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(September 1978 special issue on evolution – to contrast with 2009 memorials)

WEEK 1: WHERE DO IDEAS ABOUT EVOLUTION COME FROM?

- Complete works of Darwin available at <http://darwin-online.org.uk/>.
- Lamarck, *Philosophie Zoologique* extracts (http://www.ucl.ac.uk/taxome/jim/Mim/lamarck_contents.html)
- **The material basis of evolution** By Richard Benedict Goldschmidt http://books.google.com/books?id=kAPLvAnp7KAC&dq=richard+goldschmidt+hopeful+monster&printsec=frontcover&source=in&hl=en&ei=QKGWS4bkIpDqM96XgUc&sa=X&oi=book_result&ct=result&resnum=11&ved=0CEMQ6AEwCg#v=onepage&q=richard%20goldschmidt%20hopeful%20monster&f=false
- Michael R. Dietrich. **Richard Goldschmidt: hopeful monsters and other 'heresies'** *Nature Reviews Genetics* 4, 68-74 (January 2003)

- Alfred Sherwood Romer. **Louis Agassiz**. *Scientific American* July 1949, Volume 181 No 1 pp48 – 51 doi:10.1038/scientificamerican0749-48
- Richard B. Goldschmidt. **Phenocopies**. *Scientific American* October 1949, Volume 181 No 4 pp46 – 49 doi:10.1038/scientificamerican1049-46
- Theodosius Dobzhansky. **The Genetic Basis of Evolution**. *Scientific American* January 1950, Volume 182 No 1 pp32 – 41. doi:10.1038/scientificamerican0150-32
- G. Ledyard Stebbins, Jr. **Cataclysmic Evolution**. *Scientific American* April 1951, Volume 184 No 4 pp54 – 59. doi:10.1038/scientificamerican0451-54
- Curt Stern. **Man's Genetic Future**. *Scientific American* February 1952, Volume 186 No 2 pp68 – 74. doi:10.1038/scientificamerican0252-68
- David Lack. **Darwin's Finches**. *Scientific American* April 1953, Volume 188 No 4 pp66 – 72. doi:10.1038/scientificamerican0453-66
- Paul C. Mangelsdorf. **Wheat**. *Scientific American* July 1953, Volume 189 No 1 pp50 – 59. doi:10.1038/scientificamerican0753-50
- James R. Newman. **Francis Galton**. *Scientific American* January 1954, Volume 190 No 1 pp72 – 76. doi:10.1038/scientificamerican0154-72
- George Wald. **The Origin of Life**. *Scientific American* August 1954, Volume 191 No 2 pp44 – 53. doi:10.1038/scientificamerican0854-44
- Loren C. Eiseley. **Charles Darwin**. February 1956, Volume 194 No 2 *Scientific American* pp62 – 72. doi:10.1038/scientificamerican0256-62
- Anthony C. Allison. **Sickle Cells and Evolution**. *Scientific American* August 1956, Volume 195 No 2 pp87 – 94. doi:10.1038/scientificamerican0856-87
- H. N. Southern. **A Study in the Evolution of Birds**. *Scientific American* May 1957, Volume 196 No 5 pp124 – 136. doi:10.1038/scientificamerican0557-124
- Norman L. Munn. **The Evolution of Mind**. *Scientific American* June 1957, Volume 196 No 6 pp140 – 152. doi:10.1038/scientificamerican0657-140
- George Wald. **Innovation in Biology**. *Scientific American* September 1958, Volume 199 No 3 pp100 – 115. doi:10.1038/scientificamerican0958-100 – relationship of biology to chemistry & physics
- Konrad Z. Lorenz. **The Evolution of Behavior**. *Scientific American* **December 1958, Volume 199 No 6 pp67 – 78**. doi:10.1038/scientificamerican1258-67
- H. B. D. Kettlewell. **Darwin's Missing Evidence**. *Scientific American* **March 1959, Volume 200 No 3 pp48 – 53**. doi:10.1038/scientificamerican0359-48
- C. D. Darlington. **The Origin of Darwinism**. *Scientific American* **May 1959, Volume 200 No 5 pp60 – 66**. doi:10.1038/scientificamerican0559-60
- Loren C. Eiseley. **Charles Lyell**. *Scientific American* **August 1959, Volume 201 No 2 pp98 – 106**. doi:10.1038/scientificamerican0859-98
- Theodosius Dobzhansky **The Present Evolution of Man**. pp206 – 217. doi:10.1038/scientificamerican0960-206
- N. Tinbergen **The Evolution of Behavior in Gulls**. pp118 – 130. doi:10.1038/scientificamerican1260-118

- M. E. Bitterman **The Evolution of Intelligence**. pp92 – 100. doi:10.1038/scientificamerican0165-92
- George A. Doumani and William E. Long **The Ancient Life of the Antarctic**. pp168 – 184. doi:10.1038/scientificamerican0962-168
- Norman D. Newell **Crises in the History of Life**. pp76 – 93. doi:10.1038/scientificamerican0263-76
- E. Thomas Gilliard **The Evolution of Bowerbirds**. pp38 – 47. doi:10.1038/scientificamerican0863-38
- Emile Zuckerkandl **The Evolution of Hemoglobin**. pp110 – 118. doi:10.1038/scientificamerican0565-110
- Joseph Arditti **Orchids**. pp70 – 78. doi:10.1038/scientificamerican0166-70
- Geoffrey Eglinton and Melvin Calvin **Chemical Fossils**. pp32 – 43. doi:10.1038/scientificamerican0167-3
- Paul R. Ehrlich and Peter H. Raven **Butterflies and Plants**. pp104 – 113. doi:10.1038/scientificamerican0667-104
- Adolf Seilacher **Fossil Behavior**. pp72 – 80. doi:10.1038/scientificamerican0867-72
- Björn Kurtén **Continental Drift and Evolution**. pp54 – 64. doi:10.1038/scientificamerican0369-54
- John D. Isaacs **The Nature of Oceanic Life**. pp146 – 162. doi:10.1038/scientificamerican0969-146
- G. Evelyn Hutchinson **The Biosphere**. pp44 – 53. doi:10.1038/scientificamerican0970-44
- Elso S. Barghoorn **The Oldest Fossils**. pp30 – 42. doi:10.1038/scientificamerican0571-30
- James H. Brown **The Desert Pupfish**. pp104 – 110. doi:10.1038/scientificamerican1171-104
- Robert B. Eckhardt **Population Genetics and Human Origins**. pp94 – 103. doi:10.1038/scientificamerican0172-94
- Norman D. Newell **The Evolution of Reefs**. pp54 – 65. doi:10.1038/scientificamerican0672-54
- David E. James **The Evolution of the Andes**. pp60 – 69. doi:10.1038/scientificamerican0873-60
- L. L. Cavalli-Sforza **The Genetics of Human Populations**. pp80 – 89. doi:10.1038/scientificamerican0974-80
- Jürgen Nicolai **Mimicry in Parasitic Birds**. pp92 – 98. doi:10.1038/scientificamerican1074-92
- J. A. Bishop and Laurence M. Cook **Moths, Melanism and Clean Air**. pp90 – 99. doi:10.1038/scientificamerican0175-90
- A. Hallam **Alfred Wegener and the Hypothesis of Continental Drift**. pp88 – 97. doi:10.1038/scientificamerican0275-88
- Robert T. Bakker **Dinosaur Renaissance**. pp58 – 79. doi:10.1038/scientificamerican0475-58
- Bryan Clarke **The Causes of Biological Diversity**. pp50 – 60. doi:10.1038/scientificamerican0875-50
- Howard E. Evans and Robert W. Matthews **The Sand Wasps of Australia**. pp108 – 115. doi:10.1038/scientificamerican1275-108
- Ernst Mayr **Evolution**. pp46 - 55. doi:10.1038/scientificamerican0978-46
- Francisco J. Ayala **The Mechanisms of Evolution**. pp56 – 69. doi:10.1038/scientificamerican0978-56
- Richard E. Dickerson **Chemical Evolution and the Origin of Life**. pp70 – 87. doi:10.1038/scientificamerican0978-70
- Robert M. May **The Evolution of Ecological Systems**. pp160 – 175. doi:10.1038/scientificamerican0978-160
- John Maynard Smith **The Evolution of Behavior**. pp176 – 192. doi:10.1038/scientificamerican0978-176
- Sherwood L. Washburn **The Evolution of Man**. pp194 – 206. doi:10.1038/scientificamerican0978-194
- Richard C. Lewontin **Adaptation**. pp212 – 230. doi:10.1038/scientificamerican0978-21
- Simon Conway Morris and H. B. Whittington **The Animals of the Burgess Shale**. pp122 – 135. doi:10.1038/scientificamerican0779-122
- Thomas F. Goreau, Nora I. Goreau and Thomas J. Goreau **Corals and Coral Reefs**. pp124 – 136. doi:10.1038/scientificamerican0879-124
- Eric Buffetaut **The Evolution of the Crocodilians**. pp130 – 144. doi:10.1038/scientificamerican1079-130
- Motoo Kimura **The Neutral Theory of Molecular Evolution**. pp98 – 126. doi:10.1038/scientificamerican1179-98
- George W. Beadle **The Ancestry of Corn**. pp112 – 119. doi:10.1038/scientificamerican0180-112
- Randy Thornhill **Sexual Selection in the Black-tipped Hangingfly**. pp162 – 172. doi:10.1038/scientificamerican0680-162
- Moshe Feldman and Ernest R. Sears **The Wild Gene Resources of Wheat**. pp102 – 112. doi:10.1038/scientificamerican0181-102
- Wann Langston, Jr. **Pterosaurs**. pp122 – 136. doi:10.1038/scientificamerican0281-122

- Manfred Eigen, William Gardiner, Peter Schuster and Ruthild Winkler-Oswatitsch **The Origin of Genetic Information.** pp88 – 118. doi:10.1038/scientificamerican0481-88
- David I. Groves, John S. R. Dunlop and Roger Buick **An Early Habitat of Life.** pp64 – 73. doi: 10.1038/scientificamerican1081-64
- H. Frederik Nijhout **The Color Patterns of Butterflies and Moths.** pp140 – 151. doi:10.1038/scientificamerican1181-140
- Dale A. Russell **The Mass Extinctions of the Late Mesozoic.** pp58 – 65. doi:10.1038/scientificamerican0182-58
- **The Coevolution of a Butterfly and a Vine.** pp110 – 121. Lawrence E. Gilbert doi:10.1038/scientificamerican0882-110
- John R. Beddington and Robert M. May **The Harvesting of Interacting Species in a Natural Ecosystem.** pp62 – 69. doi:10.1038/scientificamerican1182-62
- David J. Mossman and William A. S. Sarjeant **The Footprints of Extinct Animals.** pp74 – 85. doi: 10.1038/scientificamerican0183-74
- Charles W. Myers and John W. Daly **Dart-Poison Frogs.** pp120 – 133. doi:10.1038/scientificamerican0283-120
- Peter Ward **The Extinction of the Ammonites.** pp136 – 147. doi:10.1038/scientificamerican1083-136
- Gerald A. Rosenthal **A Seed-Eating Beetle's Adaptations to a Poisonous Seed.** pp164 – 171. doi: 10.1038/scientificamerican1183-164
- David Pilbeam **The Descent of Hominoids and Hominids.** pp84 – 96. doi:10.1038/scientificamerican0384-84
- John R. Horner **The Nesting Behavior of Dinosaurs.** pp130 – 137. doi:10.1038/scientificamerican0484-130
- Steven M. Stanley **Mass Extinctions in the Ocean.** pp64 – 72. doi:10.1038/scientificamerican0684-64
- Donald R. Perry **The Canopy of the Tropical Rain Forest.** pp138 – 147. doi:10.1038/scientificamerican1184-138
- Philip H. Brownell **Prey Detection by the Sand Scorpion.** pp86 – 97. doi:10.1038/scientificamerican1284-86
- G. Ledyard Stebbins and Francisco J. Ayala **The Evolution of Darwinism. July 1985, Volume 253 No 1** pp72 – 82. doi:10.1038/scientificamerican0785-72
- Eric Buffetaut and Rucha Ingavat **The Mesozoic Vertebrates of Thailand.** pp80 – 87. doi:10.1038/scientificamerican0885-80
- Joel G. Kingsolver **Butterfly Engineering.** pp106 – 113. doi:10.1038/scientificamerican0885-106
- Allan C. Wilson **The Molecular Basis of Evolution. October 1985, Volume 253 No 4** pp164 – 173. doi:10.1038/scientificamerican1085-164.
- Sandra Herbert **Darwin as a Geologist.** pp116 – 123. doi:10.1038/scientificamerican0586-116
- Joyce R. Richardson **Brachiopods.** pp100 – 106. doi:10.1038/scientificamerican0986-100
- Richard H. Masland **The Functional Architecture of the Retina.** pp102 – 111. doi:10.1038/scientificamerican1286-102
- Michael L. Ryder **The Evolution of the Fleece.** pp112 – 119. doi:10.1038/scientificamerican0187-112
- Mark A. S. McMenamin **The Emergence of Animals.** pp94 – 102. doi:10.1038/scientificamerican0487-94
- Spencer C. H. Barrett **Mimicry in Plants.** pp76 – 83. doi:10.1038/scientificamerican0987-76
- James F. Kasting, Owen B. Toon and James B. Pollack **How Climate Evolved on the Terrestrial Planets.** pp90 – 97. doi:10.1038/scientificamerican0288-90
- Steven N. Austad **The Adaptable Opossum.** pp98 – 104. doi:10.1038/scientificamerican0288-9
- Howard M. Lenhoff and Sylvia G. Lenhoff **Trembley's Polyps.** pp108 – 113. doi:10.1038/scientificamerican0488-108
- Mervyn Griffiths **The Platypus.** pp84 – 91. doi:10.1038/scientificamerican0588-84
- Jane F. Koretz and George H. Handelman **How the Human Eye Focuses.** pp92 – 99. doi:10.1038/scientificamerican0788-92
- Daniel Heyler and Cecile M. Poplin **The Fossils of Montceau-Les-Mines.** pp104 – 110. doi:10.1038/scientificamerican0988-104
- C. Owen Lovejoy **Evolution of Human Walking.** pp118 – 125. doi:10.1038/scientificamerican1188-118
- John Horgan **Do Bees Think?** pp36 – 38. doi:10.1038/scientificamerican0589-36
- Eugenia M. del Pino **Marsupial Frogs.** pp110 – 118. doi:10.1038/scientificamerican0589-110

