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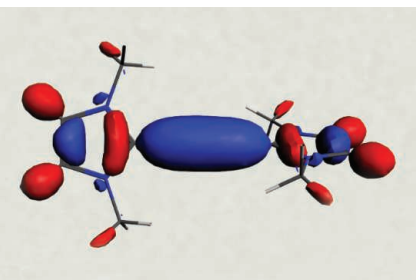
COVER

View of a ceiling in Altamira Cave, Cantabria, Spain (original image rotated 180°). The multicolor (brown and red) bison depicted here date to ~18,000 years ago but were painted on top of earlier single-color artwork (red). New uranium-thorium dates on calcite crusts show that the large (~50-centimeter) double-claviform figure (center right) is at least 35,600 years old, indicating that, at the latest, cave painting here began shortly after humans first arrived. See page 1409.

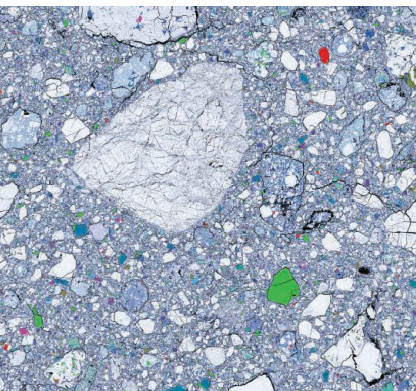
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- 1409** U-Series Dating of Paleolithic Art in 11 Caves in Spain
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Dating of calcite crusts overlying art in Spanish caves shows that painting began more than 40,000 years ago.
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A distinct parameter, twisted spin, is predicted to be conserved in a two-dimensional semiconductor with spin-orbit interaction.
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C. Kraemer et al.
Scattering experiments reveal that magnetic ordering can arise from dipolar interactions, not only from exchange.
- 1420** Ambient-Temperature Isolation of a Compound with a Boron-Boron Triple Bond
H. Braunschweig et al.
A boron analog of an alkyne has been synthesized by reduction of a brominated precursor.
>> *Perspective p. 1394*
- 1422** Reticulated Nanoporous Polymers by Controlled Polymerization-Induced Microphase Separation
M. Seo and M. A. Hillmyer
In situ preparation of a block copolymer can be used to induce microphase separation to make mesoporous materials.
- 1426** Direct Detection of Projectile Relics from the End of the Lunar Basin-Forming Epoch
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The risk of being eaten by spiders changes the elemental composition of grasshoppers, which affects soil microbes.
>> *Science Podcast*
- 1438** Continental-Scale Effects of Nutrient Pollution on Stream Ecosystem Functioning
G. Woodward et al.
Leaf-litter breakdown rates across 100 European streams offer insights into ecosystem health during eutrophication.
>> *Perspective p. 1393*
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J. E. Purvis et al.
After DNA damage, pulses of p53 allow recovery, whereas sustained levels lead to senescence.
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W. Qian et al.
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The flexible coatomer complex makes contact with a variable number of neighbors and coats vesicles of variable size.
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The neuronal "replay" of past experience may allow animals to retrieve specific memories and use them to guide behavior.
- 1458** Segregation of Axonal and Somatic Activity During Fast Network Oscillations
T. Dugladze et al.
Inhibition by axo-axonic interneurons functionally separates the input and output of hippocampal pyramidal cells.

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C. O. Holliday

10.1126/science.1225457

Adenylate Cyclases of *Trypanosoma brucei* Inhibit the Innate Immune Response of the Host

D. Salmon et al.

Parasites release cyclic adenosine monophosphate when swallowed up by myeloid cells, thereby turning off a host defense pathway.

10.1126/science.1222753

Function, Targets, and Evolution of *Caenorhabditis elegans* piRNAs

M. P. Bagijn et al.

Piwi-bound piwi-interacting RNAs recruit endogenous small interfering RNAs to silence mobile genetic elements.

