 Millions of books written before the computer era are being digitized for preservation. Because the ink has faded, optical character recognition software cannot decipher many words. Through a repurposing of an existing online security technology called CAPTCHA, these words are being manually transcribed by millions of Web users. See page 1465.

Photo: Joshua Franzos

U.K. Education Reform: Too Much of a Good Thing? 1428
Brainy Babies and Risky Births for Neandertals 1429
India Hopes New Fellowships Will Attract Expat Scientists 1431

SCIENCE SCOPE 1431
Broad Gives $400 Million More to Cambridge Institute 1432
McCain, Obama Present Their Wars on Cancer 1432
Quantum Flashlight Pierces the Darkness With a Few Percent as Many Photons 1433

LETTERS 1443
Working the Crowd A. Gaggioli and G. Riva
Southern Ocean Not So Pristine L. K. Blight and D. G. Ainley
Diminishing Sea Ice G. C. Ray et al.
Response B. S. Halpern et al.
Microscopy for Life Scientists N. J. Fullwood
Archaeology Without Borders S. K. Basu

CORRECTIONS AND CLARIFICATIONS 1446

BOOKS ET AL. 1447
Worlds Before Adam The Reconstruction of Geohistory in the Age of Reform M. J. S. Rudwick, reviewed by R. J. O’Connor
The Animal Research War P. M. Conn and J. V. Parker, reviewed by D. C. Runkle

POLICY FORUM 1449
Do We Need “Synthetic Bioethics”? E. Paren, J. Johnston, J. Moses

PERSPECTIVES 1450
Return to the Proliferative Pool A. González-Reyes and J. Casanova
Dynamics of Body Size Evolution K. Roy
Bringing Stability to Highly Reduced Iron–Sulfur Clusters E. Münck and E. L. Bominaar
Understanding Soil Time S. L. Brantley
An Uncertain Future for Soil Carbon S. E. Trumbore and C. I. Czimczik

www.sciencemag.org  SCIENCE VOL 321  12 SEPTEMBER 2008 1405
Published by AAAS
GENETICS

Species-Specific Transcription in Mice Carrying Human Chromosome 21
M. D. Wilson et al.
An aneuploid mouse carrying a human chromosome shows that genetic sequence can dominate epigenetic, cellular, and organismal effects in determining transcriptional regulation and gene expression.
10.1126/science.1160930

CLIMATE CHANGE

Atmospheric CO$_2$ and Climate on Millennial Time Scales During the Last Glacial Period
J. Ahn and E. J. Brook
A detailed gas record from the Byrd ice core from 90,000 to 20,000 years ago shows that warming episodes tracked high CO$_2$ levels in Antarctica but lagged by several thousands of years in Greenland.
10.1126/science.1160832

TECHNICAL COMMENT ABSTRACTS

ECOLOGY

Comment on "A Global Map of Human Impact on Marine Ecosystems"
M. R. Heath
full text at www.sciencemag.org/cgi/content/full/321/5895/1446b
Response to Comment on "A Global Map of Human Impact on Marine Ecosystems"
K. A. Selkoe et al.
full text at www.sciencemag.org/cgi/content/full/321/5895/1446c

REVIEW

APPLIED PHYSICS

Cooling, Heating, Generating Power, and Recovering Waste Heat with Thermoelectric Systems
L. E. Bell

BREVIA

GENETICS

A Mutation in Hairless Dogs Implicates $FOXI3$ in Ectodermal Development
C. Drögemüller et al.
Mutations in a transcription factor gene involved in ectodermal development cause a lack of hair and abnormal teeth in Chinese Crested, Mexican, and Peruvian hairless dogs.

PHYSICS

Enhanced Sensitivity of Photodetection via Quantum Illumination
S. Lloyd
Quantum-mechanically entangled light, in which one photon is kept as a reference, can exponentially improve the imaging of an object, as compared with unentangled illumination. >> News story p. 1433

COMPUTER SCIENCE

reCAPTCHA: Human-Based Character Recognition via Web Security Measures
L. von Ahn et al.
A security system that relies on the superior performance of humans in comparison to computers in reading distorted text can be harnessed for digitized scanned documents.

MATERIALS SCIENCE

A Rubberlike Stretchable Active Matrix Using Elastic Conductors
T. Sekitani et al.
A carbon nanotube–polymer film containing organic transistors and coated with silicon rubber can maintain its electrical properties while being stretched up to 70 percent.
Niche Partitioning Increases Resource Exploitation by Diverse Communities

D. L. Finke and W. E. Snyder

In an ecosystem comprising a parasite, an aphid, and a radish, niche partitioning increases overall consumption. This strategy allows the use of different resources by each species, not species diversity per se, increases overall consumption.

Degradation of microRNAs by a Family of Exoribonucleases in Arabidopsis

V. Ramachandran and X. Chen

A class of nucleases specific for short single-stranded RNAs is found controlling vesicle tethering. Exoribonucleases in Arabidopsis degrade microRNAs in Arabidopsis; their mutation results in numerous developmental defects.

Ischemic Damage to the Heart

C.-H. Chen et al.

A compound that activates the mitochondrial enzyme aldehyde dehydrogenase-2 reduces the extent of heart damage in a rodent model of heart attack.

Dual Origin of Tissue-Specific Progenitor Cells in Drosophila

S. L. Brusatte, M. J. Benton, M. Ruta, G. T. Lloyd

When fruit flies metamorphose from larvae, a new trachea forms both from undifferentiated cells of the imaginal disc and differentiated cells that re-enter the cell cycle.

Evolutionary Radiation of Dinosaurs

J. H. Maas et al.

During their early radiation, dinosaur morphology evolved at comparable rates to that of competing archosaurs, implying that opportunity, not superiority, influences their success.

Precipitation Extremes

R. P. Allan and B. J. Soden

Satellite data show that in the tropics, heavy rain events have increased in warmer months and decreased in colder months, more than predicted by climate models.

Ischemic Damage to the Heart

Activation of Aldehyde Dehydrogenase-2 Reduces

C.-H. Chen et al.

A compound that activates the mitochondrial enzyme aldehyde dehydrogenase-2 reduces the extent of heart damage in a rodent model of heart attack.

Evolutionary Radiation of Dinosaurs

J. H. Maas et al.

During their early radiation, dinosaur morphology evolved at comparable rates to that of competing archosaurs, implying that opportunity, not superiority, influences their success.
RESEARCH ARTICLE: Phosphoinositide 3-Kinase p110β Activity—Key Role in Metabolism and Mammary Gland Cancer but Not Development
The phosphoinositide 3-kinase p110β subunit has noncatalytic functions; its catalytic activity is pertinent to both diabetes and cancer.

PERSPECTIVE: Smad Signaling Dynamics—Insights from a Parsimonious Model
H. Shankaran and H. S. Wiley
Computational modeling of protein localization dynamics yields new information about Smad signaling.

GLOSSARY
Find out what Kir, Vg1, and YAP mean in the world of cell signaling.
Science 321 (5895), 1413-1518.