- Lawrence Badash **The Age-of-the-Earth Debate**. pp90 – 96. doi:10.1038/scientificamerican0889-90
- Reynold Spector and Conrad E. Johanson **The Mammalian Choroid Plexus**. pp68 – 74. doi:10.1038/scientificamerican1189-68
- Bruce M. Beehler **The Birds of Paradise**. pp116 – 123. doi:10.1038/scientificamerican1289-116
- Peter Wellnhofer **Archaeopteryx**. pp70 – 77. doi:10.1038/scientificamerican0590-70
- William C. Leggett and Kenneth T. Frank **The Spawning of the Capelin**. pp102 – 107. doi:10.1038/scientificamerican0590-102
- Nobuo Suga **Biosonar and Neural Computation in Bats**. pp60 – 68. doi:10.1038/scientificamerican0690-60
- Walter Alvarez and Frank Asaro **An Extraterrestrial Impact**. pp78 – 84. doi:10.1038/scientificamerican1090-78
- Vincent E. Courtillot **A Volcanic Eruption**. pp85 – 92. doi:10.1038/scientificamerican1090-85
- **What Caused the Mass Extinction?** pp76 – 77. doi:10.1038/scientificamerican1090-76
- Nicholas B. Davies and Michael Brooke **Coevolution of the Cuckoo and its Hosts**. pp92 – 98. doi:10.1038/scientificamerican0191-92
- Peggy D. Rismiller and Roger S. Seymour **The Echidna**. pp96 – 103. doi:10.1038/scientificamerican0291-96
- John Horgan **In the Beginning...** pp116 – 125. doi:10.1038/scientificamerican0291-116 (origin of life issues)
- R. McNeill Alexander **How Dinosaurs Ran**. pp130 – 136. doi:10.1038/scientificamerican0491-130
- Patrick Cunningham **The Genetics of Thoroughbred Horses**. pp92 – 98. doi:10.1038/scientificamerican0591-9
- Andrew H. Knoll **End of the Proterozoic Eon**. pp64 – 73. doi:10.1038/scientificamerican1091-64
- Peter R. Grant **Natural Selection and Darwin's Finches**. pp82 – 87. doi:10.1038/scientificamerican1091-82
- Luigi Luca Cavalli-Sforza **Genes, Peoples and Languages**. pp104 – 110. doi:10.1038/scientificamerican1191-104
- Fritz Vollrath **Spider Webs and Silks**. pp70 – 76. doi:10.1038/scientificamerican0392-70
- **Debate: Where did Modern Humans Originate?**. pp66 – 67. doi:10.1038/scientificamerican0492-66
- Allan C. Wilson and Rebecca L. Cann **The Recent African Genesis of Humans**. pp68 - 73. doi:10.1038/scientificamerican0492-66
- Alan G. Thorne and Milford H. Wolpoff **The Multiregional Evolution of Humans**. pp76 – 83. doi:10.1038/scientificamerican0492-76
- Paul W. Sherman, Jennifer U. M. Jarvis and Stanton H. Braude **Naked Mole Rats**. pp72 – 78. doi:10.1038/scientificamerican0892-72
- Ian Tattersall **Evolution Comes to Life**. pp80 – 87. doi:10.1038/scientificamerican0892-80 (pictures)
- Robert J. Blumenshine and John A. Cavallo **Scavenging and Human Evolution**. pp90 – 96. doi:10.1038/scientificamerican1092-90
- Jeffrey S. Levinton **The Big Bang of Animal Evolution**. pp84 – 91. doi:10.1038/scientificamerican1192-84
- Tim Beardsley **Cambrian Jolt**. pp40 – 42. doi:10.1038/scientificamerican1292-40 (mass extinctions)
- Gerald F. Joyce **Directed Molecular Evolution**. pp90 – 97. doi:10.1038/scientificamerican1292-90
- Patricia Vickers-Rich and Thomas Hewitt Rich **Australia's Polar Dinosaurs**. pp50 – 55. doi:10.1038/scientificamerican0793-50
- Katharine Milton **Diet and Primate Evolution**. pp86 – 93. doi:10.1038/scientificamerican0893-86
- Larry G. Marshall **The Terror Birds of South America**. pp90 – 95. doi:10.1038/scientificamerican0294-90
- Lon L. McClanahan, Rodolfo Ruibal and Vaughan H. Shoemaker **Frogs and Toads in Deserts**. pp82 – 88. doi:10.1038/scientificamerican0394-82
- Yves Coppens **East Side Story: The Origin of Humankind**. pp88 – 95. doi:10.1038/scientificamerican0594-88
- Wolfgang H. Kirchner and William F. Towne **The Sensory Basis of the Honeybee's Dance Language**. pp74 – 80. doi:10.1038/scientificamerican0694-74
- Paul Alan Cox and Michael J. Balick **The Ethnobotanical Approach to Drug Discovery**. pp82 – 87. doi:10.1038/scientificamerican0694-82
- Leslie E. Orgel **The Origin of Life on the Earth**. pp76 – 83. doi:10.1038/scientificamerican1094-76

- Stephen Jay Gould **The Evolution of Life on the Earth**. pp84 – 91. doi:10.1038/scientificamerican1094-84
- William H. Calvin **The Emergence of Intelligence**. pp100 – 107. doi:10.1038/scientificamerican1094-100
- Michael J. Novacek, Mark Norell, Malcolm C. McKenna and James Clark **Fossils of the Flaming Cliffs**. pp60 – 69. doi:10.1038/scientificamerican1294-60
- Ian W. D. Dalziel **Earth before Pangea**. pp58 – 63. doi:10.1038/scientificamerican0195-58
- Roger L. Larson **The Mid-Cretaceous Superplume Episode**. pp82 – 86. doi:10.1038/scientificamerican0295-82
- David W. Pfennig and Paul W. Sherman **Kin Recognition**. pp98 – 103. doi:10.1038/scientificamerican0695-98
- Robert K. Wayne and John L. Gittleman **The Problematic Red Wolf**. pp36 – 39. doi:10.1038/scientificamerican0795-36 (wolf-coyote hybrid?)
- Peter M. Narins **Frog Communication**. pp78 – 83. doi:10.1038/scientificamerican0895-78
- John Horgan **The New Social Darwinists**. pp174 – 181. doi:10.1038/scientificamerican1095-174
- Richard Milner **Charles Darwin: The Last Portrait**. p78. doi:10.1038/scientificamerican1195-78
- Richard Dawkins **God's Utility Function**. pp80 – 85. doi:10.1038/scientificamerican1195-80
- John Horgan **The World According to RNA**. pp27 – 30. doi:10.1038/scientificamerican0196-27b
- Sasha Nemecek **Return of the Red Wolf**. pp31 – 32. doi:10.1038/scientificamerican0196-31
- Tim Beardsley **Dennett's Dangerous Idea**. pp34 – 35. doi:10.1038/scientificamerican0296-34 (profile)
- David A. Grimaldi **Captured in Amber**. pp84 – 91. doi:10.1038/scientificamerican0496-84 (pictures)
- Douglas H. Erwin **The Mother of Mass Extinctions**. pp72 – 78. doi:10.1038/scientificamerican0796-72
- Richard Milner **Charles Darwin and Associates, Ghostbusters**. pp96 – 101. doi:10.1038/scientificamerican1096-96
- Craig Packer and Anne E. Pusey **Divided We Fall: Cooperation among Lions**. pp52 – 59. doi:10.1038/scientificamerican0597-52
- Meave Leakey and Alan Walker **Early Hominid Fossils from Africa**. pp74 – 79. doi:10.1038/scientificamerican0697-74
- Tim Beardsley **Evolution Evolving**. pp15 – 18. doi:10.1038/scientificamerican0997-15
- David A. Thomas and James O. Farlow **Tracking a Dinosaur Attack**. pp74 – 79. doi:10.1038/scientificamerican1297-74
- Kevin Padian and Luis M. Chiappe **The Origin of Birds and Their Flight**. pp38 – 47. doi:10.1038/scientificamerican0298-38
- Neville Agnew and Martha Demas **Preserving the Laetoli Footprints**. pp44 – 55. doi:10.1038/scientificamerican0998-44
- Frederic H. Martini **Secrets of the Slime Hag**. pp70 – 75. doi:10.1038/scientificamerican1098-70
- Randolph M. Nesse and George C. Williams **Evolution and the Origins of Disease**. pp86 – 93. doi:10.1038/scientificamerican1198-86
- Kate Wong **Cetacean Creation**. pp26 – 30. doi:10.1038/scientificamerican0199-26b
- Douglas W. Tallamy **Child Care among the Insects**. pp72 – 77. doi:10.1038/scientificamerican0199-72
- Melanie L. J. Stiassny and Axel Meyer **Cichlids of the Rift Lakes**. pp64 – 69. doi:10.1038/scientificamerican0299-64
- Claudio Ciofi **The Komodo Dragon**. pp84 – 91. doi:10.1038/scientificamerican0399-84
- Stephen Wroe **Killer Kangaro and Other Murderous Marsupials**. pp68 – 74. doi:10.1038/scientificamerican0599-68
- Kate Wong **Is Out of Africa Going Out the Door?** pp13 – 14. doi:10.1038/scientificamerican0899-1
- Gregory M. Erickson **Breathing Life into *Tyrannosaurus rex***. pp42 – 49. doi:10.1038/scientificamerican0999-42
- William L. Abler **The Teeth of the Tyrannosaurs**. pp50 – 51. doi:10.1038/scientificamerican0999-50
- George Gaylord Simpson **The Dechronization of Sam Magruder**. pp52 – 55. doi:10.1038/scientificamerican0999-52
- Leigh Van Valen **How the Left Got Darwin Wrong**, Peter Singer. pp110 – 112. doi:10.1038/scientificamerican0600-110 (book review)
- Ernst Mayr **Darwin's Influence on Modern Thought**. pp78 – 83. doi:10.1038/scientificamerican0700-78

- Jonathan B. Losos **Evolution: A Lizard's Tale**. pp64 – 69. doi:10.1038/scientificamerican0301-64
- **Reviews** Carl Zimmer **Dinos and Darwin**. pp98 – 100. doi:10.1038/scientificamerican0601-98 (book review)
- **Reviews** Richard Milner **Our Evolving View of the Galápagos**. pp95 – 96. doi:10.1038/scientificamerican0701-95
- **Evolution** Sarah Simpson **Faster Than a Snail's Pace**. p23. doi:10.1038/scientificamerican0801-23a
- **Biodiversity** W. Wayt Gibbs **On the Termination of Species**. pp40 – 49. doi:10.1038/scientificamerican1101-40
- John J. Flynn and André R. Wyss **Madagascar's Mesozoic Secrets**. pp54 – 63. doi:10.1038/scientificamerican0202-54
- Marguerite Holloway **Trees of the Triassic**. pp96 – 98. doi:10.1038/scientificamerican0502-96
- **Evolution** Kate Wong **The Mammals that Conquered the Seas**. pp70 – 79. doi:10.1038/scientificamerican0502-70
- **Reviews** Richard Milner **Putting Darwin in His Place**. pp103 - 104. doi:10.1038/scientificamerican1002-103 (book review)
- Nina G. Jablonski and George Chaplin **Skin Deep**. pp74 – 81. doi:10.1038/scientificamerican1002-74
- **Paleontology** Sonya Senkowsky **Cretaceous Park**. pp26 – 28. doi:10.1038/scientificamerican1202-26
- William R. Leonard **Food for Thought**. pp106 – 115. doi:10.1038/scientificamerican1202-106
- **Paleoanthropology** Kate Wong **An Ancestor to Call Our Own**. pp54 – 63. doi:10.1038/scientificamerican0103-54
- John R. Koza, Martin A. Keane and Matthew J. Streeter **Evolving Inventions**. pp52 – 59. doi:10.1038/scientificamerican0203-52 (in silico evolution)
- **Paleontology** Kate Wong **Out on a Limb**. pp28 – 30. doi:10.1038/scientificamerican0303-28
- Richard O. Prum and Alan H. Brush **Which Came First, the Feather or the Bird?** pp84 – 93. doi:10.1038/scientificamerican0303-84
- Sarah Simpson **Questioning the Oldest Signs of Life**. pp70 – 77. doi:10.1038/scientificamerican0403-70
- Charles H. Bennett, Ming Li and Bin Ma **Information Science Chain Letters and Evolutionary Histories**. pp76 – 81. doi:10.1038/scientificamerican0603-76
- David R. Begun **Planet of the Apes**. pp74 – 83. doi:10.1038/scientificamerican0803-74
- **Human Evolution** Kate Wong **Stranger in a New Land**. pp74 – 83. doi:10.1038/scientificamerican1103-74
- **Dinosaurs** Kate Wong **Becoming Behemoth**. pp23 – 24. doi:10.1038/scientificamerican0204-23
- Anthony R. Fiorillo **The Dinosaurs of Arctic Alaska**. pp84 – 91. doi:10.1038/scientificamerican1204-84
- **Paleoanthropology** Kate Wong **The Littlest Human**. pp56 – 65. doi:10.1038/scientificamerican0205-56
- Frans B. M. de Waal **How Animals Do Business**. pp72 – 79. doi:10.1038/scientificamerican0405-72
- **Extinctions** Barry E. DiGregorio **Doubts on Dinosaurs**. pp28 – 29. doi:10.1038/scientificamerican0505-28
- John R. Horner, Kevin Padian and Armand de Ricqlès **How Dinosaurs Grew So Large— And So Small**. pp56 – 63. doi:10.1038/scientificamerican0705-56
- David J. Bottjer **The Early Evolution of Animals**. pp42 – 47. doi:10.1038/scientificamerican0805-42
- David Warmflash and Benjamin Weiss **Did Life Come from Another World?** pp64 – 71. doi:10.1038/scientificamerican1105-64
- Jennifer A. Clack **Getting a Leg Up on Land**. pp100 – 7. doi:10.1038/scientificamerican1205-100
- Carel Van Schaik **Why Are Some Animals So Smart?** pp64 – 71. doi:10.1038/scientificamerican0406-64
- Timothy H. Goldsmith **What Birds See**. pp68 – 75. doi:10.1038/scientificamerican0706-68
- **Reviews** **Darwin at the Zoo**. pp114 – 119. doi:10.1038/scientificamerican1206-114
- Raymond R. Rogers and David W. Krause **Tracking an Ancient Killer**. pp42 – 51. doi:10.1038/scientificamerican0207-42 (dinosaur extinction)
- Bernd Heinrich and Thomas Bugnyar **Just How Smart are Ravens?** pp64 – 71. doi:10.1038/scientificamerican0407-64
- John J. Flynn, André R. Wyss and Reynaldo Charrier **South America's Missing Mammals**. pp68 – 75. doi:10.1038/scientificamerican0507-68
- Robert Shapiro **A Simpler Origin for Life**. pp46 – 53. doi:10.1038/scientificamerican0607-46

