### CONTENTS

**908 & 942**

**Taking the mantle’s temperature**

---

**894**

**REPOR T P. 945**

**908 A MEASURE OF MANTLE MELTING**

Laboratory measurements suggest that the mantle is 60 K hotter than previously thought

*By P. D. Asimow*

---

**907 MEMBRANE PROTEINS SCRAMBLING THROUGH A FOLDING LANDSCAPE**

Improved force microscopy reveals unfolding steps with microsecond time resolution

*By D. J. Müller and H. E. Gaub*

---

**907**

**REPORT P. 962**

**906 DURABLE RESISTANCE TO RICE BLAST**

A resistance gene pair balances immunity against crop yield

*By G.-L. Wang and B. Valent*

---

**897**

**REPORT P. 969**

**903 CAN DEEP REEFS RESCUE SHALLOW ONES?**

---

**894**

**REPORT P. 931**

**912 CLATHRATES GROW UP**

Uniquely shaped nanocrystals customized with DNA shells assemble into highly complex clathrate structures

*By D. Samanta and R. Klajn*

---

**913**

**PETER C. NOWELL (1928–2016)**

Tumor biologist who set the stage for precision medicine

*By M. I. Greene and J. S. Moore*

---

**898 CRITICS ASSAIL INDIA’S ATTEMPT TO ‘VALIDATE’ FOLK REMEDY**

Some perceive an insidious effort to infuse Indian science with a Hindu worldview

*By S. Kumar*

---

**900**

**REPORT P. 969**

**900 INTO THE TWILIGHT ZONE**

Naturalist Rich Pyle plumbs the undiscovered realm of deep, dimly lit reefs

*By K. R. Weiss*

---

**906**

**REPORT P. 962**

**906 DURABLE RESISTANCE TO RICE BLAST**

A resistance gene pair balances immunity against crop yield

*By G.-L. Wang and B. Valent*

---

**907**

**REPORT P. 942**

**907 MEMBRANE PROTEINS SCRAMBLING THROUGH A FOLDING LANDSCAPE**

Improved force microscopy reveals unfolding steps with microsecond time resolution

*By D. J. Müller and H. E. Gaub*

---

**908**

**REPORT P. 942**

**908 A MEASURE OF MANTLE MELTING**

Laboratory measurements suggest that the mantle is 60 K hotter than previously thought

*By P. D. Asimow*

---

**909**

**REPORT P. 991**

**909 CLOSE RELATIVE OF NEANDERTALS UNEARTHED IN CHINA**

Partial skulls may belong to elusive Denisovans, who are known almost exclusively by their DNA

*By A. Gibbons*

---

**910**

**REPORT P. 991**

**910 WATCHING SPECIATION IN ACTION**

An interplay between environmental and genetic change is responsible for the emergence of new species

*By B. R. Grant and P. R. Grant*

---

**911**

**REPORT P. 991**

**911 CLATHRATES GROW UP**

Uniquely shaped nanocrystals customized with DNA shells assemble into highly complex clathrate structures

*By D. Samanta and R. Klajn*

---

**912**

**REPORT P. 991**

**912 CLATHRATES GROW UP**

Uniquely shaped nanocrystals customized with DNA shells assemble into highly complex clathrate structures

*By D. Samanta and R. Klajn*

---

**913**

**REPORT P. 991**

**913 PETER C. NOWELL (1928–2016)**

Tumor biologist who set the stage for precision medicine

*By M. I. Greene and J. S. Moore*

---

**898**

**CRITICS ASSAIL INDIA’S ATTEMPT TO ‘VALIDATE’ FOLK REMEDY**

Some perceive an insidious effort to infuse Indian science with a Hindu worldview

*By S. Kumar*

---

**899**

**SEQUENCING ALL LIFE CAPTIVATES BIOLOGISTS**

Project would read genomes of more than a million eukaryotes—just for starters

*By E. Pennisi*

---

**896**

**RAISING THE DRAWBRIDGE**

Border clampdown could disrupt web of collaborations

*By J. You, J. Bohannon, and R. Stone*

---

**897**

**TEST BLASTS SIMULATE A NUCLEAR ATTACK ON A PORT**

Data could help point to perpetrators in aftermath

*By R. Stone*
3 MARCH 2017 • VOLUME 355 • ISSUE 6328

RESEARCH ARTICLES

924 ION CHANNELS
Structure of a eukaryotic voltage-gated sodium channel at near-atomic resolution. H. Shen et al.
RESEARCH ARTICLE SUMMARY: FOR FULL TEXT: dx.doi.org/10.1126/science.aal4326

925 TROPICAL FOREST
Persistent effects of pre-Columbian plant domestication on Amazonian forest composition. C. Lewis et al.

936 ORGANIC CHEMISTRY
Radical-polar crossover reactions of vinylboron ate complexes. M. Kischkewitz et al.

939 OPTOELECTRONICS
Demonstration of an ac Josephson junction laser. M. C. Cassidy et al.

942 GEOCHEMISTRY
Experimental constraints on the damp peridotite solidus and oceanic mantle potential temperature. E. Sarafian et al.

945 PROTEIN FOLDING
Hidden dynamics in the unfolding of individual bacteriorhodopsin proteins. H. Yu et al.

950 DNA STORAGE
DNA Fountain enables a robust and efficient storage architecture. Y. Erlich and D. Zielinski

954 BRAIN MICROCIRCUITS
Layer-specific modulation of neocortical dendritic inhibition during active wakefulness. W. Mutou et al.

959 ADAPTATION
Precipitation drives global variation in natural selection. A. M. Siepielski et al.

962 PLANT SCIENCE
Epigenetic regulation of antagonistic receptors confers rice blast resistance with yield balance. Y. Deng et al.

966 PAIN RESEARCH
A nontoxic pain killer designed by modeling of pathological receptor conformations. V. Spahn et al.

969 PALEOANTHROPOLOGY
Late Pleistocene archaic human crania from Xuchang, China. Z.-Y. Li et al.

889 EDITORIAL
Evolving policy with science. By R. Alta Charo and Richard O. Hynes

986 WORKING LIFE
Sailing through uncertainty. By Kyle Frischkorn

ON THE COVER
A diver photographs fish as she looks up the water column off Hawaii. Advances in diving technology are helping researchers to explore little-known deep reef habitats, where sunlight fades but invertebrates and fishes thrive in a complex ecosystem. Ichthyologist Richard Pyle of Hawaii’s Bishop Museum is a pioneering explorer of this twilight realm. See page 900. Photo: © Richard L. Pyle

Per the rights specified in the Material Reuse Policy, some material may only be shared with permission.

Periodicals postage paid at Washington, DC, and at additional mailing offices. POSTMASTER: Send change of address to AAAS, 1200 New York Avenue, NW, Washington, DC 20005. Periodicals postage paid (publication No. 484460) at Washington, DC, and at additional mailing offices. Copyright © 2017 by the American Association for the Advancement of Science. The title SCIENCE is a registered trademark of the AAAS. Domestic individual membership subscription (51 issues): $365 ($74 allocated to subscription). Domestic institutional subscription (51 issues): $1659. Foreign postage extra. Mexico, Caribbean surface mail: $35; other countries (air assist delivery): $89. First class, airmail, student, and emeritus rates on request. Canadian rates with GST available upon request. GST #125488122. Publications Mail Agreement Number 1069624. Printed in the U.S.A.

Change of address: Allow 4 weeks, giving old and new addresses and 8-digit account number.

SCIENCE is indexed in the Reader’s Guide to Periodical Literature and in several specialized indexes.
Science 355 (6328), 889-986.