10.1126/science.1220952

Rapid Progression of Ocean Acidification in the California Current System

N. Gruber et al.

Rising concentrations of atmospheric carbon dioxide threaten to amplify the severity of ocean acidification in upwelling zones.

10.1126/science.1216773

Mitochondrial Import Efficiency of ATF5-1 Regulates Mitochondrial UPR Activation

A. M. Nargund et al.

When stressed, the mitochondrion reduces import of a transcription factor, which enters the nucleus instead.

10.1126/science.1223560

SCIENCE NOW

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Highlights From Our Daily News Coverage

Putting the Brakes on the Immune System

Researchers discover powerful but short-lived cells that rein in immune attacks.

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<http://scim.ag/Age-Genes>

Life Blooms Under Arctic Ice

Researchers discover green blooms of phytoplankton more than one meter below the surface.

<http://scim.ag/Ice-Blooms>

SCIENCE SIGNALING

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12 June issue: <http://scim.ag/ss061212>

RESEARCH ARTICLE: The Transcription Factor TFEB Links mTORC1 Signaling to Transcriptional Control of Lysosome Homeostasis

A. Rocznik-Ferguson et al.

PODCAST

S. M. Ferguson and A. M. VanHook

Regulated nuclear translocation of a transcription factor maintains lysosomal homeostasis.

RESEARCH ARTICLE: The *lin-4* MicroRNA Targets the LIN-14 Transcription Factor to Inhibit Netrin-Mediated Axon Attraction

Y. Zou et al.

A microRNA instructs neurons when to stop axonal pathfinding.

PERSPECTIVE: S-Nitrosylation Signaling in *Escherichia coli*

I. Gusarov and E. Nudler

Two posttranslational modifications of a transcription factor enable bacteria to adapt to changes in NO and O₂.

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Integrating Medicine and Science

13 June issue: <http://scim.ag/stm061312>

EDITORIAL: Listen, Understand, Engage

A. Thomson and M. Watson

For more effective vaccine advocacy, scientists and policy-makers must translate and apply insights from the cognitive and social sciences to the way they communicate and engage with the public.

RESEARCH ARTICLE: Cell Carriage, Delivery, and Selective Replication of an Oncolytic Virus in Tumor in Patients

R. A. Adair et al.

FOCUS: The Virus That Came in from the Cold

J. C. Bell

Oncolytic reovirus is carried by cells to tumors and protected from neutralizing antibodies in the circulation.

RESEARCH ARTICLE: Myocardial Infarction Triggers Chronic Cardiac Autoimmunity in Type 1 Diabetes

R. V. S. R. K. Gottumukkala et al.

FOCUS: Autoimmune Diabetes Inflames the Heart

R. H. Eckel and G. S. Eisenbarth

Acute myocardial infarction triggers an autoimmune attack on the heart in a mouse model of type 1 diabetes and in human type 1 diabetic patients.

RESEARCH ARTICLE: Exome Sequencing Can Improve Diagnosis and Alter Patient Management

T. J. Dixon-Salazar et al.

Exome sequencing of 118 patients with neurodevelopmental disorders shows that this technique is useful for identifying new pathogenic mutations and for correcting diagnosis in ~10% of cases.

RESEARCH ARTICLE: Mucus-Penetrating Nanoparticles for Vaginal Drug Delivery Protect Against Herpes Simplex Virus

L. M. Ensign et al.

Mucus-penetrating particles improve drug delivery to the mucosal surface of the mouse vagina and deliver acyclovir for enhanced protection against vaginal herpes infection in mice.

RESEARCH ARTICLE: Successful Treatment of Ebola Virus–Infected Cynomolgus Macaques with Monoclonal Antibodies

X. Qiu et al.

Macaques survived infection with Ebola virus when treated starting at 24 hours after infection with a mix of three neutralizing monoclonal antibodies.

SCIENCE CAREERS

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Soldiers Becoming Scientists

M. Price

The Post-9/11 GI Bill and other programs are enabling some veterans to pursue careers in science.

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D. Jensen

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Science Policy News and Analysis

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