- **Behavior** Charles Q. Choi **The Genetics of Politics**. pp18 – 21. doi:10.1038/scientificamerican1107-18
- Carl Zimmer **What Is a Species?** pp72 – 79. doi:10.1038/scientificamerican0608-72
- **Evolution** Heather Wax **Outcalculating the Competition**. pp96 – 99. doi:10.1038/scientificamerican1008-96 (Martin Nowak and origin of life)
- Nancy B. Simmons **Taking Wing**. pp96 – 103. doi:10.1038/scientificamerican1208-96 (bat evolution)
- **Introduction** Gary Stix **Darwin's Living Legacy**. pp38 – 43. doi:10.1038/scientificamerican0109-38
- H. Allen Orr **Testing Natural Selection**. pp44 – 51. doi:10.1038/scientificamerican0109-44
- Steve Mirsky **What's Good for the Group**. p51. doi:10.1038/scientificamerican0109-51
- **Family Tree** Kate Wong **The Human Pedigree**. pp60 – 63. doi:10.1038/scientificamerican0109-60
- **Evolution** Katherine S. Pollard **What Makes Us Human?** pp44 – 49. doi:10.1038/scientificamerican0509-44
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- **Human Evolution** Kate Wong **Twilight of the Neandertals**. pp32 – 37. doi:10.1038/scientificamerican0809-32
- Alonso Ricardo and Jack W. Szostak **Origin of Life on Earth**. pp54 – 61. doi:10.1038/scientificamerican0909-54
- **Earth Science** Sarah Simpson **Violent Origins of Continents**. pp60 – 67. doi:10.1038/scientificamerican0110-60
- **Evolution** Nina G. Jablonski **The Naked Truth**. pp42 – 49. doi:10.1038/scientificamerican0210-42 (consequences of hairlessness)

WEEK 2: THE MOLECULAR VIEW OF INFORMATION TRANSFER AND STORAGE IN THE LIVING CELL.

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- Albert L. Lehninger **Energy Transformation in the Cell. pp102 – 114**. doi:10.1038/scientificamerican0560-102
- Aloha Hannah-Alava **Genetic Mosaics. pp118 – 130**. doi:10.1038/scientificamerican0560-118
- Karl Maramorosch **Friendly Viruses. pp138 – 144**. doi:10.1038/scientificamerican0860-138
- Sarah E. Stewart **The Polyoma Virus. pp63 – 71**. doi:10.1038/scientificamerican1160-63
- Ruth Sager **Genes Outside the Chromosomes. pp70 – 79**. doi:10.1038/scientificamerican0165-70
- William H. Stein and Stanford Moore **The Chemical Structure of Proteins. pp81 – 92**. doi:10.1038/scientificamerican0261-81
- Alick Isaacs. **Interferon. pp51 – 57**. doi:10.1038/scientificamerican0561-51
- Edward S. Hodgson **Taste Receptors. pp135 – 144**. doi:10.1038/scientificamerican0561-135
- François Jacob and Elie L. Wollman **Viruses and Genes. pp92 – 110**. doi:10.1038/scientificamerican0661-92
- Jean Brachet **The Living Cell. pp50 – 61**. doi:10.1038/scientificamerican0961-50
- Albert L. Lehninger **How Cells Transform Energy. pp62 – 73**. doi:10.1038/scientificamerican0961-62
- Vincent G. Allfrey and Alfred E. Mirsky **How Cells Make Molecules. pp74 – 82**. doi:10.1038/scientificamerican0961-74
- Daniel Mazia **How Cells Divide. pp100 – 121**. doi:10.1038/scientificamerican0961-100
- Michail Fischberg and Antonie W. Blackler **How Cells Specialize. pp124 – 140**. doi:10.1038/scientificamerican0961-124
- A. A. Moscona **How Cells Associate. pp142 – 162**. doi:10.1038/scientificamerican0961-142
- Heinz Holter **How Things get into Cells. pp167 – 181**. doi:10.1038/scientificamerican0961-167
- Teru Hayashi. **How Cells Move. pp184 - 204**. doi:10.1038/scientificamerican0961-184
- Bernhard Katz **How Cells Communicate. pp209 – 221**. doi:10.1038/scientificamerican0961-209
- William H. Miller, Floyd Ratliff and H. K. Hartline **How Cells Receive Stimuli. pp222 – 239**. doi: 10.1038/scientificamerican0961-222
- John C. Kendrew **The Three-Dimensional Structure of a Protein Molecule. pp96 – 110**. doi:10.1038/scientificamerican1261-96
- Seymour Benzer **The Fine Structure of the Gene. pp70 – 84**. doi:10.1038/scientificamerican0162-70
- Jerard Hurwitz and J. J. Furth **Messenger RNA. pp41 – 49**. doi:10.1038/scientificamerican0262-41
- Harold J. Morowitz and Mark E. Tourtellotte **The Smallest Living Cells. pp117 – 124**. doi:10.1038/scientificamerican0362-117
- J. David Robertson. **The Membrane of the Living Cell. pp64 – 72**. doi:10.1038/scientificamerican0462-64
- Ernst Hadorn **Fractionating the Fruit Fly. pp100 – 111**. doi:10.1038/scientificamerican0462-100
- Robert L. Sinsheimer **Single-Stranded DNA. pp109 – 117**. doi:10.1038/scientificamerican0762-109
- Arthur K. Solomon **Pumps in the Living Cell. pp100 – 110**. doi:10.1038/scientificamerican0862-100
- F. H. C. Crick **The Genetic Code. pp66 – 77**. doi:10.1038/scientificamerican1062-66
- R. W. Horne **The Structure of Viruses. pp48 – 57**. doi:10.1038/scientificamerican0163-48
- Marshall W. Nirenberg **The Genetic Code: II. pp80 – 95**. doi:10.1038/scientificamerican0363-80
- Christian de Duve **The Lysosome. pp64 – 73**. doi:10.1038/scientificamerican0563-64

- Edward O. Wilson **Pheromones**. pp100 – 114. doi:10.1038/scientificamerican0563-100
- Ursula Mittwoch **Sex Differences in Cells**. pp54 – 63. doi:10.1038/scientificamerican0763-5
- John Tyler Bonner **How Slime Molds Communicate**. pp84 – 93. doi:10.1038/scientificamerican0863-84
- Alick Isaacs **Foreign Nucleic Acids**. pp46 – 53. doi:10.1038/scientificamerican1063-46
- F. C. Steward **The Control of Growth in Plant Cells**. pp104 – 113. doi:10.1038/scientificamerican1063-104
- Wolfgang Beermann and Ulrich Clever **Chromosome Puffs**. pp50 – 58. doi:10.1038/scientificamerican0464-50
- S. Spiegelman **Hybrid Nucleic Acids**. pp48 – 56. doi:10.1038/scientificamerican0564-48
- Harry Rubin **A Defective Cancer Virus**. pp46 – 52. doi:10.1038/scientificamerican0664-46
- Heinz Fraenkel-Conrat **The Genetic Code of a Virus**. pp46 – 54. doi:10.1038/scientificamerican1064-46
- M. F. Perutz **The Hemoglobin Molecule**. pp64 – 76. doi:10.1038/scientificamerican1164-64
- Hans Neurath **Protein-Digesting Enzymes**. pp68 – 79. doi:10.1038/scientificamerican1264-68
- R. S. Edgar and R. H. Epstein **The Genetics of a Bacterial Virus**. pp70 – 79. doi:10.1038/scientificamerican0265-70
- Keith R. Porter and Clara Franzini-Armstrong **The Sarcoplasmic Reticulum**. pp72 – 80. doi:10.1038/scientificamerican0365-72
- Jean-Pierre Changeux **The Control of Biochemical Reactions**. pp36 – 45. doi:10.1038/scientificamerican0465-36
- Eric H. Davidson **Hormones and Genes**. pp36 – 45. doi:10.1038/scientificamerican0665-36
- Lowell E. Hokin and Mabel R. Hokin **The Chemistry of Cell Membranes**. pp78 – 86. doi:10.1038/scientificamerican1065-78
- Armin C. Braun **The Reversal of Tumor Growth**. pp75 – 83. doi:10.1038/scientificamerican1165-75
- H. E. Huxley **The Mechanism of Muscular Contraction**. pp18 – 27. doi:10.1038/scientificamerican1265-18
- John Cairns **The Bacterial Chromosome**. pp36 – 44. doi:10.1038/scientificamerican0166-36
- Robert W. Holley **The Nucleotide Sequence of a Nucleic Acid**. pp30 – 39. doi:10.1038/scientificamerican0266-30
- Fred Rapp and Joseph L. Melnick **The Footprints of Tumor Viruses**. pp34 – 41. doi:10.1038/scientificamerican0366-34
- F. H. C. Crick **The Genetic Code: III**. pp55 – 62. doi:10.1038/scientificamerican1066-55
- David C. Phillips **The Three-Dimensional Structure of an Enzyme Molecule**. pp78 – 90. doi:10.1038/scientificamerican1166-78
- Aharon Gibor **Acetabularia: A Useful Giant Cell**. pp118 – 124. doi:10.1038/scientificamerican1166-118
- Edouard Kellenberger **The Genetic Control of the Shape of a Virus**. pp32 – 39. doi:10.1038/scientificamerican1266-32
- Charles Yanofsky **Gene Structure and Protein Structure**. pp80 – 94. doi:10.1038/scientificamerican0567-80
- William B. Wood and R. S. Edgar **Building a Bacterial Virus**. pp60 – 74. doi:10.1038/scientificamerican0767-60
- Brian F. C. Clark and Kjeld A. Marcker **How Proteins Start**. pp36 – 43. doi:10.1038/scientificamerican0168-36
- Leonard Hayflick **Human Cells and Aging**. pp32 – 37. doi:10.1038/scientificamerican0368-32
- Alfred E. Mirsky **The Discovery of DNA**. pp78 – 88. doi:10.1038/scientificamerican0668-78
- Arthur Kornberg **The Synthesis of DNA**. pp64 – 78. doi:10.1038/scientificamerican1068-64
- Marian Neutra and C. P. Leblond **The Golgi Apparatus**. pp100 – 107. doi:10.1038/scientificamerican0269-100
- Norman K. Wessells and William J. Rutter **Phases in Cell Differentiation**. pp36 – 44. doi:10.1038/scientificamerican0369-36
- Boris Ephrussi and Mary C. Weiss **Hybrid Somatic Cells**. pp26 – 35. doi:10.1038/scientificamerican0469-26
- Nathan Sharon **The Bacterial Cell Wall**. pp92 – 98. doi:10.1038/scientificamerican0569-92
- John Tyler Bonner **Hormones in Social Amoebae and Mammals**. pp78 – 91. doi:10.1038/scientificamerican0669-78

- R. D. B. Fraser **Keratins**. pp86 – 96. doi:10.1038/scientificamerican0869-86
- Masayasu Nomura **Ribosomes**. pp28 – 35. doi:10.1038/scientificamerican1069-28
- Richard Losick and Phillips W. Robbins **The Receptor Site for a Bacterial Virus**. pp120 – 124. doi:10.1038/scientificamerican1169-120
- Salvador E. Luria **The Recognition of DNA in Bacteria**. pp88 – 102. doi:10.1038/scientificamerican017088
- Roy J. Britten and David E. Kohne **Repeated Segments of DNA**. pp24 – 31. doi:10.1038/scientificamerican0470-24
- Graham Hoyle **How is Muscle Turned On and Off**. pp84 – 93. doi:10.1038/scientificamerican0470-84
- Werner R. Loewenstein **Intercellular Communication**. pp78 – 86. doi:10.1038/scientificamerican0570-78
- Mark Ptashne and Walter Gilbert **Genetic Repressors**. pp36 – 44. doi:10.1038/scientificamerican0670-36
- Marylou Ingram and Kendall Preston, Jr. **Automatic Analysis of Blood Cells**. pp72 – 82. doi:10.1038/scientificamerican1170-72
- W. F. Loomis **Ricketts**. pp76 – 91. doi:10.1038/scientificamerican1270-76
- Arthur K. Solomon **The State of Water in Red Cells**. pp88 – 96. doi:10.1038/scientificamerican0271-88
- Victor A. McKusick **The Mapping of Human Chromosomes**. pp104 – 113. doi:10.1038/scientificamerican0471-104
- John H. Todd **The Chemical Languages of Fishes**. pp98 – 108. doi:10.1038/scientificamerican0571-98
- Maurice R. Hilleman and Alfred A. Tytell **The Induction of Interferon**. pp26 – 31. doi:10.1038/scientificamerican0771-2
- Norman K. Wessells **How Living Cells Change Shape**. pp76 – 82. doi:10.1038/scientificamerican1071-76
- Howard M. Temin **RNA-Directed DNA Synthesis**. January 1972, Volume 226 No 1 pp24 – 33. doi:10.1038/scientificamerican0172-2
- C. Fred Fox **The Structure of Cell Membranes**. pp30 – 38. doi:10.1038/scientificamerican0272-30
- Richard E. Dickerson **The Structure and History of an Ancient Protein**. pp58 – 72. doi:10.1038/scientificamerican0472-58
- P. A. Merton **How we control the contraction of our muscles**. pp30 – 37. doi:10.1038/scientificamerican0572-30
- Earl Frieden **The Chemical Elements of Life**. pp52 – 60. doi:10.1038/scientificamerican0772-52
- Ira Pastan **Cyclic AMP**. pp97 – 105. doi:10.1038/scientificamerican0872-97
- Gunther S. Stent **Cellular Communication**. pp42 – 51. doi:10.1038/scientificamerican0972-4
- Norman Kretschmer **Lactose and Lactase**. pp70 – 78. doi:10.1038/scientificamerican1072-70
- Roger Guillemin and Roger Burgus **The Hormones of the Hypothalamus**. pp24 – 33. doi:10.1038/scientificamerican1172-24
- Marcus Jacobson and R. Kevin Hunt **The Origins of Nerve-Cell Specificity**. pp26 – 35. doi:10.1038/scientificamerican0273-26
- O. L. Miller, Jr. **The Visualization of Genes in Action**. pp34 – 42. doi:10.1038/scientificamerican0373-34
- Donald D. Brown **The Isolation of Genes**. pp20 – 29. doi:10.1038/scientificamerican0873-20
- Daniel E. Koshland, Jr. **Protein Shape and Biological Control**. pp52 – 64. doi:10.1038/scientificamerican1073-52
- Seymour Benzer **Genetic Dissection of Behavior**. pp24 – 37. doi:10.1038/scientificamerican1273-24
- Daniel Mazia **The Cell Cycle**. pp54 – 64. doi:10.1038/scientificamerican0174-54
- John J. Holland **Slow, Inapparent and Recurrent Viruses**. pp32 – 40. doi:10.1038/scientificamerican0274-32
- Roderick A. Capaldi **A Dynamic Model of Cell Membranes**. pp26 – 33. doi:10.1038/scientificamerican0374-26
- Nathan Sharon **Glycoproteins**. pp78 – 86. doi:10.1038/scientificamerican0574-78
- Julius Axelrod **Neurotransmitters**. pp58 – 71. doi:10.1038/scientificamerican0674-58
- Frank H. Ruddle and Raju S. Kucherlapati **Hybrid Cells and Human Genes**. pp36 – 44. doi:10.1038/scientificamerican0774-36
- Robert M. Stroud **A Family of Protein-Cutting Proteins**. pp74 – 88. doi:10.1038/

