CONTENTS

EDITORIAL
10 Building Better Institutions
Paul Nurse et al.

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

NEWS & ANALYSIS
17 NIH to Phase Out Most Chimp Research
18 New Law Would Dilute and Diminish Russian Science Academy
19 Budget Malaise May Hit DOE’s One Big Growth Area
20 China’s Exquisite Look at Earth’s Rocky Husk Wins Raves
21 At Long Last, Europe’s Mega R&D Program Comes Into Focus

NEWS FOCUS
22 Into the Minds of Birds
>> Science Podcast
26 Solution to Vaccine Mystery Starts to Crystallize

LETTERS
28 NextGenVOICES

BOOKS ET AL.
31 We Modern People
A. Banerjee, reviewed by A. Siddiqi
32 The Golden Ticket
L. Fortnow, reviewed by V. Elser

POLICY FORUM
33 Sustainable Intensification in Agriculture: Premises and Policies
T. Garnett et al.

PERSPECTIVES
35 Seabirds—Individuals in Colonies
H. Weimerskirch
>> Report p. 68
36 Spectroscopy Beyond the Single-Particle Limit
G. V. Hartland and S. S. Lo
>> Report p. 56
37 Fueling Function Over Expansion in T Cells
J. P. Argus and S. J. Bensinger
39 The Roots of Cultivation in Southwestern Asia
G. Willcox
>> Report p. 65
40 Radio Bursts, Origin Unknown
J. M. Cordes
>> Report p. 53
41 Making Macrophages Eat Cancer
M. H. Kershaw and M. J. Smyth
>> Report p. 88

REVIEW
43 Somatic Mutation, Genomic Variation, and Neurological Disease
A. Poduri et al.
Review Summary; for full text:
http://dx.doi.org/10.1126/science.1237758

RESEARCH ARTICLES
44 The Long-Term Stability of the Human Gut Microbiota
J. J. Faith et al.
Low-error sequencing data suggest that initial microbial colonizers of infant guts could persist over the life span of an individual.
Research Article Summary; for full text:
http://dx.doi.org/10.1126/science.1237439
45 Bringing Ecosystem Services into Economic Decision-Making: Land Use in the United Kingdom
I. J. Bateman et al.
The value of using land for recreation and wildlife, not just for agriculture, can usefully factor into planning decisions.

CONTENTS continued >>

ON THE WEB THIS WEEK
>> Science Podcast
Listen to stories on ultrahigh magnetoresistance at room temperature, tracing the roots of plant domestication, bird brains in the PET scanner, and more.
>> Find More Online
Check out Science Express, our podcast, videos, daily news, our research journals, and Science Careers at www.sciencemag.org.
REPORTS

50  Signatures of Cool Gas Fueling a Star-Forming Galaxy at Redshift 2.3  
N. Bouché et al.  
Observations of gas near a star-forming galaxy reveal kinematic signatures expected from gas inflowing onto the galaxy.

53  A Population of Fast Radio Bursts at Cosmological Distances  
D. Thornton et al.  
Radio telescope data revealed four short, extragalactic, nonrepeating bursts of radio emission whose source is unknown.

68  Space Partitioning Without Territoriality in Gannets  
E. D. Wakefield et al.  
Gannets establish foraging territory boundaries in colonies through local competition and information exchange.

71  MiR-200b and miR-429 Function in Mouse Ovulation and Are Essential for Female Fertility  
H. Hasuwa et al.  
MicroRNAs regulate hormone synthesis in the pituitary and the production of oocytes.

74  A Secreted Disulfide Catalyst Controls Extracellular Matrix Composition and Function  
T. Imai et al.  
Laminin incorporation is promoted by a secreted enzyme, which is important for cell adhesion and migration.

77  Structure of the Repulsive Guidance Molecule (RGM)–Neogenin Signaling Hub  
C. H. Bell et al.  
A complex of a guidance molecule and its receptor reveals how signals cross the membrane.

80  Inhibition of RNA Helicase Brr2 by the C-Terminal Tail of the Spliceosomal Protein Prp8  
S. Mozaffari-Jovin et al.  
Regulating an RNA helicase in the eukaryotic splicing reaction involves intermittent blockade of the catalytic tunnel.

84  Monitoring Drug Target Engagement in Cells and Tissues Using the Cellular Thermal Shift Assay  
D. Martinez Molina et al.  
A method to monitor drug binding to proteins in cells may help in target validation and drug optimization.

88  Engineered SIRPα Variants as Immunotherapeutic Adjuvants to Anticancer Antibodies  
K. Weiskopf et al.  
CD47 antagonists augment the effectiveness of antibody-mediated tumor immunotherapy in mice.

CONTENTS