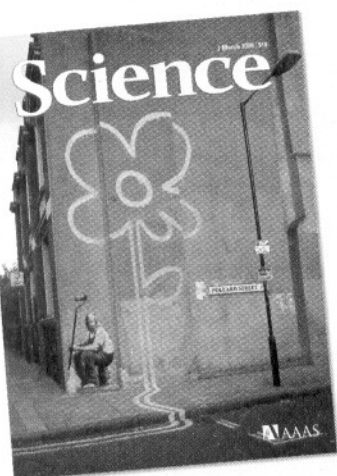




COVER

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

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www.sciencexpress.org

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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

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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.

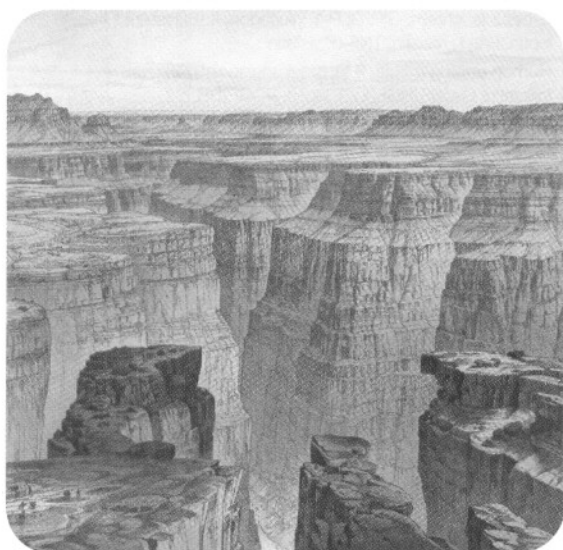
full text at www.sciencemag.org/cgi/content/full/319/5868/1336c

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T. D. Halazonetis, V. G. Gorgoulis, J. Bartek



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Dimethylsulfoniopropionate as a Foraging Cue for Reef Fishes

J. L. DeBose, S. C. Lema, G. A. Nevitt

Reef fish locate desirable feeding opportunities by recognizing dimethylsulfoniopropionate, which is released by coral reef algae in response to foraging by fish.

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CLIMATE CHANGE

Long-Term Sea-Level Fluctuations Driven by Ocean Basin Dynamics

R. D. Müller, M. Sdrolias, C. Gaina, B. Steinberger, C. Heine

Considering changes in the shape of the ocean basins implies that global sea level fell by ~250 meters since 140 to 80 million years ago, a larger drop than implied in a recent study.

PSYCHOLOGY

Antisocial Punishment Across Societies

B. Herrmann, C. Thöni, S. Gächter

Retaliation against those who enforce the social norms of civic cooperation and rule of law varies among cultures and is more pronounced where social norms are weaker.

>> Perspective p. 1345

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Fiber-Optical Analog of the Event Horizon

T. G. Philbin et al.

An optical analog of the event horizon of a gravitational black hole can be produced with light pulses propagating along an optical fiber, providing a tractable experimental system.

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J. R. Capadona et al.

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- Heterogeneous Nucleation Experiments Bridging the Scale from Molecular Ion Clusters to Nanoparticles** 1374

P. M. Winkler et al.

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- Age and Evolution of the Grand Canyon Revealed by U-Pb Dating of Water Table-Type Speleothems** 1377

V. Polyak, C. Hill, Y. Asmerom

Dating of cave deposits that form at the water table implies that incision of the Grand Canyon began in the west 17 million years ago and only accelerated in the east recently. >> *Perspective p. 1343*

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Observations of a large shadow in electrons and particles behind Rhea imply that it has a small ring system formed from dust lofted into orbit by impacts.

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- TOPELESS Mediates Auxin-Dependent Transcriptional Repression During *Arabidopsis* Embryogenesis** 1384

H. Szemenyei, M. Hannon, J. A. Long

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L. Jiang et al.

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G. Coop, X. Wen, C. Ober, J. K. Pritchard, M. Przeworski

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A. Kong et al.

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.

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R. Dentin, S. Hedrick, J. Xie, J. Yates III, M. Montminy

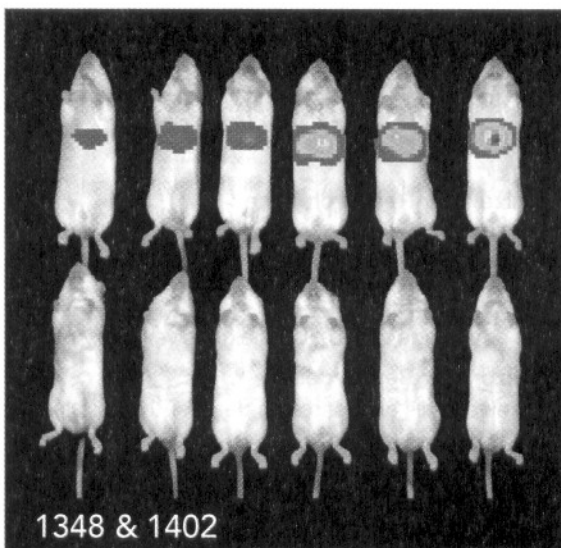
Competing glycosylation and phosphorylation of a single amino acid in a transcriptional coactivator regulate nutrient- and energy-sensing pathways and may contribute to diabetes. >> *Perspective p. 1348*

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C. McNamara et al.

Mutating a cell-surface virulence protein on strep bacteria stabilizes its structure, minimizing its inflammatory side effects and potentially making it a better vaccine.



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