scientificamerican0774-74

- Henry M. Sobell **How Actinomycin Binds to DNA.** pp82 – 90. doi:10.1038/scientificamerican0874-82
- Peter Satir **How Cilia Move.** pp44 – 52. doi:10.1038/scientificamerican1074-44
- Gary A. Strobel
- A Mechanism of Disease Resistance in Plants.** pp80 – 88. doi:10.1038/scientificamerican0175-80
- Gary S. Stein, Janet Swinehart Stein and Lewis J. Kleinsmith
- Chromosomal Proteins and Gene Regulation.** pp46 – 60. doi:10.1038/scientificamerican0275-46
- Peter Albersheim **The Walls of Growing Plant Cells.** pp80 – 95. doi:10.1038/scientificamerican0475-80
- Deborah H. Spector and David Baltimore **The Molecular Biology of Poliovirus.** pp24 – 31. doi:10.1038/scientificamerican0575-24
- Attallah Kappas and Alvito P. Alvares **How the Liver Metabolizes Foreign Substances.** pp22 – 31. doi:10.1038/scientificamerican0675-22
- Stanley N. Cohen **The Manipulation of Genes.** pp24 – 33. doi:10.1038/scientificamerican0775-24
- R. H. Wright **Why Mosquito Repellents Repel.** pp104 – 111. doi:10.1038/scientificamerican0775-104
- Howard C. Berg **How Bacteria Swim.** pp36 – 44. doi:10.1038/scientificamerican0875-36
- Birgit Satir **The Final Steps in Secretion.** pp28 – 37. doi:10.1038/scientificamerican1075-28
- Carolyn Cohen **The Protein Switch of Muscle Contraction.** pp36 – 45. doi:10.1038/scientificamerican1175-36
- Salvador E. Luria **Colicins and the Energetics of Cell Membranes.** pp30 – 37. doi:10.1038/scientificamerican1275-30
- Tom Maniatis and Mark Ptashne **A DNA Operator-Repressor System.** pp64 – 76. doi:10.1038/scientificamerican0176-64
- Bert W. O'Malley and William T. Schrader **The Receptors of Steroid Hormones.** pp32 – 43. doi:10.1038/scientificamerican0276-32
- D. S. Saunders **The Biological Clock of Insects.** pp114 – 121. doi:10.1038/scientificamerican0276-114
- Leonard A. Herzenberg, Richard G. Sweet and Leonore A. Herzenberg **Fluorescence-Activated Cell Sorting.** pp108 – 117. doi:10.1038/scientificamerican0376-108
- Julius Adler **The Sensing of Chemicals by Bacteria.** pp40 – 47. doi:10.1038/scientificamerican0476-40
- Judah Folkman **The Vascularization of Tumors.** pp58 – 73. doi:10.1038/scientificamerican0576-5
- Walther Stoeckenius **The Purple Membrane of Salt-loving Bacteria.** pp38 – 47. doi:10.1038/scientificamerican0676-38
- Bruce S. McEwen **Interactions between Hormones and Nerve Tissue.** pp48 – 58. doi:10.1038/scientificamerican0776-48
- Charles Lane **Rabbit Hemoglobin from Frog Eggs.** pp60 – 71. doi:10.1038/scientificamerican0876-60
- Solomon H. Snyder **Opiate Receptors and Internal Opiates.** pp44 – 57. doi:10.1038/scientificamerican0377-44
- Derek C. Burke **The Status of Interferon.** pp42 – 50. doi:10.1038/scientificamerican0477-42
- Nathan Sharon **Lectins.** pp108 – 119. doi:10.1038/scientificamerican0677-108
- Clifford Grobstein **The Recombinant-DNA Debate.** pp22 – 33. doi:10.1038/scientificamerican0777-22
- Joseph L. Melnick, Gordon R. Dreesman and F. Blaine Hollinger **Viral Hepatitis.** pp44 – 52. doi:10.1038/scientificamerican0777-44
- James A. Nathanson and Paul Greengard **“Second Messengers” in the Brain.** pp108 – 119. doi:10.1038/scientificamerican0877-108
- John C. Fiddes **The Nucleotide Sequence of a Viral DNA.** pp54 – 67. doi:10.1038/scientificamerican1277-54
- Alexander Rich and Sung Hou Kim **The Three-dimensional Structure of Transfer RNA.** pp52 – 62. doi:10.1038/scientificamerican0178-52
- Carlo M. Croce and Hilary Koprowski **The Genetics of Human Cancer.** pp117 – 125. doi:10.1038/scientificamerican0278-117
- Peter C. Hinkle and Richard E. McCarty **How Cells Make ATP.** pp104 – 123. doi:10.1038/scientificamerican0378-104
- Guenter Albrecht-Buehler **The Tracks of Moving Cells.** pp68 – 76. doi:10.1038/scientificamerican0478-68
- L. Andrew Staehelin and Barbara E. Hull **Junctions between Living Cells.** pp140 – 152. doi:10.1038/scientificamerican0578-140

- Paul H. Patterson, David D. Potter and Edwin J. Furshpan **The Chemical Differentiation of Nerve Cells.** pp50 – 59. doi:10.1038/scientificamerican0778-50
- Steven Vogel **Organisms that Capture Currents.** pp128 – 139. doi:10.1038/scientificamerican0878-128
- P. Jonathan, G. Butler and Aaron Klug **The Assembly of a Virus.** pp62 – 69. doi:10.1038/scientificamerican1178-62
- M. F. Perutz **Hemoglobin Structure and Respiratory Transport.** pp92 – 125. doi:10.1038/scientificamerican1278-92
- Harvey F. Lodish and James E. Rothman **The Assembly of Cell Membranes.** pp48 – 63. doi:10.1038/scientificamerican0179-48
- James F. Crow **Genes that Violate Mendel's Rules.** pp134 – 147. doi:10.1038/scientificamerican0279-134
- Garth L. Nicolson **Cancer Metastasis.** pp66 – 77. doi:10.1038/scientificamerican0379-66
- Richard D. Keynes **Ion Channels in the Nerve-Cell Membrane.** pp126 – 135. doi:10.1038/scientificamerican0379-126
- Elias Lazarides and Jean Paul Revel **The Molecular Basis of Cell Movement.** pp100 – 113. doi:10.1038/scientificamerican0579-100
- Rita Levi-Montalcini and Pietro Calissano **The Nerve-Growth Factor.** pp68 – 77. doi:10.1038/scientificamerican0679-68
- Warner Henle, Gertrude Henle and Evelyne T. Lennette **The Epstein-Barr Virus.** pp48 – 59. doi:10.1038/scientificamerican0779-48
- Motoo Kimura **The Neutral Theory of Molecular Evolution.** pp98 – 126. doi:10.1038/scientificamerican1179-98.
- E. M. De Robertis and J. B. Gurdon **Gene Transplantation and the Analysis of Development.** pp74 – 82. doi:10.1038/scientificamerican1279-74
- Leonard Hayflick **The Cell Biology of Human Aging.** pp58 – 65. doi:10.1038/scientificamerican0180-58
- Martin M. Kaplan and Hilary Koprowski **Rabies.** pp120 – 134. doi:10.1038/scientificamerican0180-120
- Richard E. Dickerson **Cytochrome c and the Evolution of Energy Metabolism.** pp136 – 153. doi:10.1038/scientificamerican0380-136
- Edward Rubenstein **Diseases Caused by Impaired Communication Among Cells.** pp102 – 121. doi:10.1038/scientificamerican0380-102
- Walter Gilbert and Lydia Villa-Komaroff **Useful Proteins from Recombinant Bacteria.** pp74 – 96. doi:10.1038/scientificamerican0480-74
- James H. Schwartz **The Transport of Substances in Nerve Cells.** pp152 – 171. doi:10.1038/scientificamerican0480-152
- William R. Bauer, F. H. C. Crick and James H. White **Supercoiled DNA.** pp118 – 133. doi:10.1038/scientificamerican0780-118
- Pierre Dustin **Microtubules.** pp66 – 76. doi:10.1038/scientificamerican0880-66
- Nathan Sharon **Carbohydrates.** pp90 – 116. doi:10.1038/scientificamerican1180-90
- T. O. Diener **Viroids.** pp66 – 73. doi:10.1038/scientificamerican0181-66
- Roger D. Kornberg and Aaron Klug **The Nucleosome.** pp52 – 64. doi:10.1038/scientificamerican0281-52
- Keith R. Porter and Jonathan B. Tucker **The Ground Substance of the Living Cell.** pp56 – 67. doi:10.1038/scientificamerican0381-56
- Pierre Chambon **Split Genes.** pp60 – 71. doi:10.1038/scientificamerican0581-60
- W. French Anderson and Elaine G. Diacumakos **Genetic Engineering in Mammalian Cells.** pp106 – 121. doi:10.1038/scientificamerican0781-106
- Carl R. Woese **Archaea. June 1981, Volume 244 No 6** pp98 – 122. doi:10.1038/scientificamerican0681-98
- James A. Lake **The Ribosome.** pp84 – 97. doi:10.1038/scientificamerican0881-84
- David A. Hopwood **The Genetic Programming of Industrial Microorganisms.** pp90 – 102. doi:10.1038/scientificamerican0981-90
- Floyd E. Bloom **Neuropeptides.** pp148 – 168. doi:10.1038/scientificamerican1081-148
- Richard P. Blakemore and Richard B. Frankel. **Magnetic Navigation in Bacteria.** pp58 – 65. doi:10.1038/scientificamerican1281-58
- Russell F. Doolittle **Fibrinogen and Fibrin.** pp126 – 135. doi:10.1038/scientificamerican1281-126

- Kai Simons, Henrik Garoff and Ari Helenius **How an Animal Virus Gets into and out of its Host Cell.** pp58 – 66. doi:10.1038/scientificamerican0282-58
- J. Michael Bishop **Oncogenes.** pp80 – 92. doi:10.1038/scientificamerican0382-80
- Wai Yiu Cheung **Calmodulin.** pp62 – 70. doi:10.1038/scientificamerican0682-62
- James C. Wang **DNA Topoisomerases.** pp94 – 109. doi:10.1038/scientificamerican0782-94
- Rodolfo R. Llinás **Calcium in Synaptic Transmission.** pp56 – 65. doi:10.1038/scientificamerican1082-56
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- Joseph Feder and William R. Tolbert **The Large-Scale Cultivation of Mammalian Cells.** pp36 – 43. doi:10.1038/scientificamerican0183-36
- R. G. Shulman **NMR Spectroscopy of Living Cells.** pp86 – 93. doi:10.1038/scientificamerican0183-86
- Leslie A. Grivell **Mitochondrial DNA.** pp78 – 89. doi:10.1038/scientificamerican0383-78
- John Tyler Bonner **Chemical Signals of Social Amoebae.** pp114 – 120. doi:10.1038/scientificamerican0483-114
- Christian de Duve **Microbodies in the Living Cell.** pp74 – 84. doi:10.1038/scientificamerican0583-74
- Sidney Pestka **The Purification and Manufacture of Human Interferons.** pp36 – 43. doi:10.1038/scientificamerican0883-36
- James E. Darnell, Jr. **The Processing of RNA.** October 1983, Volume 249 No 4 pp90 – 100. doi:10.1038/scientificamerican1083-90
- Robert A. Weinberg **A Molecular Basis of Cancer.** pp126 – 142. doi:10.1038/scientificamerican1183-126
- Richard E. Dickerson **The DNA Helix and How it is Read.** pp94 – 111. doi:10.1038/scientificamerican1283-94
- Masayasu Nomura **The Control of Ribosome Synthesis.** pp102 – 114. doi:10.1038/scientificamerican0184-102
- Nigel Unwin and Richard Henderson **The Structure of Proteins in Biological Membranes.** pp78 – 94. doi:10.1038/scientificamerican0284-78
- Richard H. Scheller and Richard Axel **How Genes Control an Innate Behavior.** pp54 – 62. doi:10.1038/scientificamerican0384-54
- Gerald M. Edelman **Cell-Adhesion Molecules: A Molecular Basis for Animal Form.** pp118 – 129. doi:10.1038/scientificamerican0484-118
- Alice Dautry-Varsat and Harvey F. Lodish **How Receptors Bring Proteins and Particles into Cells.** pp52 – 58. doi:10.1038/scientificamerican0584-52
- R. John Collier and Donald A. Kaplan **Immunotoxins.** pp56 – 64. doi:10.1038/scientificamerican0784-56
- Stanley B. Prusiner **Prions.** pp50 – 59. doi:10.1038/scientificamerican1084-50
- Michael S. Brown and Joseph L. Goldstein **How LDL Receptors Influence Cholesterol and Atherosclerosis.** pp58 – 66. doi:10.1038/scientificamerican1184-58
- Corey S. Goodman and Michael J. Bastiani **How Embryonic Nerve Cells Recognize One Another.** pp58 – 66. doi:10.1038/scientificamerican1284-58
- Yves Dunant and Maurice Israël **The Release of Acetylcholine.** pp58 – 66. doi:10.1038/scientificamerican0485-58
- Peter M. Winter and John N. Miller **Anesthesiology.** pp124 – 131. doi:10.1038/scientificamerican0485-124
- G. Nigel Godson **Molecular Approaches to Malaria Vaccines.** pp52 – 59. doi:10.1038/scientificamerican0585-52
- Gary K. Beauchamp, Kunio Yamazaki and Edward A. Boyse **The Chemosensory Recognition of Genetic Individuality.** pp86 – 92. doi:10.1038/scientificamerican0785-86
- Stephen W. Carmichael and Hans Winkler **The Adrenal Chromaffin Cell.** pp40 – 49. doi:10.1038/scientificamerican0885-40
- Peter Albersheim and Alan G. Darvill **Oligosaccharins.** pp58 – 64. doi:10.1038/scientificamerican0985-58
- James E. Rothman **The Compartmental Organization of the Golgi Apparatus.** pp74 – 89. doi:10.1038/scientificamerican0985-74
- Robert A. Weinberg **The Molecules of Life.** pp48 – 57. doi:10.1038/scientificamerican1085-48
- Gary Felsenfeld **DNA.** pp58 – 67. doi:10.1038/scientificamerican1085-58

