EDITORIAL
407 Young Researchers in Japan
Naoki Nagata and Shinya Yamanaka

NEWS OF THE WEEK
412 A roundup of the week’s top stories

NEWS & ANALYSIS
414 Despite Large Research Effort, H7N9 Continues to Baffle
415 More High-Tech Visas, More STEM Education Funds
417 Deep Dig Shows Maya Architecture Arose Independently of Olmec’s
   >> Report p. 467
418 Dark-Matter Mystery Nears Its Moment of Truth
419 In Quest for Synchrotron, Brazil Tests Homespun Ingenuity a Second Time
421 In a Flurry of Metaphors, Justices Debate a Limit on Gene Patents

NEWS FOCUS
422 Public Enemy Number One
   >> Science Podcast
426 American Association of Physical Anthropologists Meeting
   When Early Hominins Got a Grip
Ardi’s a Hominin—But How Did She Move?
426 Paleoanthropology Society Meeting
   Following the Males’ Trail, 1.5 Million Years Later

LETTERS
428 The Brazilian Adirondacks?
C. G. Becker et al.
Japan’s Lagging Gender Equality
M. K. Homma et al.
Readers’ Poll Results: Funding Environment
Strategy Behind Science Policy Decisions
R. Juliano
430 TECHNICAL COMMENT ABSTRACTS

BOOKS ET AL.
432 Evidence-Based Policy
N. Cartwright and J. Hardie;
Public Policy in an Uncertain World
C. F. Manski, reviewed by B. Baird
433 SUPRA100
Musée d’Histoire Naturelle Neuchâtel, reviewed by T. Junier and P. Junier

POLICY FORUM
434 Human Subjects Protection and Research on Terrorism and Conflict
B. A. Jackson et al.

PERSPECTIVES
436 Plasticity in the Neurotransmitter Repertoire
S. J. Birren and E. Marder
   >> Research Article p. 449
437 Animal Conformists
F. B. M. de Waal
   >> Reports pp. 483 and 485
438 Irreversible Does Not Mean Unavoidable
H. D. Matthews and S. Solomon
440 A Circuitous Route to Noncoding RNA
J. E. Wilusz and P. A. Sharp
441 Are Gold Clusters in RF Fields Hot or Not?
H. K. Kim et al.
442 Melting Earth’s Core
Y. Fei
   >> Report p. 464

SCIENCE PRIZE ESSAY
444 Root Cause Analysis for Young Engineers
J. Immel

CONTENTS continued >>

ON THE WEB THIS WEEK
>> Science Podcast
Listen to stories on social networking in whales, a pulsar’s affirmation of general relativity, monitoring TB in North Korea, and more.

>> Find More Online
Check out Science Express, daily news, our research journals, and Science Careers at www.sciencemag.org.

COVER
A carved stone head (height: 6.8 centimeters) excavated from the lowland Maya site of Ceibal, Guatemala (around 400 BCE).
This piece was probably part of a full-figure statuette. Its carving in the typical Olmec style attests to the importance of interaction with other groups for the early development of lowland Maya civilization. See pages 417 and 467.

Reconstruction: Daniela Triadan; Photo: Takeshi Inomata

DEPARTMENTS
405 This Week in Science
408 Editors’ Choice
410 Science Staff
446 AAAS News & Notes
499 New Products
500 Science Careers
RESEARCH ARTICLES

448 A Massive Pulsar in a Compact Relativistic Binary
J. Antoniadis et al.
Observations of a pulsar confirm general relativity in the strong-field regime and reveal a perplexing stellar binary.
Research Article summary: for full text: http://dx.doi.org/10.1126/science.1233232
>> Science Podcast

449 Neurotransmitter Switching in the Adult Brain Regulates Behavior
D. Dulcis et al.
Switching rats from long days to short days causes neurons to change their neurotransmitters, and this changes behavior.
>> Perspective p. 436

REPORTS

454 Vaterite Crystals Contain Two Interspersed Crystal Structures
L. Kabalah-Amitai et al.
Electron microscopy reveals that vaterite, a calcium carbonate polymorph, comprises at least two distinct crystal structures.

457 Direct Evidence of a Dinuclear Copper Intermediate in Cu(I)-Catalyzed Azide-Alkyne Cycloadditions
B. T. Worrell et al.
The mechanism of a common and highly versatile molecular coupling reaction is elucidated.

460 Observations of Ejecta Clouds Produced by Impacts onto Saturn's Rings
M. S. Tiscareno et al.
Observations by the Cassini spacecraft provide evidence of meteoroid impacts onto Saturn’s rings.

464 Melting of Iron at Earth’s Inner Core Boundary Based on Fast X-ray Diffraction
S. Anzellini et al.
High-temperature and high-pressure experiments simulate the melting behavior of metallic iron in Earth’s core.
>> Perspective p. 442

467 Early Ceremonial Constructions at Ceibal, Guatemala, and the Origins of Lowland Maya Civilization
T. Inomata et al.
Excavations at the Mayan city of Ceibal, Guatemala, reveal early examples of plazas and pyramids.
>> News story p. 417

471 PINK1-Phosphorylated Mitofusin 2 Is a Parkin Receptor for Culling Damaged Mitochondria
Y. Chen and G. W. Dorn II
The Parkinson’s disease factors PINK1 and Parkin interact with mitofusin 2 on damaged mitochondria.

475 Direct Proteomic Quantification of the Secretome of Activated Immune Cells
F. Meissner et al.
A mass spectrometry–based method detects picogram quantities of proteins secreted by macrophages.

479 Deciphering the Glycosylation of Dystroglycanopathies Using Haploid Screens for Lassa Virus Entry
L. T. Joe et al.
Deficiencies in the glycosylation of α-dystroglycan interfere with Lassa virus entry and link to Walker-Warburg syndrome.

Potent Social Learning and Conformity Shape a Wild Primate’s Foraging Decisions
E. van de Waal et al.
A natural experiment reveals that wild vervet migrants adopt local norms when it comes to choosing foods.

Network-Based Diffusion Analysis Reveals Cultural Transmission of Lobtail Feeding in Humpback Whales
J. Allen et al.
Whales have learned from their peers how to use their tails to herd prey.
>> Perspective p. 437; Science Podcast

Population Growth in a Wild Bird Is Buffered Against Phenological Mismatch
T. E. Reed et al.
Warmer springtimes have induced great tits to lay their eggs earlier without affecting long-term fitness.

Simultaneous Femtosecond X-ray Spectroscopy and Diffraction of Photosystem II at Room Temperature
J. Kern et al.
A powerful x-ray laser source can extract the geometry and electronic structure of metalloenzymes prior to damaging them.

Insect Morphological Diversification Through the Modification of Wing Serial Homologs
T. O’hde et al.
Modification rather than loss of dorsal appendages has provided a diversifying mechanism for the insect body plan.