusetts at Boston and his coworkers.

Sexually alluring traits may have evolved as advertisements for mates, with each conveying a mix of truthful and manipulative information, the scientists propose in the January *PSYCHOLOGICAL SCIENCE*.

Kalick's group relied on archived health data for 164 men and 169 women born between 1920 and 1929. Most of these study participants came from white, middle-class families. Medical exams and histories were obtained annually from age 11 through 18, once between age 30 and 36, and once between age 58 and 66.

Male and female raters judged the attractiveness of each volunteer's face from photographs taken at age 17 to 18. The raters agreed closely in their assessments of each photo.

Attractive teens exhibited no tendency toward better overall health or greater resistance to infectious diseases at any point in their lives, the researchers found.

A second set of raters then examined the photos and ranked each participant's overall health as a teen, young adult, and older adult.

The most attractive people—those in the top 25 percent of the ratings—drew overly positive estimates of their health as teenagers and adults. Volunteers who fell in the bottom 25 per-

cent of attractiveness ratings evoked mistakenly negative health predictions. Raters made fairly accurate health judgments only for participants in the middle range of attractiveness.

The archived data held no clues to any link between aspects of reproductive health, such as fertility problems or miscarriages among women, and facial attractiveness.

Other elements of sexual attractiveness, such as a highly symmetrical face (SN: 1/28/95, p. 60) or a small waist-to-hip ratio in women (SN: 8/21/93, p. 120), may provide a more accurate insight into physical health and fertility than drop-dead good looks, the scientists suggest. —B.B.

Genetic hint of psychosis

An as-yet-unspecified gene in a small segment of chromosome 6 appears to contribute to the psychotic symptoms that characterize schizophrenia, a research team reports. Earlier attempts to implicate the same DNA region in schizophrenia achieved mixed results (SN: 11/4/95, p. 292), but those investigations focused on people exhibiting a broader range of symptoms.

Schizophrenia consists of psychotic features, such as disorganized thinking and bizarre delusions, and so-called negative symptoms, such as apathy and social withdrawal.

Linda M. Brzustowicz of Rutgers University in Newark, N.J., and her colleagues evaluated 28 genetic markers on chromosome 6 for links to schizophrenia in 183 people from 10 Canadian families. Schizophrenia was diagnosed in about one-quarter of the participants.

Markers delineating a certain chromosome 6 segment appeared progressively more often as individuals displayed more severe psychotic symptoms, regardless of whether they received a diagnosis of schizophrenia, the scientists assert in the December 1997 *AMERICAN JOURNAL OF HUMAN GENETICS*. —B.B.

Letters continued from p. 83

rise in [juvenile-onset] diabetes. Much of this needs further follow-up study." —N. Seppa

Mightn't the children who received immunizations also have received nonsteroidal anti-inflammatory drugs (NSAIDs) such as aspirin, which are used almost indiscriminantly by many well-meaning parents and which, by limiting fevers, must have an effect on the immune system?

I think there is a tendency in the medical-scientific community to look for exotica. NSAIDs need to be studied more extensively.

Frank Benedict
Bakersfield, Calif.

Water loss may add to quake risk

Perhaps depletion of soil moisture by vegetation is a seasonal factor affecting earthquake frequency ("California shakes most often in September," SN: 12/13/97, p. 373). Plants use water held in surface soils and shallow aquifers over the growing season, so soil moisture levels are typically lowest in September. At least 50 to 100 centimeters of water may be lost through evapotranspiration.

Even accounting for the associated increase in plant biomass, the reduction in pressure associated with this water loss would probably be on the order of 50 millibars. Perhaps the effects of atmospheric pressure and soil moisture depletion are additive.

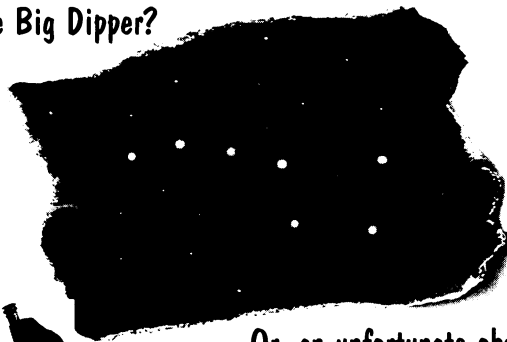
T.J. Swiecki
Vacaville, Calif.

• Telescopes • Binoculars • Biology • Optics • Photography Accessories •

Educational Science Toys • Geology • Telescopes • Binoculars • Biology • Optics

Educational Science Toys • Geology • Telescopes • Binoculars • Biology • Optics

Do you think of this
as the Big Dipper?



Or, an unfortunate obstruction
to viewing the M-51 galaxy?



Astroscan® 2001, pg 3
\$329.00



The big picture comes into focus when viewed through the Astroscan® 2001. Its unique design and convenient table-top base make it extremely ideal for beginners and serious astronomers alike. Plus, its amazing 3° field and superb light gathering capability make those panoramic views all the more memorable. Call 800-728-6999 for a free catalog.

Edmund Scientific
If you love science.

SCIENTIFICS CATALOG DIVISION

Dept. A981C915, 101 E. Gloucester Pike, Barrington, New Jersey 08007-1380
E-mail us at: scientific@edscl.com

• Telescopes • Binoculars • Biology • Optics • Photography Accessories •