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REVIEW

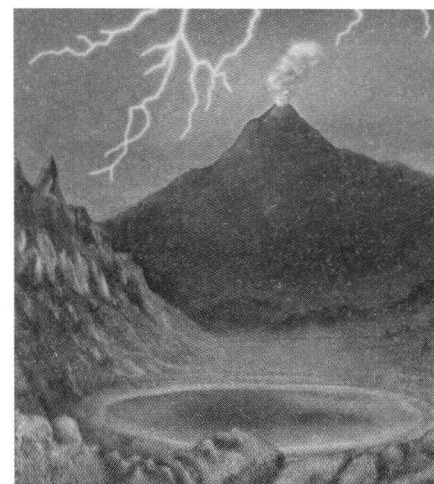
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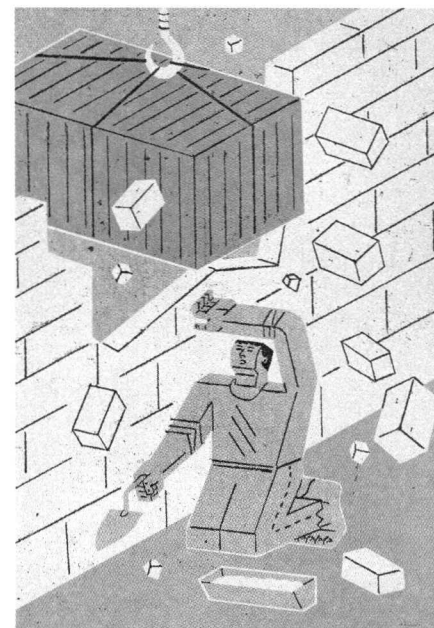
COVER

Charles Darwin, a few years after his *Beagle* voyage. *Science's* celebration of his 200th birthday and the 150th anniversary of the publication of *On the Origin of Species* begins with a Review by Bowler (p. 223) and an Essay on the origins of life (p. 198), the start of a monthly series exploring evolution. See also the Editorial (p. 185) for additional features and upcoming content.

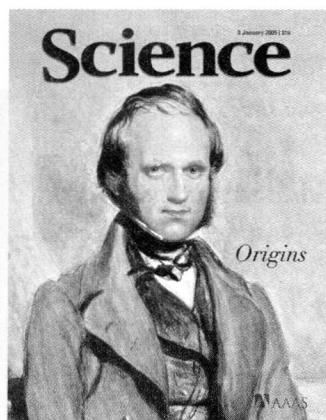
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227 Bat White-Nose Syndrome: An Emerging Fungal Pathogen?

D. S. Blehert et al.

Bats that died en masse in New York state while they were hibernating were infected with a cold-tolerant fungus.

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228 Universal Theory of Nonlinear Luttinger Liquids

A. Imambekov and L. I. Glazman

A theory of one-dimensional quantum liquids is generalized from linear interactions among particles to nonlinear ones, affecting, for example, predicted tunneling dynamics.

>> Perspective p. 213

231 Direct Measurement of Molecular Mobility in Actively Deformed Polymer Glasses

H.-N. Lee et al.

Optical bleaching of a dilute molecular probe shows that when a rubbery polymer begins to flow, polymer chains become more mobile than predicted from a classical model.

>> Perspective p. 214

234 Suppression of Metallic Conductivity of Single-Walled Carbon Nanotubes by Cycloaddition Reactions

M. Kanungo et al.

Reacting carbon nanotubes with fluorinated olefins suppresses the conductivity of the metallic tubes without affecting semiconducting tubes.

237 Self-Organization of a Mesoscale Bristle into Ordered, Hierarchical Helical Assemblies

B. Pokroy et al.

Evaporating an organic liquid from the tips of polymer pillars can induce them to form helical structures.

240 Historical Warnings of Future Food Insecurity with Unprecedented Seasonal Heat

D. S. Battisti and R. L. Naylor

By analogy with past examples, higher growing season temperatures and extreme heat will cause major disruptions to global agriculture. >> News story p. 193

244 Foraminiferal Isotope Evidence of Reduced Nitrogen Fixation in the Ice Age Atlantic Ocean

H. Ren et al.

Nitrogen fixation in the tropical Atlantic increased during deglaciation and, along with increased denitrification, helped to stabilize the ocean nitrogen reservoir.

>> Perspective p. 219

248 *Drosophila* Stem Cells Share a Common Requirement for the Histone H2B Ubiquitin Protease Scrawny

M. Buszczak et al.

Stem cells in the germ line, epithelium, and intestine all require a particular modification of histone H2B to repress key differentiation genes and maintain pluripotency.

>> Perspective p. 221

251 The Aryl Hydrocarbon Nuclear Translocator Alters CD30-Mediated NF- κ B-Dependent Transcription

C. W. Wright and C. S. Duckett

Signals from a cancer-associated receptor that activate a key pathway in the immune system are modulated by its binding to a stress-responsive transcription factor.

256 HDAC4 Regulates Neuronal Survival in Normal and Diseased Retinas

B. Chen and C. L. Cepko

An enzyme that deacetylates histones in the nucleus also functions in the cytoplasm to promote the survival of retinal neurons in mice.

259 Genetic Code Supports Targeted Insertion of Two Amino Acids by One Codon

A. A. Turanov et al.

One codon can code for two different amino acids within the same gene, with the choice determined by an RNA structure in an untranslated region.

262 *tasselseed1* Is a Lipoxigenase Affecting Jasmonic Acid Signaling in Sex Determination of Maize

I. F. Acosta et al.

A gene that controls male floral development in maize is involved in synthesis of a hormone that suppresses female organ development.

266 Structure of a Type IV Secretion System Core Complex

R. Fronzes et al.

The structure of a bacterial secretion complex suggests how Gram-negative bacteria might regulate the transfer of certain virulence factors.

269 AMPylation of Rho GTPases by *Vibrio* VopS Disrupts Effector Binding and Downstream Signaling

M. L. Yarbrough et al.

A GI-active pathogen destroys intestinal cells, in part by improperly modifying a host signaling protein, causing loss of cell shape and contributing to cell death.

272 Simpson's Paradox in a Synthetic Microbial System

J. S. Chuang et al.

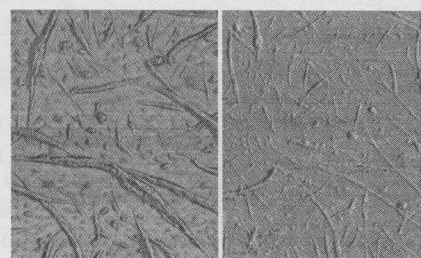
Stochastic fluctuations in the population structure of microorganisms can allow a disadvantaged subpopulation to be maintained.

276 Mispredicting Affective and Behavioral Responses to Racism

K. Kawakami et al.

People predict that they will feel worse after witnessing a racist comment than they actually do. >> Perspective p. 215

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