- James E. Darnell, Jr. **RNA**. October 1985, Volume 253 No 4 pp68 – 78. doi:10.1038/scientificamerican1085-68
- Russell F. Doolittle **Proteins**. October 1985, Volume 253 No 4 pp88 – 99. doi:10.1038/scientificamerican1085-88
- Mark S. Bretscher **The Molecules of the Cell Membrane**. October 1985, Volume 253 No 4 pp100 – 108. doi:10.1038/scientificamerican1085-100
- Klaus Weber and Mary Osborn **The Molecules of the Cell Matrix**. pp110 – 120. doi:10.1038/scientificamerican1085-110
- Susumu Tonegawa **The Molecules of the Immune System**. October 1985, Volume 253 No 4 pp122 – 131. doi:10.1038/scientificamerican1085-122
- Solomon H. Snyder **The Molecular Basis of Communication between Cells**. October 1985, Volume 253 No 4 pp132 – 141. doi:10.1038/scientificamerican1085-132
- Michael J. Berridge **The Molecular Basis of Communication within the Cell**. October 1985, Volume 253 No 4 pp142 – 152. doi:10.1038/scientificamerican1085-142
- Walter J. Gehring **The Molecular Basis of Development**. October 1985, Volume 253 No 4 pp152 – 162. doi:10.1038/scientificamerican1085-152
- Allan C. Wilson **The Molecular Basis of Evolution**. October 1985, Volume 253 No 4 pp164 – 173. doi:10.1038/scientificamerican1085-164
- Ernesto Carafoli and John T. Penniston **The Calcium Signal**. pp70 – 78. doi:10.1038/scientificamerican1185-70
- Richard M. Lawn and Gordon A. Vehar **The Molecular Genetics of Hemophilia**. pp48 – 54. doi:10.1038/scientificamerican0386-48
- Martin Karplus and J. Andrew McCammon **The Dynamics of Proteins**. pp42 – 51. doi:10.1038/scientificamerican0486-42
- Sen-itiroh Hakomori **Glycosphingolipids**. pp44 – 53. doi:10.1038/scientificamerican0586-44
- Richard O. Hynes **Fibronectins**. pp42 – 51. doi:10.1038/scientificamerican0686-42
- Neil F. Hadley **The Arthropod Cuticle**. pp104 – 112. doi:10.1038/scientificamerican0786-104
- Thomas R. Cech **RNA as an Enzyme**. pp64 – 75. doi:10.1038/scientificamerican1186-64
- Robert C. Gallo **The First Human Retrovirus**. pp88 – 98. doi:10.1038/scientificamerican1286-88
- Michael L. Evans, Randy Moore and Karl-Heinz Hasenstein **How Roots Respond to Gravity**. pp112 – 119. doi:10.1038/scientificamerican1286-112
- Robert C. Gallo **The AIDS Virus**. pp47 – 56. doi:10.1038/scientificamerican0187-46
- Marc J. Ostro **Liposomes**. pp103 – 110. doi:10.1038/scientificamerican0187-102
- Robert Day Allen **The Microtubule as an Intracellular Engine**. pp42 – 49. doi:10.1038/scientificamerican0287-42
- James M. Hogle, Marie Chow and David J. Filman **The Structure of Poliovirus**. pp42 – 49. doi:10.1038/scientificamerican0387-42
- Julie L. Schnapf and Denis A. Baylor **How Photoreceptor Cells Respond to Light**. pp40 – 47. doi:10.1038/scientificamerican0487-40
- Martin S. Hirsch and Joan C. Kaplan **Antiviral Therapy**. pp76 – 85. doi:10.1038/scientificamerican0487-76
- Tomaso Poggio and Christof Koch **Synapses that Compute Motion**. pp46 – 52. doi:10.1038/scientificamerican0587-46
- Lubert Stryer **The Molecules of Visual Excitation**. pp42 – 50. doi:10.1038/scientificamerican0787-42
- Gail S. Habicht, Gregory Beck and Jorge L. Benach **Lyme Disease**. pp78 – 83. doi:10.1038/scientificamerican0787-78
- Andrew W. Murray and Jack W. Szostak **Artificial Chromosomes**. pp62 – 68. doi:10.1038/scientificamerican1187-62
- Mark S. Bretscher **How Animal Cells Move**. pp72 – 90. doi:10.1038/scientificamerican1287-72
- David W. Tank and John J. Hopfield **Collective Computation in Neuronlike Circuits**. pp104 – 114. doi:10.1038/scientificamerican1287-104
- Phyllis B. Moses and Nam-Hai Chua **Light Switches for Plant Genes**. pp88 – 93. doi:10.1038/scientificamerican0488-88
- Lloyd J. Old **Tumor Necrosis Factor**. pp59 – 75. doi:10.1038/scientificamerican0588-5
- Joan Argetsinger Steitz **"Snurps"**. pp56 – 63. doi:10.1038/scientificamerican0688-56
- David W. Golde and Judith C. Gasson **Hormones that Stimulate the Growth of Blood Cells**. pp62 – 70. doi:10.1038/scientificamerican0788-62

- Miroslav Radman and Robert Wagner **The High Fidelity of DNA Duplication**. August 1988, Volume 259 No 2 pp40 – 46. doi:10.1038/scientificamerican0888-40
- Robert A. Weinberg **Finding the Anti-Oncogene**. pp44 – 51. doi:10.1038/scientificamerican0988-44
- Lelio Orci, Jean-Dominique Vassalli and Alain Perrelet **The Insulin Factory**. pp85 – 94. doi:10.1038/scientificamerican0988-85
- Karen Wright **Yeast Meets Estrogen**. pp28 – 32. doi:10.1038/scientificamerican1088
- William A. Haseltine and Flossie Wong-Staal **The Molecular Biology of the AIDS Virus**. pp52 – 62. doi:10.1038/scientificamerican1088-52
- Max Essex and Phyllis J. Kanki **The Origins of the AIDS Virus**. pp64 – 71. doi:10.1038/scientificamerican1088-64
- Jonathan N. Weber and Robin A. Weiss **HIV Infection: The Cellular Picture**. pp100 – 109. doi:10.1038/scientificamerican1088-100
- Michael Feldman and Lea Eisenbach **What Makes a Tumor Cell Metastatic?** pp60 – 68. doi:10.1038/scientificamerican1188-60
- Mark Ptashne **How Gene Activators Work**. January 1989, Volume 260 No 1 pp40 – 47. doi:10.1038/scientificamerican0189-40
- Jeremy Nathans **The Genes for Color Vision**. pp42 – 49. doi:10.1038/scientificamerican0289-4
- John Benditt **POU! Goes the Homeobox**. pp20 – 22. doi:10.1038/scientificamerican0289-20
- Norbert Kartner and Victor Ling **Multidrug Resistance in Cancer**. pp44 – 51. doi:10.1038/scientificamerican0389-44
- Alexander McPherson **Science in Pictures: Macromolecular Crystals**. pp62 – 69. doi:10.1038/scientificamerican0389-62
- Jeffrey Ross **The Turnover of Messenger RNA**. pp48 – 55. doi:10.1038/scientificamerican0489-48
- Gerald M. Edelman **Topobiology**. pp76 – 88. doi:10.1038/scientificamerican0589-76
- June Kinoshita **The Tails of Ubiquitin**. pp33 – 34. doi:10.1038/scientificamerican0689-33
- T.M.B. **Molecular Monkeywrench**. pp34 – 35. doi:10.1038/scientificamerican0689-34
- Robin Holliday **A Different Kind of Inheritance**. pp60 – 73. doi:10.1038/scientificamerican0689-60
- Michael B. A. Oldstone **Viral Alteration of Cell Function**. pp42 – 48. doi:10.1038/scientificamerican0889-42
- T.M.B. **First Impressions**. pp33 – 34. doi:10.1038/scientificamerican1089-33 (Imprinting)
- J. Richard McIntosh and Kent L. McDonald **The Mitotic Spindle**. pp48 – 56. doi:10.1038/scientificamerican1089-48
- Howard Rasmussen **The Cycling of Calcium as an Intracellular Messenger**. pp66 – 73. doi:10.1038/scientificamerican1089-66
- Harold M. Weintraub **Antisense RNA and DNA**. pp40 – 46. doi:10.1038/scientificamerican0190-40
- Kendall A. Smith **Interleukin-2**. pp50 – 57. doi:10.1038/scientificamerican0390-50
- Kary B. Mullis **The Unusual Origin of the Polymerase Chain Reaction**. pp56 – 65. doi:10.1038/scientificamerican0490-56
- Carmen Sapienza **Parental Imprinting of Genes**. pp52 – 60. doi:10.1038/scientificamerican1090-52
- Frederic M. Richards **The Protein Folding Problem**. pp54 – 63. doi:10.1038/scientificamerican0191-54
- Andrew W. Murray and Marc W. Kirschner **What Controls the Cell Cycle**. pp56 – 63. doi:10.1038/scientificamerican0391-56
- Steven Lanier McKnight **Molecular Zippers in Gene Regulation**. pp54 – 64. doi:10.1038/scientificamerican0491-54
- Pierre Tiollais and Marie-Annick Buendia **Hepatitis B Virus**. pp116 – 123. doi:10.1038/scientificamerican0491-116
- Vincent A. Fischetti **Streptococcal M Protein**. pp58 – 65. doi:10.1038/scientificamerican0691-58
- Robert K. Moyzis **The Human Telomere**. pp48 – 55. doi:10.1038/scientificamerican0891-48
- Beardsley T. **Smart genes**. Scientific American. 265(2):86-95, 1991 Aug. doi:10.1038/scientificamerican0891-86
- Dennis J. Selkoe **Amyloid Protein and Alzheimer's Disease**. pp68 - 78. doi:10.1038/scientificamerican1191-68
- Howard Green **Cultured Cells for the Treatment of Disease**. pp96 – 102. doi:10.1038/scientificamerican1191-96
- Gustav E. Lienhard, Jan W. Slot, David E. James and Mike M. Mueckler **How Cells Absorb Glucose**. pp86 – 91. doi:10.1038/scientificamerican0192-86

- Lance A. Liotta **Cancer Cell Invasion and Metastasis**. pp54 – 63. doi:10.1038/scientificamerican0292-54
- Erwin Neher and Bert Sakmann **The Patch Clamp Technique**. pp44 – 51. doi:10.1038/scientificamerican0392-44
- Maurine E. Under and Alfred G. Gilman **G Proteins**. pp56 – 65. doi:10.1038/scientificamerican0792-56
- Ernst Theodor Rietschel and Helmut Brade **Bacterial Endotoxins**. pp54 – 61. doi:10.1038/scientificamerican0892-54
- Michael Grunstein **Histones as Regulators of Genes**. pp68 – 74. doi:10.1038/scientificamerican1092-68
- Arthur J. Olson and David S. Goodsell **Visualizing Biological Molecules**. pp76 – 81. doi:10.1038/scientificamerican1192-76 (molecular representation & illustration)
- Gerald F. Joyce **Directed Molecular Evolution**. pp90 – 97. doi:10.1038/scientificamerican1292-90
- Nathan Sharon and Halina Lis **Carbohydrates in Cell Recognition**. pp82 – 89. doi:10.1038/scientificamerican0193-82
- Daniela Rhodes and Aaron Klug **Zinc Fingers**. pp56 – 65. doi:10.1038/scientificamerican0293-56
- Rennie J. **DNA's new twists**. Scientific American. 268(3):122-32, 1993 Mar. doi:10.1038/scientificamerican0393-122
- William J. Welch **How Cells Respond to Stress**. pp56 – 64. doi:10.1038/scientificamerican0593-56
- John Rennie **SNAPs and SNAREs**. pp32 – 33. doi:10.1038/scientificamerican0693-32
- David M. Glover, Cayetano Gonzalez and Jordan W. Raff **The Centrosome**. pp62 – 68. doi:10.1038/scientificamerican0693-62
- Jean-Pierre Changeux **Chemical Signaling in the Brain**. pp58 – 62. doi:10.1038/scientificamerican1193-58
- Steven H. Strogatz and Ian Stewart **Coupled Oscillators and Biological Synchronization**. pp102 – 109. doi:10.1038/scientificamerican1293-102
- Tim Beardsley **Design for Living**. pp28 – 32. doi:10.1038/scientificamerican0294-28 (Ras signaling)
- Howard M. Johnson, Fuller W. Bazer, Brian E. Szente and Michael A. Jarpe **How Interferons Fight Disease**. pp68 – 75. doi:10.1038/scientificamerican0594-68
- John Rennie **Immortal's Enzyme**. pp14 – 16. doi:10.1038/scientificamerican0794-14 (telomerase)
- Julius Rebek, Jr. **Synthetic Self-Replicating Molecules**. pp48 – 55. doi:10.1038/scientificamerican0794-48
- Jeff W. Lichtman **Confocal Microscopy**. pp40 – 45. doi:10.1038/scientificamerican0894-40
- Thomas P. Stossel **The Machinery of Cell Crawling**. pp54 – 63. doi:10.1038/scientificamerican0994-54
- Jack S. Cohen and Michael E. Hogan **The New Genetic Medicines**. pp76 – 82. doi:10.1038/scientificamerican1294-76
- Stanley B. Prusiner **The Prion Diseases**. pp48 – 57. doi:10.1038/scientificamerican0195-4
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- John M. Hoberman and Charles E. Yesalis **The History of Synthetic Testosterone**. pp76 – 81. doi:10.1038/scientificamerican0295-76
- Robert R. Birge **Protein-Based Computers**. pp90 – 95. doi:10.1038/scientificamerican0395-90
- Ralph J. Greenspan **Understanding the Genetic Construction of Behavior**. pp72 – 78. doi:10.1038/scientificamerican0495-72
- David Paterson **Electric Genes**. pp33 – 34. doi:10.1038/scientificamerican0595-33 (electrical conductivity of DNA)
- Paul E. Lacy **Treating Diabetes with Transplanted Cells**. pp50 – 58. doi:10.1038/scientificamerican0795-50
- Kristin Leutwyler **Calculating with DNA**. pp20 – 22. doi:10.1038/scientificamerican0995-20a
- Steve Mirsky **Silence of the Genes**. pp40 – 42. doi:10.1038/scientificamerican0995-40 (epigenetics)
- Richard Axel **The Molecular Logic of Smell**. pp154 – 159. doi:10.1038/scientificamerican1095-154
- Michael J. Welsh and Alan E. Smith **Cystic Fibrosis**. pp52 – 59. doi:10.1038/scientificamerican1295-52
- Sten Grillner **Neural Networks for Vertebrate Locomotion**. pp64 – 69. doi:10.1038/scientificamerican0196-64
- Carol W. Greider and Elizabeth H. Blackburn **Telomeres, Telomerase and Cancer**. pp92 – 97. doi:

