EDITORIAL

1359 Still Vulnerable in 2011 Lewis M. Branscomb

NEWS OF THE WEEK

1364 A roundup of the week's top stories

NEWS & ANALYSIS

1366 Big Budget Squeeze Looms for Major New Facilities

1368 Piqued Chinese Dean Throws Down the Gauntlet

1369 Warning of H5N1 Resurgence Surprises Community

NEWS FOCUS

1370 AUSTRALOPITHECUS SEDIBA
Skeletons Present an
Exquisite Paleo-Puzzle
>> Reports pp. 1402, 1407, 1411, 1417,
and 1421

1373 Paleoanthropologist Now Rides High on a New Fossil Tide Little Foot, Big Mystery

1377 Which Way to the Island? >> Science Podcast

LETTERS

1380 Hope for Graduate School
Childbirth Policies
F. A. Leibfarth and N. Vermaak
Low Sperm Counts May Be Preventable
R. M. Sharpe
Moving USAID Forward
R. W. Nichols

1381 CORRECTIONS AND CLARIFICATIONS

BOOKS ET AL.

1382 Wrestling with Nature
P. Harrison et al., Eds., reviewed by M. L. Jones

1383 Histories of Computing
M. S. Mahoney, reviewed by N. Ensmenger

POLICY FORUM

1384 Boosting Health Services Research R. Cook-Deegan

PERSPECTIVES

1386 Antarctic Ice Flow Revealed
K. M. Cuffey
>> Report p. 1427

1387 High-Throughput Discovery of New Chemical Reactions J. Montgomery >> Report p. 1423

1388 Getting to the Heart of Mechanotransduction C. Hidolgo and P. Donoso >> Report p. 1440

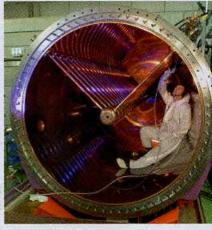
1390 Mother Tongue and Y Chromosomes P. Forster and C. Renfrew

1391 How Many Cell Types Does It Take to Wire a Brain? R. M. Ransohoff and B. Stevens >> Report p. 1456

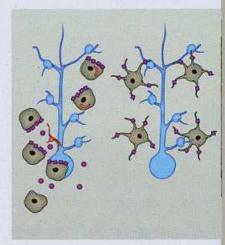
REVIEW

1393 Visualizing Uncertainty About the Future D. Spiegelhalter et al.

CONTENTS continued >>



page 1377



pages 1391 & 1456



COVER

The right forearm and hand (hand skeleton ~12.3 centimeters long) of Australopithecus sediba, specimen Malapa Hominin 2. Papers in this issue present a detailed look at the hands, feet, pelvis, brain endocast, and age of this hominid, which lived 2 million years ago, near the emergence of our genus, Homo. See the series of Reports starting on p. 1402, News Focus package p. 1370, and www.sciencemag.org/extra/sediba.

Photo: Peter Schmid, courtesy of Lee Berger and the University of the Witwatersrand

DEPARTMENTS

1357 This Week in Science

1360 Editors' Choice

1362 Science Staff

1468 Gordon Research Conferences

1479 New Products

1480 Science Careers

BREVIA

1401 A Gene for an Extended Phenotype
K. Hoover et al.
An insect virus gene controls the behavior
of the dying host to increase dispersion
of the virus.

REPORTS

- 1402 | The Endocast of MH1, Australopithecus sediba K. J. Carlson et al.
- 1407 A Partial Pelvis of Australopithecus sediba J. M. Kibii et al.
- 1411 Australopithecus sediba Hand
 Demonstrates Mosaic Evolution of
 Locomotor and Manipulative Abilities
 T. L. Kivell et al.
- 1417 The Foot and Ankle of Australopithecus sediba B. Zipfel et al.
- 1421 Australopithecus sediba at 1.977 Ma and Implications for the Origins of the Genus Homo
 R. Pickering et al.
 Details of the hands, feet, pelvis, and brain of Australopithecus sediba show both primitive features and one derived toward those of Homo.
 - >> News stories pp. 1370 and 1373; Science Podcast
- 1423 A Simple, Multidimensional Approach
 to High-Throughput Discovery
 of Catalytic Reactions
 D. W. Robbins and J. F. Hartwig
 A screening technique based on simple
 mass spectrometry measurements uncovers
 catalysts for organic coupling reactions.
 >> Perspective p. 1387
- 1427 Ice Flow of the Antarctic Ice Sheet
 E. Rignot et al.
 A high-resolution map of ice motion
 in Antarctica shows the details of
 ice movement in a warming climate.
 >> Perspective p. 1386
- 1430 Aeroelastic Flutter Produces
 Hummingbird Feather Songs
 C. J. Clark et al.
 Hummingbirds produce diverse courtship
 sounds by using resonantly fluttering tail
 feathers.
- 1434 Flight at Low Ambient Humidity
 Increases Protein Catabolism
 in Migratory Birds
 A. R. Gerson and C. G. Guglielmo
 Dry conditions during endurance flight
 increase rates of lean mass loss and protein
 catabolism in Swainson's thrushes.

1436 Generation of Spatial Patterns
Through Cell Polarity Switching
S. Robinson et al.
A few simple rules are sufficient to keep
neighboring stomata at a safe distance

from one another.

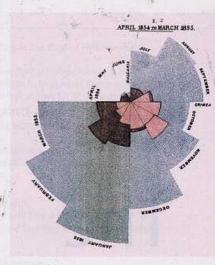
- 1440 X-ROS Signaling: Rapid Mechano-Chemo Transduction in Heart B. L. Prosser et al.

 Reactive oxygen species produced by NADPH oxidase link mechanical stretching to calcium signaling in mammalian myocytes.

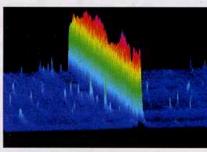
 >> Perspective p. 1388
- 1445 Chromosome Organization by a
 Nucleoid-Associated Protein
 in Live Bacteria
 W. Wang et al.
 Super-resolution imaging in live Escherichia
 coli reveals protein clusters that sequester
 DNA loci and organize the chromosome.
- 1449 Ribosome Assembly Factors Prevent
 Premature Translation Initiation
 by 405 Assembly Intermediates
 B. S. Strunk et al.
 Ribosome assembly factors block multiple
 steps in translation initiation.
- 1453 Mutations in CIC and FUBP1 Contribute to Human Oligodendroglioma
 C. Bettegowda et al.
 A gene originally studied for its role in fruit fly embryogenesis is implicated in the growth of a common human brain tumor.
- 1456 Synaptic Pruning by Microglia Is Necessary for Normal Brain Development R. C. Paolicelli et al.
 A good brain needs a good vacuum cleaner.
 >> Perspective p. 1391
- 1458 Light-Induced Structural and Functional Plasticity in *Drosophila* Larval Visual System *Q. Yuan* et al.

 Postsynaptic plasticity participates in the adaptation of a sensory circuit to the environment.
- 1462 HCN2 Ion Channels Play a Central Role in Inflammatory and Neuropathic Pain E. C. Emery et al.
 Action potential firing, initiated by HCN2 ion channels, is the basic mechanism underlying neuropathic pain.

CONTENTS continued >>



page 1393



pages 1388 & 1440