543 This Week in Science

Editorial
545 The Cell Cycle

Letters
563 Information Age and Overload: K. E. Roe ■ High School Science Education: S. H. Stow and T. L. Ashwood ■ O'Toole on O'Toole's Charges: M. O'Toole ■ Oil Spill Health Effects: D. P. Rall ■ Management at DOE: A. G. Duba

News & Comment
566 Room at the Top
569 Global Warming Becomes Hot Issue for Bromley
570 Ethics Debate Sends Tremors Through USGS
572 Humanity 2, Computers 0
573 New Life for Small Science
574 Briefings: Malaria Research Under Scrutiny ■ Probing the Big Bang ■ The New Moon Race? ■ Women (Not) in Math ■ Software Solution ■ Welch Award to Davidson ■ Nicholson Replaced by Sanchez at NSF ■ Quake Delays Nobelist's Pitch ■ Two Who Never Joined the Revolution ■ NEH Proposes Core College Curriculum

Research News
576 Watson versus Japan
577 Japan and the SSC: Congress Raises a Flag
578 How Do You Read from the Palimpsest of Life?
580 Zero Gravity Produces Weighty Improvements

Articles
Frontiers in Biology: The Cell Cycle
603 G1 Events and Regulation of Cell Proliferation: A. B. Pardee
609 S Phase of the Cell Cycle: R. A. Laskey, M. P. Fairman, J. J. Blow
614 Dominoes and Clocks: The Union of Two Views of the Cell Cycle: A. W. Murray and M. W. Kirshner
622 Mitosis: J. R. McIntosh and M. P. Koonce
629 Checkpoints: Controls That Ensure the Order of Cell Cycle Events: L. H. Hartwell and T. A. Weinert
635 Directing Cell Division During Development: P. H. O'Farrell, B. A. Edgar, D. Lakich, C. F. Lehner

Research Articles
SYNGAMY II is one of a series of paintings by the Pennsylvania artist Peter Cohen on the first mitosis within the fertilized egg. The mitochondria, which have assumed the round shape seen in the painting, leave a clear space within the cytoplasm for the dance of the chromosomes on the luminous spindle. The paintings of Peter Cohen are currently on exhibit at AAAS in Washington as part of the AAAS Art of Science and Technology Program, which displays work reflecting the interaction of art and science. See the articles on the cell cycle that begin on page 603.

Reports


654 Proton Motive Force Involved in Protein Transport Across the Outer Membrane of Aeromonas salmonicida: K. R. WONG and J. T. BUCKLEY

656 Expression and Characterization of a Functional Myosin Head Fragment in Dictyostelium discoideum: D. J. MANSTEIN, K. M. RUPEL, J. A. SPIDICH

658 A Liver-Specific Enhancer in the Core Promoter Region of Human Hepatitis B Virus: J.-K. YEE

661 Initiation by Yeast RNA Polymerase II at the Adenoviral Major Late Promoter in Vitro: N. F. LUE, P. M. FLANAGAN, K. SUGIMOTO, R. D. KORNBERG

664 Identification of an AUUUA-Specific Messenger RNA Binding Protein: J. S. MALTER

666 Prevention of Allogeneic Bone Marrow Graft Rejection by H-2 Transgene in Donor Mice: C. ÖHLÉN, G. KLING, P. HÖGLUND, M. HANSSON, G. SCANGOS, C. BIEBERICH, G. JAY, K. KARKE

668 Vaccination Against Experimental Allergic Encephalomyelitis with T Cell Receptor Peptides: M. D. HOWELL, S. T. WINTERS, T. ÖLLE, H. C. POWELL, D. J. CARLO, S. W. BROSTOFF


673 A Biochemical Correlate of the Critical Period for Synaptic Modification in the Visual Cortex: S. M. DUDEK AND M. F. BEAR

675 Angiosperm Diversification and Paleolatitudinal Gradients in Cretaceous Floristic Diversity: P. R. CRANE AND S. LIDGARD

Book Reviews

679 Leprosy, Racism, and Public Health, reviewed by A. M. BRANDT ■ Wonderful Life, W. C. SWEET ■ Science and Civilisation in China, L. F. GROSS ■ The Prefrontal Cortex, M. E. GOLDBERG ■ Some Other Books of Interest ■ Books Received

Products & Materials

685 Hollow Fiber Bioreactor Systems for Cell Culture ■ Diode Ray Detector for HPLC ■ Stations Protect Animals from Contamination ■ Inverted Systems for Muscle Research ■ Culture System for Protein Production ■ Ultraviolet-Visible Spectrophotometer ■ Flow-Through Sensors for Organ Perfusion Studies ■ Literature