10.1038/scientificamerican0296-92

- James E. Rothman and Lelio Orci **Budding Vesicles in Living Cells.** pp70 – 75. doi:10.1038/scientificamerican0396-70
- Sasha N. Zill and Ernst-August Seyfarth **Exoskeletal Sensors for Walking.** pp86 – 90. doi:10.1038/scientificamerican0796-86
- Robert A. Weinberg **How Cancer Arises.** pp62 – 70. doi:10.1038/scientificamerican0996-62
- Erkki Ruoslahti **How Cancer Spreads.** pp72 – 77. doi:10.1038/scientificamerican0996-72
- Richard C. Duke, David M. Ojcius and John Ding-E Young **Cell Suicide in Health and Disease.** pp80 – 87. doi:10.1038/scientificamerican1296-80 (apoptosis)
- William A. Haseltine **Discovering Genes for New Medicines.** pp92 – 98. doi:10.1038/scientificamerican0397-92
- Alan F. Horwitz **Integrins and Health.** pp68 – 75. doi:10.1038/scientificamerican0597-68
- Hagan Bayley **Building Doors into Cells.** pp62 – 67. doi:10.1038/scientificamerican0997-62
- Donald E. Ingber **The Architecture of Life.** pp48 – 57. doi:10.1038/scientificamerican0198-48
- Robert Plomin and John C. DeFries **The Genetics of Cognitive Abilities and Disabilities.** pp62 – 69. doi:10.1038/scientificamerican0598-62
- Leonard M. Adleman **Computing with DNA.** pp54 – 61. doi:10.1038/scientificamerican0898-54
- V. Craig Jordan **Designer Estrogens.** pp60 – 67. doi:10.1038/scientificamerican1098-60
- Gary Stix **Shutting Down a Gene.** pp46 – 50. doi:10.1038/scientificamerican1198-46b
- Ian Wilmut **Cloning for Medicine.** pp58 – 63. doi:10.1038/scientificamerican1298-58
- W. Graeme Laver, Norbert Bischofberger and Robert G. Webster **Disarming Flu Viruses.** pp78 – 87. doi:10.1038/scientificamerican0199-78
- David J. Mooney and Antonios G. Mikos **Growing New Organs.** pp60 – 65. doi:10.1038/scientificamerican0499-60
- Roger A. Pedersen **Embryonic Stem Cells for Medicine.** pp68 – 73. doi:10.1038/scientificamerican0499-68
- Michael J. Lysaght and Patrick Aebischer **Encapsulated Cells as Therapy.** pp76 – 82. doi:10.1038/scientificamerican0499-76
- **Skin: The First Tissue-Engineered Products.** pp83 – 85. doi:10.1038/scientificamerican0499-83
- Robert S. Langer and Joseph P. Vacanti **Tissue Engineering: The Challenges Ahead.** pp86 – 89. doi:10.1038/scientificamerican0499-86
- Gerd Kempermann and Fred H. Gage **New Nerve Cells for the Adult Brain.** pp48 – 53. doi:10.1038/scientificamerican0599-48
- Adrian M. Di Bisceglie and Bruce R. Bacon **The Unmet Challenges of Hepatitis C.** pp80 – 85. doi:10.1038/scientificamerican1099-80
- Frans B. M. de Waal **The End of Nature versus Nurture.** pp94 – 99. doi:10.1038/scientificamerican1299-94
- Michael W. Young **The Tick-Tock of the Biological Clock.** pp64 – 71. doi:10.1038/scientificamerican0300-64
- Eric Bonabeau and Guy Théraulaz **Swarm Smarts.** pp72 – 79. doi:10.1038/scientificamerican0300-72
- John D. Scott and Tony Pawson **Cell Communication: The Inside Story.** pp72 – 79. doi:10.1038/scientificamerican0600-72
- Mark A. Reed and James M. Tour **Computing with Molecules.** pp86 – 93. doi:10.1038/scientificamerican0600-86
- Trisha Gura **Gene Scenes.** p20. doi:10.1038/scientificamerican0800-20 (imaging developmental genome expression)
- Jesper L. Andersen, Peter Schjerling and Bengt Saltin **Muscle, Genes and Athletic Performance.** pp48 – 55. doi:10.1038/scientificamerican0900-48
- **Genetics: Fetal Development** Lisa Melton **Womb Wars.** pp24 – 26. doi:10.1038/scientificamerican1000-24 (imprinting)
- **Biology: Cell Death** Rebecca Lipsitz **One-Hit Wonder.** pp26 – 27. doi:10.1038/scientificamerican1000-26
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- David V. Smith and Robert F. Margolskee **Making Sense of Taste.** pp32 – 39. doi:10.1038/scientificamerican0301-32
- Michael Dickinson **Solving the Mystery of Insect Flight.** pp48 – 57. doi:10.1038/

scientificamerican0601-48

- Ricki L. Rusting **Hair: Why it Grows, Why it Stops**. pp70 – 79. doi:10.1038/scientificamerican0601-70
- R. Dean Astumian **Making Molecules into Motors**. pp56 – 64. doi:10.1038/scientificamerican0701-56
- W. Wayt Gibbs **Cybernetic Cells**. pp52 – 57. doi:10.1038/scientificamerican0801-52
- Jose B. Cibelli, Robert P. Lanza, Michael D. West and Carol Ezzell **The First Human Cloned Embryo**. pp44 – 51. doi:10.1038/scientificamerican0102-44 (see next)
- **Stem Cells** Gary Stix **What Clones?** pp18 – 19. doi:10.1038/scientificamerican0202-18
- S. Jay Olshansky, Leonard Hayflick and Bruce A. Carnes **No Truth to the Fountain of Youth**. pp92 – 95. doi:10.1038/scientificamerican0602-92
- **Genetics** Carol Ezzell **Killing the Messenger**. pp19 – 22. doi:10.1038/scientificamerican0802-19 (RNAi)
- **Reviews** Dean H. Hamer **The Twisted Road to the Double Helix**. pp127 – 128. doi:10.1038/scientificamerican1202-127 (Rosalind Franklin)
- Elena Cattaneo, Dorotea Rigamonti and Chiara Zuccato **The Enigma of Huntington's Disease**. pp92 – 97. doi:10.1038/scientificamerican1202-92
- James D. Watson and Francis H. C. Crick **Celebrating the Genetic Jubilee: A Conversation with James D. Watson**. pp66 – 69. doi:10.1038/scientificamerican0403-66
- Albert-László Barabási and Eric Bonabeau **Scale-Free Networks**. pp60 – 69. doi:10.1038/scientificamerican0503-60
- **Biotechnology** W. Wayt Gibbs **Untangling the Roots of Cancer**. pp56 – 65. doi:10.1038/scientificamerican0703-56
- Nelson C. Lau and David P. Bartel **Censors of the Genome**. pp34 – 41. doi:10.1038/scientificamerican0803-34 (RNAi)
- Robert Sapolsky **Taming Stress**. pp86 – 95. doi:10.1038/scientificamerican0903-86
- Dirk M. Nettelbeck and David T. Curiel **Tumor-Busting Viruses**. pp68 – 75. doi:10.1038/scientificamerican1003-68
- **Biotechnology** W. Wayt Gibbs **The Unseen Genome: Gems among the Junk**. pp46 – 53. doi:10.1038/scientificamerican1103-46 (importance of “non-coding” DNA)
- **Biotechnology** W. Wayt Gibbs **The Unseen Genome: Beyond DNA**. pp106 – 113. doi:10.1038/scientificamerican1203-106 (epigenetics)
- Eric J. Nestler and Robert C. Malenka **The Addicted Brain**. pp78 – 85. doi:10.1038/scientificamerican0304-78
- Gary Stix **Making Proteins without DNA**. pp38 – 40. doi:10.1038/scientificamerican0404-38 (news about chemical synthesis of erythropoietin)
- **Biotechnology** W. Wayt Gibbs **Synthetic Life**. pp75 – 81. doi:10.1038/scientificamerican0504-75 (synthetic biology)
- **Molecular Engineering** Nadrian C. Seeman **Nanotechnology and the Double Helix**. pp64 – 75. doi:10.1038/scientificamerican0604-6
- Stanley B. Prusiner **Detecting Mad Cow Disease**. pp86 – 93. doi:10.1038/scientificamerican0704-86
- John S. Mattick **The Hidden Genetic Program of Complex Organisms**. pp60 – 67. doi:10.1038/scientificamerican1004-60 (regulatory RNAs)
- **Biotechnology** Gary Stix **Hitting the Genetic Off Switch**. pp98 – 101. doi:10.1038/scientificamerican1004-98
- **Biology** Diane Martindale **Muscle Twitch Switch**. pp22 – 24. doi:10.1038/scientificamerican1204-22
- Roger A. Nicoll and Bradley E. Alger **The Brain's Own Marijuana**. pp68 – 75. doi:10.1038/scientificamerican1204-68
- Luis P. Villarreal **Are Viruses Alive?** pp100 – 105. doi:10.1038/scientificamerican1204-100
- Gil Ast **The Alternative Genome**. pp58 – 65. doi:10.1038/scientificamerican0405-58 (multiple proteins from a single genetic locus)
- **Innovation** Gary Stix **A Toxin against Pain**. pp88 – 93. doi:10.1038/scientificamerican0405-88 (snail venom neuropeptides)
- Andres M. Lozano and Suneil K. Kalia **New Movement in Parkinson's**. pp68 – 75. doi:10.1038/scientificamerican0705-68
- Terry Kenakin **New Bull's-Eyes for Drugs**. pp50 – 57. doi:10.1038/scientificamerican1005-50 (cell surface receptors)
- Carl Zimmer **The Neurobiology of the Self**. pp92 – 101. doi:10.1038/scientificamerican1105-92

- **Trends In Research, Business And Policy** Michael Szpir **Designing Artificial Life**. pp59 – 60. doi: 10.1038/scientificamerican1205-59b
- **Biology** Charles Q. Choi **Un-Killing the Messenger**. pp22 – 24. doi:10.1038/scientificamerican0106-22 (nuclear P bodies do more than degrade RNA)
- David A. Sinclair and Lenny Guarente **Unlocking the Secrets of Longevity Genes**. pp48 – 57. doi: 10.1038/scientificamerican0306-48
- Roger I. Glass **New Hope For Defeating Rotavirus**. pp46 – 55. doi:10.1038/scientificamerican0406-46
- Ehud Shapiro and Yaakov Benenson **Bringing DNA Computers To Life**. pp44 – 51. doi:10.1038/scientificamerican0506-44
- **Biotechnology** Gary Stix **Blockbuster Dreams**. pp60 – 63. doi:10.1038/scientificamerican0506-60 (herceptin action on cell receptors)
- Michael S. Wolfe **Shutting Down Alzheimer's**. pp72 – 79. doi:10.1038/scientificamerican0506-72
- David Baker, George Church, Jim Collins, Drew Endy, Joseph Jacobson, Jay Keasling, Paul Modrich, Christina Smolke and Ron Weiss **Engineering Life: Building a FAB for Biology**. pp44 – 51. doi: 10.1038/scientificamerican0606-44 (synthetic biology)
- Allan I. Basbaum and David Julius **Toward Better Pain Control**. pp60 – 67. doi:10.1038/scientificamerican0606-60
- **Pharmacology** Gary Stix **A New Assault on HIV**. pp76 – 78. doi:10.1038/scientificamerican0606-76
- Michael F. Clarke and Michael W. Becker **Stem Cells: The Real Culprits in Cancer?** pp52 – 59. doi: 10.1038/scientificamerican0706-52
- Choi, Charles Q. **A place for RNA**. Scientific American, Aug2006, Vol. 295 Issue 2, p32. doi:10.1038/scientificamerican0806-32b (RNA as genetic material for centrosome)
- Mark Gerstein and Deyou Zheng **The Real Life of Pseudogenes**. pp48 – 55. doi:10.1038/scientificamerican0806-48
- Jeffrey E. Barrick and Ronald R. Breaker **The Power of Riboswitches**. pp50 – 57. doi:10.1038/scientificamerican0107-50
- **Innovations** Gary Stix **Better Ways to Target Pain**. pp84 – 88. doi:10.1038/scientificamerican0107-84
- John I. Nurnberger, Jr. and Laura Jean Bierut **Seeking the Connections: Alcoholism and Our Genes**. pp46 – 53. doi:10.1038/scientificamerican0407-46
- **Genetics** Christine Soares **Codon Spell Check**. pp23 – 24. doi:10.1038/scientificamerican0507-23
- Beverley A. Orser **Lifting the Fog around Anesthesia**. pp54 – 61. doi:10.1038/scientificamerican0607-54
- R. Douglas Fields **The Shark's Electric Sense**. pp74 – 81. doi:10.1038/scientificamerican0807-74
- **Genetics** Ed Regis **The Forgotten Code Cracker**. pp50 – 51. doi:10.1038/scientificamerican1107-50 (Nirenberg & triplet code)
- Luz E. Tavera-Mendoza and John H. White **Cell Defenses and the Sunshine Vitamin**. pp62 – 72. doi: 10.1038/scientificamerican1107-62
- Patrick Aebischer and Ann C. Kato **Playing Defense Against Lou Gehrig's Disease**. pp86 – 93. doi: 10.1038/scientificamerican1107-86
- **Olfaction** Coco Ballantyne **Losing Scents**. pp26 – 28. doi:10.1038/scientificamerican1207-26
- **Evolution** John Whitfield **Paging Dr. Doolittle**. pp25 – 26. doi:10.1038/scientificamerican0108-25 (FOXP2 and animal vocalization)
- **Autism** Nikhil Swaminathan **Maverick against the Mendelians**. pp86 – 88. doi:10.1038/scientificamerican0208-86 (M Wigler alternative to DNA inheritance of autism)
- **Insights Computational Biology** Thania Benios **At the Edge of Life's Code**. pp106 – 109. doi: 10.1038/scientificamerican0408-106 (Chris Wiggins and computational modeling of cell responses)
- Vojo Deretic and Daniel J. Klionsky **How Cells Clean House**. pp74 – 81. doi:10.1038/scientificamerican0508-74
- Pramod K. Srivastava **New Jobs for Ancient Chaperones**. pp50 – 55. doi:10.1038/scientificamerican0708-50
- Steven Brown and Lawrence M. Parsons **The Neuroscience of Dance**. pp78 – 83. doi:10.1038/scientificamerican0708-78
- **Stem Cells** Sally Lehrman **No More Cloning Around**. pp100 – 102. doi:10.1038/scientificamerican0808-100 (induced pluripotent stem cells)
- **Biology** Melinda Wenner **Rethinking the Wrinkling**. pp30 – 33. doi:10.1038/scientificamerican1008-30 (genetic control of aging)
- Joanne Macdonald, Darko Stefanovic and Milan N. Stojanovic **DNA Computers for Work and Play**.

