NEWS OF THE WEEK
Ecologists Report Huge Storm Loses in China’s Forests 1318
Brazilian Scientists Battle Animal Experimentation Bans 1319
Test of Hawking’s Prediction on the Horizon With Mock ‘White Hole’ 1321
>> Report p. 1367

SCIENCESCOPE
NSF Delays Three Projects to Get Better Handle on Costs 1322
U.S. Biomedicine’s Mother Ship Braces for Lab Closings 1324
Antimatter Experiment May Be Too Costly for NASA to Launch 1324
Electron Shadow Hints at Invisible Rings Around a Moon 1325
>> Report p. 1380

NEWS FOCUS
Preparing for Doomsday 1326
The State of Our Planet’s Defenses 1326
Experts Find No Evidence for a Mammoth-Killer Impact 1331
Corn Genomics Pops Wide Open 1333

LETTERS
Editorial Expression of Concern 1335
D. Kennedy and B. Alberts
Rewarding Reviewers M. A. Metz
Rating Reviewers G. Marchionini
Preventing Inequity in International Research
I. Rudan Response C. A. Nelson III et al.
AIDS Vaccine Research: Consider Co-Infections
R. Gruters and A. Osterhaus

CORRECTIONS AND CLARIFICATIONS 1336

BOOKS ET AL.
The Second Life Herald The Virtual Tabloid That Witnessed the Dawn of the Metaverse
P. Ludlow and M. Wallace, reviewed by D. Hunter
HIV/AIDS, Illness, and African Well-Being
T. Falola and M. M. Heaton, Eds., reviewed by A. G. Abimiku

POLICY FORUM
Moving Toward Transparency of Clinical Trials 1340
D. A. Zarin and T. Tse

PERSPECTIVES
Canyon Cutting on a Grand Time Scale 1343
T. Atkinson and M. Leeder >> Report p. 1377
A Tall Tale for U
M. Wickens and J. E. Kwak
Punishment and Cooperation
H. Gintis >> Research Article p. 1362
On Phytoplankton Trends
V. Smetacek and J. E. Cloern
Sweet Conundrum
M. J. Birnbaum >> Report p. 1402
Science 2.0
B. Shneiderman
Retrospective: Joshua Lederberg (1925–2008)
S. S. Morse

GORDON RESEARCH CONFERENCES 1310 & 1409

EDITORIAL
A New Editor-in-Chief 1307
by Bruce Alberts

COVER
An example of “art” by self-styled guerrilla artist Banksy, as seen in East London in November 2007. Human behavior that would be characterized as antisocial punishment can also be called art; prosocial institutions, most notably the campaign Keep Britain Tidy, refer to Banksy’s work as vandalism. See page 1362.

Photo: Chris Jackson/Getty Images
CHEMISTRY
Linked Reactivity at Mineral-Water Interfaces Through Bulk Crystal Conduction
S. V. Yanina and K. M. Rosso
A current flow through a hematite crystal couples dissolution and growth reactions at different surfaces, a finding likely relevant to a broad range of semiconducting minerals.
10.1126/science.1154833

PHYSICS
Frequency Ratio of Al⁺ and Hg⁺ Single-Ion Optical Clocks; Metrology at the 17th Decimal Place
T. Rosenband et al.
Precise measurements of the frequency ratio of two optical clocks indicate that the fine-structure constant is fine and constant to an uncertainty of 10⁻¹⁷.
10.1126/science.1154622

MEDICINE
Oncogenic CARD11 Mutations in Human Diffuse Large B Cell Lymphoma
G. Lenz et al.
One type of non-Hodgkin’s lymphoma is caused by mutations in a scaffolding protein that inappropriately activate an inflammatory signaling pathway.
10.1126/science.1153629

NEUROSCIENCE
A Model for Neuronal Competition During Development
C. D. Deppmann et al.
Modeling and experiments show that neurons successfully innervate muscle when neuronal sensitization to survival signals outweighs antagonistic signals for cell death.
10.1126/science.1152677

TECHNICAL COMMENT ABSTRACTS
GEOCHEMISTRY
Comment on “Early Archaean Microorganisms Preferred Elemental Sulfur, Not Sulfate”
H. Bao, T. Sun, I. Kohl, Y. Peng
full text at www.sciencemag.org/cgi/content/full/319/5868/1336b
Response to Comment on “Early Archaean Microorganisms Preferred Elemental Sulfur, Not Sulfate”
P. Philippot et al.
full text at www.sciencemag.org/cgi/content/full/319/5868/1336c

REVIEW
MEDICINE
An Oncogene-Induced DNA Damage Model for Cancer Development
T. D. Halazonetis, V. G. Gorgoulis, J. Bartek
A drug for controlling cholesterol may be useful as an antibiotic because of unexpected structural similarities among critical proteins.

A computational design enzyme acts as a retro-aldolase that splits a carbon-carbon bond in a nonnatural substrate. Experiments mimicking aerosol formation show that organic vapors tend to condense on any nanometer-scale particles, particularly negatively charged ones, rather than forming pure nuclei.

A variant of a human gene associated with high rates of recombination in males and low rates in females is an ortholog of a nematode gene essential for recombination.

Competing glycosylation and phosphorylation of a single amino acid in a transcriptional coactivator regulate nutrient- and energy-sensing pathways and may contribute to diabetes.

Mutating a cell-surface virulence protein on strep bacteria stabilizes its structure, minimizing its inflammatory side effects and potentially making it a better vaccine.
Perspective: Matrix Elasticity, Cytoskeletal Tension, and TGF-β: The Insoluble and Soluble Meet

R. G. Wells and D. E. Discher

Extracellular matrix stiffness regulates the equilibrium between storage and release of matrix-bound transforming growth factor–β.

Glossary

Find out what MVE, SFRP, and LCR mean in the world of cell signaling.