pp84 – 91. doi:10.1038/scientificamerican1108-84

- **Stem Cells** Tim Hornyak **Turning Back the Cellular Clock**. pp112 – 115. doi:10.1038/scientificamerican1208-112 (reprogramming to pluripotent stem cells)
 - **Biotechnology** Peter E. Nielsen **A New Molecule of Life?** pp64 – 71. doi:10.1038/scientificamerican1208-64 (PNA peptide nucleic acid)
 - James R. Heath, Mark E. Davis and Leroy Hood **Nanomedicine Targets Cancer**. pp44 – 51. doi:10.1038/scientificamerican0209-44
 - Tracey J. Shors **Saving New Brain Cells**. pp46 – 54. doi:10.1038/scientificamerican0309-46
 - **Biology** W. Wayt Gibbs **Evolution in a Bottle**. pp18 – 21. doi:10.1038/scientificamerican0409-18 (Gerald Joyce self-replicating RNAs)
 - Gerald H. Jacobs and Jeremy Nathans **The Evolution of Primate Color Vision**. pp56 – 63. doi:10.1038/scientificamerican0409-56
 - **Oncology** Christine Soares **Primal Programs**. pp17 – 18. doi:10.1038/scientificamerican0509-17 (cancer cells as “pregnant”)
 - Ali Khademhosseini, Joseph P. Vacanti and Robert Langer **Progress in Tissue Engineering**. pp64 – 71. doi:10.1038/scientificamerican0509-64
 - **Innovations** Melinda Wenner **A New Kind of Drug Target**. pp70 – 76. doi:10.1038/scientificamerican0809-70 (novel molecular targets)
 - **Medicine & Health** Melinda Wenner **Nuclear Architecture**. pp20 – 22. doi:10.1038/scientificamerican1009-20 (importance of nuclear localization)
 - Baljit S. Khakh and Geoffrey Burnstock **The Double Life of ATP**. pp84 – 92. doi:10.1038/scientificamerican1209-84
 - **Microscopy** Gary Stix **Illuminating the Lilliputian**. pp94 – 99. doi:10.1038/scientificamerican1209-94
- Natalie Angier. **Scientists and Philosophers Find That ‘Gene’ Has a Multitude of Meanings**. NYTimes. November 11, 2008. http://www.nytimes.com/2008/11/11/science/11angi.html?_r=3&sq=RNA%20genes&st=cse&scp=2&pagewanted=print
- David Shenk. 7/23/2009. **How Genes Really Work**. The Atlantic. (epigenetics commentary) http://correspondents.theatlantic.com/david_shenk/2009/07/how_genes_really_work.php
- mitosis videos <http://sciencevideos.wordpress.com/2007/09/24/the-cell-cycle-mitosis/>
- transcription, translation and other cell process videos <http://sciencevideos.wordpress.com/2010/02/27/transcription-and-translation-ahl/>

WEEK 3: HOW DO GENOMES CHANGE?

- Francis J. Ryan. **Evolution Observed**. Scientific American October 1953, Volume 189 No 4 pp78 – 82. doi:10.1038/scientificamerican1053-78 – bacterial fitness improving in culture
- C. H. Waddington. **Experiments in Acquired Characteristics**. Scientific American December 1953, Volume 189 No 6 pp92 – 99. doi:10.1038/scientificamerican1253-92
- C. A. Knight and Dean Fraser. **The Mutation of Viruses**. Scientific American July 1955, Volume 193 No 1 pp74 – 78. doi:10.1038/scientificamerican0755-74
- H. J. Muller. **Radiation and Human Mutation**. *Scientific American* November 1955, Volume 193 No 5 pp58 – 69. doi:10.1038/scientificamerican1155-58
- Alexander Hollaender and George E. Stapleton **Ionizing Radiation and the Living Cell**. Scientific American September 1959, Volume 201 No 3 pp94 – 100. doi:10.1038/scientificamerican0959-94
- R. A. Deering **Ultraviolet Radiation and Nucleic Acid**. pp135 – 145. doi:10.1038/scientificamerican1262-135
- Philip C. Hanawalt and Robert H. Haynes **The Repair of DNA**. pp36 – 43. doi:10.1038/scientificamerican0267-36
- Renato Dulbecco **The Induction of Cancer by Viruses**. pp28 – 37. doi:10.1038/scientificamerican0467-28
- Byrd C. Curtis and David R. Johnston. **Hybrid Wheat**. pp21 – 29. doi:10.1038/scientificamerican0569-21
- Christopher Wills **Genetic Load**. pp98 – 107. doi:10.1038/scientificamerican0370-98

- William A. Pryor **Free Radicals in Biological Systems**. pp70 – 83. doi:10.1038/scientificamerican0870-70
- Björn Sigurbjörnsson **Induced Mutations in Plants**. pp86 – 95. doi:10.1038/scientificamerican0171-86
- Howard M. Temin **RNA-Directed DNA Synthesis**. January 1972, Volume 226 No 1 pp24 – 33. doi:10.1038/scientificamerican0172-2
- Keen A. Rafferty, Jr. **Herpes Viruses and Cancer**. pp26 – 33. doi:10.1038/scientificamerican1073-26
- Joseph H. Hulse and David Spurgeon **Triticale**. pp72 – 80. doi:10.1038/scientificamerican0874-72
- Allan M. Campbell **How Viruses Insert their DNA into the DNA of the Host Cell**. December 1976, Volume 235 No 6 pp102 – 113. doi:10.1038/scientificamerican1276-102
- Raymond Devoret **Bacterial Tests for Potential Carcinogens**. pp40 – 49. doi:10.1038/scientificamerican0879-40
- Stanley N. Cohen and James A. Shapiro **Transposable Genetic Elements**. pp40 – 49. doi:10.1038/scientificamerican0280-40
- Robert T. Schimke **Gene Amplification and Drug Resistance**. pp60 – 69. doi:10.1038/scientificamerican1180-60
- Paul Howard-Flanders **Inducible Repair of DNA**. pp72 – 80. doi:10.1038/scientificamerican1181-72
- Nina V. Fedoroff **Transposable Genetic Elements in Maize**. pp84 – 99. doi:10.1038/scientificamerican0684-84
- John E. Donelson and Mervyn J. Turner **How the Trypanosome Changes its Coat**. February 1985, Volume 252 No 2 pp44 – 51. doi:10.1038/scientificamerican0285-44
- Carlo M. Croce and George Klein **Chromosome Translocations and Human Cancer**. pp54 – 60. doi:10.1038/scientificamerican0385-54
- Leo Sachs **Growth, Differentiation and the Reversal of Malignancy**. pp40 – 47. doi:10.1038/scientificamerican0186-40
- Franklin W. Stahl **Genetic Recombination**. February 1987, Volume 256 No 2 pp90 – 101. doi:10.1038/scientificamerican0287-90
- Harold Varmus **Reverse Transcription**, September 1987, Volume 257 No 3 pp56 – 64. doi:10.1038/scientificamerican0987-56
- Miroslav Radman and Robert Wagner **The High Fidelity of DNA Duplication**. August 1988, Volume 259 No 2 pp40 – 46. doi:10.1038/scientificamerican0888-40
- Karen Wright **Virus de Résistance**. pp29 – 32. doi:10.1038/scientificamerican0489-29 (HIV mutability)
- John Rennie **Hungry to Evolve?** pp20 – 22. doi:10.1038/scientificamerican1189-20b (Adaptive mutation)
- Inder M. Verma **Gene Therapy**. pp68 – 84. doi:10.1038/scientificamerican1190-68
- John Rennie **Mutable Mutation**. p34. doi:10.1038/scientificamerican0592-34
- Rennie, John. DNA's new twists. **Scientific American**, Mar93, Vol. 268 Issue 3, p122, 9p. doi:10.1038/scientificamerican0393-122
- William J. Welch **How Cells Respond to Stress**. pp56 – 64. doi:10.1038/scientificamerican0593-56
- Russell F. Doolittle and Peer Bork **Evolutionarily Mobile Modules in Proteins**. *Scientific American*, October 1993, pp50 – 56. doi:10.1038/scientificamerican1093-50
- Tim Beardsley **A Joycean Mutation**. p47. doi:10.1038/scientificamerican1293-47a
- Mario R. Capecchi **Targeted Gene Replacement**. pp52 – 59. doi:10.1038/scientificamerican0394-52
- Webster K. Cavenee and Raymond L. White **The Genetic Basis of Cancer**. pp72 – 79. doi:10.1038/scientificamerican0395-72
- David J. Leffell and Douglas E. Brash **Sunlight and Skin Cancer**. pp52 – 59. doi:10.1038/scientificamerican0796-52
- William H. Velandier, Henryk Lubon and William N. Drohan **Transgenic Livestock as Drug Factories**. pp70 – 74. doi:10.1038/scientificamerican0197-70
- Theodore Friedmann **Overcoming the Obstacles to Gene Therapy**. pp95 – 101. doi:10.1038/scientificamerican0697-95
- Philip L. Felgner **Nonviral Strategies for Gene Therapy**. pp102 – 106. doi:10.1038/scientificamerican0697-102
- R. Michael Blaese **Gene Therapy for Cancer**. pp111 – 115. doi:10.1038/scientificamerican0697-111
- Dora Y. Ho and Robert M. Sapolsky **Gene Therapy for the Nervous System**. pp116 – 120. doi:10.1038/scientificamerican0697-116
- Steve Mirsky and John Rennie **What Cloning Means for Gene Therapy**. pp121 – 123. doi:10.1038/

scientificamerican0697-121

- Tim Beardsley **Evolution Evolving**. pp15 – 18. doi:10.1038/scientificamerican0997-15
- Pamela C. Ronald **Making Rice Disease-Resistant**. pp100 – 105. doi:10.1038/scientificamerican1197-100
- Douglas D. Richman **How Drug Resistance Arises**. pp88 – 89. doi:10.1038/scientificamerican0798-88
- David A. O'Brochta and Peter W. Atkinson **Building the Better Bug**. pp90 – 95. doi:10.1038/scientificamerican1298-90
- E. Richard Moxon and Christopher Wills **DNA Microsatellites: Agents of Evolution?** pp94 – 99. doi:10.1038/scientificamerican0199-94
- Tim Beardsley **Mutations Galore**. pp32 – 36. doi:10.1038/scientificamerican0499-32
- Tim Beardsley **Gene Therapy Setback**. pp36 – 37. doi:10.1038/scientificamerican0200-36
- Joe Z. Tsien **Building a Brainier Mouse**. pp62 – 68. doi:10.1038/scientificamerican0400-62
- William H. R. Langridge **Edible Vaccines**. pp66 – 71. doi:10.1038/scientificamerican0900-66
- The Editors **Genetically Modified Foods: Are They Safe?** pp50 – 51. doi:10.1038/scientificamerican0401-50
- **Gm Food Safety** Kathryn Brown **Seeds of Concern**. pp52 – 57. doi:10.1038/scientificamerican0401-52
- **Gm Food Safety** Karen Hopkin **The Risks on the Table**. pp60 – 61. doi:10.1038/scientificamerican0401-60
- **Gm Food Safety** Sasha Nemecek **Does the World Need Gm Foods?** pp62 – 63. doi:10.1038/scientificamerican0401-62
- **Gm Food Safety** **Does the World Need GM Foods?**. pp64 – 65. doi:10.1038/scientificamerican0401-64
- **Innovations** Tabitha M. Powledge **Tobacco Pharming**. pp25 – 26. doi:10.1038/scientificamerican1001-25
- Stephen J. Freeland and Laurence D. Hurst **Evolution Encoded**. pp84 – 91. doi:10.1038/scientificamerican0404-84 (stress-stimulated genome change)
- **Biotechnology** W. Wayt Gibbs **Synthetic Life**. pp75 – 81. doi:10.1038/scientificamerican0504-75 (synthetic biology)
- **Genetic Engineering** H. Lee Sweeney **Gene Doping**. pp62 – 69. doi:10.1038/scientificamerican0704-62
- **Genetics** JR Minkel **RNA to the Rescue**. pp20 – 22. doi:10.1038/scientificamerican0605-20 (reversion of Arabidopsis deletion)
- **Biotechnology** Gary Stix **An Antibiotic Resistance Fighter**. pp80 – 83. doi:10.1038/scientificamerican0406-80 (inhibiting SOS response)
- David Baker, George Church, Jim Collins, Drew Endy, Joseph Jacobson, Jay Keasling, Paul Modrich, Christina Smolke and Ron Weiss **Engineering Life: Building a FAB for Biology**. pp44 – 51. doi:10.1038/scientificamerican0606-44 (synthetic biology)
- **Genetics** Christine Soares **Here Come the X-Mice**. pp25 – 26. doi:10.1038/scientificamerican0107-25 (knockout mice)
- **Life Science** Carl Zimmer **Evolved for Cancer?** pp68 – 75. doi:10.1038/scientificamerican0107-68
- Peter Duesberg **Chromosomal Chaos and Cancer**. pp52 – 59. doi:10.1038/scientificamerican0507-52
- **Biotechnology** Terri Raney **Sowing a gene Revolution**. pp104 – 111. doi:10.1038/scientificamerican0907-104
- **Biology** Luis Miguel Ariza **Evolution in a Petri Dish**. p36. doi:10.1038/scientificamerican1207-36
- **Pesticides** Charles Q. Choi **Bt-Beating Bugs**. p31. doi:10.1038/scientificamerican0108-31a
- **Biology**. Charles Q. Choi **Eye-Opening Sex**. p28. doi:10.1038/scientificamerican0308-28 (recovery of sight by crossing of blind cave fish)
- **Genetics** Charles Q. Choi **Copy That**. pp24 – 26. doi:10.1038/scientificamerican0508-24 (genetic non-identity of monozygotic twins)
- **Genetics** Christine Soares **Ancient Gene, New Tricks**. pp24 – 26. doi:10.1038/scientificamerican0708-24 (resurrected transposon as transgenic vector)
- **Sources Of Variation** David M. Kingsley **From Atoms to Traits**. pp52 – 59. doi:10.1038/scientificamerican0109-52 (molecular version of conventional view)
- **Genetics** Melinda Wenner **Too Little, Too Much**. pp24 – 25. doi:10.1038/scientificamerican0609-24 (copy number variability and disease)
- J. V. Chamary and Laurence D. Hurst **The Price of Silent Mutations**. pp46 – 53. doi:10.1038/scientificamerican0609-46

- Olivia Judson blogs on genome change
<http://opinionator.blogs.nytimes.com/2008/04/01/a-random-analysis/>
<http://opinionator.blogs.nytimes.com/2006/06/04/gene-trafficking/>
<http://judson.blogs.nytimes.com/2008/05/06/when-genes-go-retro/?pagemode=print>
<http://opinionator.blogs.nytimes.com/2006/06/06/its-a-jumble-out-there/>
<http://opinionator.blogs.nytimes.com/2006/06/07/evolution-in-duplicate/>
<http://judson.blogs.nytimes.com/2006/06/08/the-best-way-to-make-an-organism/>
<http://opinionator.blogs.nytimes.com/2010/02/09/unorthodox/> (ciliates)

WEEK 4: HOW DO WE DO GENOMICS?

- Robert W. Holley **The Nucleotide Sequence of a Nucleic Acid**. pp30 – 39. doi:10.1038/scientificamerican0266-30
- Margaret Oakley Dayhoff **Computer Analysis of Protein Evolution**. pp86 – 95. doi:10.1038/scientificamerican0769-86
- John C. Fiddes **The Nucleotide Sequence of a Viral DNA**. pp54 – 67. doi:10.1038/scientificamerican1277-54
- Allan C. Wilson **The Molecular Basis of Evolution**. October 1985, Volume 253 No 4 pp164 – 173. doi:10.1038/scientificamerican1085-164
- Charles G. Sibley and Jon E. Ahlquist **Reconstructing Bird Phylogeny by Comparing DNA's**. pp82 – 92. doi:10.1038/scientificamerican0286-82
- Stephen J. O'Brien **The Ancestry of the Giant Panda**. pp102 – 107. doi:10.1038/scientificamerican1187-102
- Ray White and Jean-Marc Lalouel **Chromosome Mapping with DNA Markers**. pp40 – 48. doi:10.1038/scientificamerican0288-40
- John Benditt **Molecular Archaeology**. pp25 – 26. doi:10.1038/scientificamerican0789-25
- Deborah Erickson **Hacking the Genome**. pp128 – 137. doi:10.1038/scientificamerican0492-128
- Svante Pääbo **Ancient DNA**. pp86 – 92. doi:10.1038/scientificamerican1193-86
- Jan Klein, Naoyuki Takahata and Francisco J. Ayala **MHC Polymorphism and Human Origins**. pp78 – 83. doi:10.1038/scientificamerican1293-78
- Gary Stix **Gene Readers**. pp149 – 150. doi:10.1038/scientificamerican0194-149
- John Rennie **Grading the Gene Tests**. pp88 – 97. doi:10.1038/scientificamerican0694-88 (genetic screening)
- Steve Mirsky **Fright of the Bumblebee**. pp17 – 18. doi:10.1038/scientificamerican0795-17b (DNA forensics)
- Tim Beardsley **Vital Data**. pp100 – 105. doi:10.1038/scientificamerican0396-100 (DNA screening for disease loci)
- Kristin Leutwyler **X Marks the Spots**. pp16 – 18. doi:10.1038/scientificamerican0596-1 (disease locus mapping)
- Frederica P. Perera **Uncovering New Clues to Cancer Risk**. pp54 – 62. doi:10.1038/scientificamerican0596-54
- Tim Beardsley **An Express Route to the Genome?** pp30 – 32. doi:10.1038/scientificamerican0898-30 (Craig Venter profile)
- Alden M. Hayashi **On the Origins of Subspecies**. pp21 – 24. doi:10.1038/scientificamerican0399-21b (genomics to identify Galapagos tortoises)
- Jessa Netting **Viral Gene Screen**. pp31 – 32. doi:10.1038/scientificamerican0899-31 (screening blood for HIV, hepatitis)
- Francis S. Collins and Karin G. Jegalian **Deciphering the Code of Life**. pp86 – 91. doi:10.1038/scientificamerican1299-86
- Carol Ezzell **The Business of the Human Genome**. pp48 – 49. doi:10.1038/scientificamerican0700-48
- Kathryn Brown **The Human Genome Business Today**. pp50 – 55. doi:10.1038/scientificamerican0700-50
- Ken Howard **The Bioinformatics Gold Rush**. pp58 – 63. doi:10.1038/scientificamerican0700-58
- Carol Ezzell **Beyond the Human Genome**. pp64 – 69. doi:10.1038/scientificamerican0700-64
- **Genomics: Annotation** Tabitha M. Powledge **Beyond the First Draft**. pp16 – 18. doi:10.1038/

scientificamerican0900-16

- Robert P. Lanza, Betsy L. Dresser and Philip Damiani **Cloning Noah's Ark**. pp84 – 89. doi:10.1038/scientificamerican1100-83
- **Genetics: Discrimination** Diane Martindale **Pink Slip in Your Genes**. pp19 – 20. doi:10.1038/scientificamerican0101-19
- **Biotechnology: Gene Chips** W. Wayt Gibbs. **Shrinking to Enormity**. pp33 – 34. doi:10.1038/scientificamerican0201-33
- **Proteomics** Karen Hopkin **The Post-Genome Project**. p16. doi:10.1038/scientificamerican0801-16
- William A. Haseltine **Beyond Chicken Soup**. pp56 – 63. doi:10.1038/scientificamerican1101-56 (using genomics for antivirals)
- Stephen H. Friend and Roland B. Stoughton **The Magic of Microarrays**. pp44 – 53. doi:10.1038/scientificamerican0202-44
- **Genetics** Sally Lehrman **Sobering Shift**. pp22 – 24. doi:10.1038/scientificamerican0404-22 (genomic basis of drunkenness)
- Stephen A. Goff and John M. Salmeron **Back to the Future of Cereals**. pp42 – 49. doi:10.1038/scientificamerican0804-42 (genomics for plant breeding)
- **Biotechnology** Gary Stix **Molecular Treasure Hunt**. pp88 – 91. doi:10.1038/scientificamerican0505-88 (bioinformatics scanning)
- Dennis Drayna **Founder Mutations**. pp78 – 85. doi:10.1038/scientificamerican1005-78 (genomic disease marker anthropology)
- **Evolution** Steven Ashley **Lean Gene Machine**. pp26 – 28. doi:10.1038/scientificamerican1205-26 (*Pelagibacter* streamlined genome)
- George M. Church **Genomes for All**. pp46 – 54. doi:10.1038/scientificamerican0106-46
- **Biotechnology And The Law** Gary Stix **Owning the Stuff of Life**. pp76 – 83. doi:10.1038/scientificamerican0206-76
- **Genetics** Sally Lehrman **Trace Elements**. pp16 – 18. doi:10.1038/scientificamerican0606-16 (tracking ancestry)
- **Biology** Christina Reed **Sequencing Sea World**. pp23 – 24. doi:10.1038/scientificamerican0806-23 (metagenomics)
- **Anthropology** Nikhil Swaminathan **Deciphering Neandertal's Faded Genes**. p25. doi:10.1038/scientificamerican0207-25c (99.5% identical to humans)
- Francis S. Collins and Anna D. Barker **Mapping the Cancer Genome**. pp50 – 57. doi:10.1038/scientificamerican0307-50
- Stephen J. O'Brien and Warren E. Johnson **The Evolution of Cats**. pp68 – 75. doi:10.1038/scientificamerican0707-60
- **Evolution** Charles Q. Choi **Ulcers from the Deep**. p34. doi:10.1038/scientificamerican0907-34c (*Helicobacter* & *Campylobacter* pathogens genomically related to deep sea bacteria)
- **Genetic Testing** Sally Lehrman **Taking Genomes Personally**. pp20 – 22. doi:10.1038/scientificamerican0508-20
- **Human Origins** Gary Stix **Traces of a distant past**. pp56 – 63. doi:10.1038/scientificamerican0708-56
- **Field Notes** Charles Q. Choi **Mammoth Sequences**. pp30 – 31. doi:10.1038/scientificamerican0908-30 (metagenomics with DNA from rock strata)
- **Online Medicine** Mark A. Rothstein **Keeping Your Genes Private**. pp64 – 69. doi:10.1038/scientificamerican0908-64
- Mark Y. Stockle and Paul D. N Hebert **Barcode of Life**. pp82 – 88. doi:10.1038/scientificamerican1008-82
- **Paleogenetics** Kate Wong **Decoding the Mammoth**. pp26 – 27. doi:10.1038/scientificamerican0109-26 (mammoth genome 50% complete)
- **Evolution** Carlos A. Driscoll, Juliet Clutton-Brock, Andrew C. Kitchener and Stephen J. O'Brien **The Taming of the Cat**. pp68 – 75. doi:10.1038/scientificamerican0609-68

WEEK 5: HORIZONTAL DNA TRANSFER

- Armin C. Braun. **Plant Cancer**. Scientific American June 1952, Volume 186 No 6 pp66 – 72. doi:10.1038/scientificamerican0652-66

- Karl Maramorosch. **A Versatile Virus**. *Scientific American* June 1953, Volume 188 No 6 pp78 – 86. doi:10.1038/scientificamerican0653-78 – virus multiplies in plant and in insect vector
- André Lwoff. **The Life Cycle of a Virus**. *Scientific American* March 1954, Volume 190 No 3 pp34 – 37. doi:10.1038/scientificamerican0354-34
- Elie L. Wollman and François Jacob. **Sexuality in Bacteria**. *Scientific American* July 1956, Volume 195 No 1 pp109 – 118. doi:10.1038/scientificamerican0756-109
- Rollin D. Hotchkiss and Esther Weiss. **Transformed Bacteria**. *Scientific American* November 1956, Volume 195 No 5 pp48 – 53. doi:10.1038/scientificamerican1156-48
- Norton D. Zinder **“Transduction” in Bacteria**. *Scientific American* November 1958, Volume 199 No 5 pp38 – 43. doi:10.1038/scientificamerican1158-38
- François Jacob and Elie L. Wollman **Viruses and Genes**. pp92 – 110. doi:10.1038/scientificamerican0661-92
- Luigi Gorini **Antibiotics and the Genetic Code**. pp102 – 109. doi:10.1038/scientificamerican0466-102
- Tsutomu Watanabe **Infectious Drug Resistance**. pp19 – 27. doi:10.1038/scientificamerican1267-19
- Alexander Tomasz **Cellular Factors in Genetic Transformation**. pp38 – 44. doi:10.1038/scientificamerican0169-38
- Royston C. Clowes **The Molecule of Infectious Drug Resistance**. April 1973, Volume 228 No 4 pp18 – 27. doi:10.1038/scientificamerican0473-18
- Richard P. Novick **Plasmids**. pp102 – 127. doi:10.1038/scientificamerican1280-102
- E. P. Abraham **The Beta-Lactam Antibiotics**. pp76 – 86. doi:10.1038/scientificamerican0681-76
- Mary-Dell Chilton **A Vector for Introducing New Genes into Plants**. pp50 – 59. doi:10.1038/scientificamerican0683-50
- J.H. **Trans-Kingdom Sex**. *Scientific American* 261, 34-35 (October 1989) doi:10.1038/scientificamerican1089-3
- Charles S. Gasser, Robert T. Fraley **Transgenic Crops**. *Scientific American* 266, 62-69 (June 1992). doi:10.1038/scientificamerican0692-62
- Robert V. Miller **Bacterial Gene Swapping in Nature**; January 1998; *Scientific American*; pp66 – 71. doi:10.1038/scientificamerican0198-66
- Stuart B. Levy **The Challenge of Antibiotic Resistance**. pp46 – 53. doi:10.1038/scientificamerican0398-46
- David Biello. November 21, 2005. **Gene Swapping Helps Bacteria Adapt**. *Scientific American*. <http://www.scientificamerican.com/article.cfm?id=gene-swapping-helps-bacte>
- **Data Points. No Mercy from MRSA**. p31. doi:10.1038/scientificamerican0108-31d
- Olivia Judson blog. <http://opinionator.blogs.nytimes.com/2006/06/05/some-genes-come-in-packages/> (transfer to nucleus from mitochondria and chloroplasts)
- Graham Lawton. 1/24/2009. **Axing Darwin's Tree**. *New Scientist*. (.pdf on file)
- Bob Holmes. August 31, 2009. **Dangerous Liasons**. *New Scientist*. – horizontal transfer by hybridization <http://www.newscientist.com/article/mg17523585.700>

WEEK 6: HOW MANY DIFFERENT FORMS OF LIFE ARE THERE, AND HOW DO THEY AFFECT THE BIOSPHERE?

- Roderick K. Clayton and Max Delbrück. **Purple Bacteria**. *Scientific American* November 1951, Volume 185 No 5 pp68 – 72. doi:10.1038/scientificamerican1151-68
- John Tyler Bonner. **Volvox: A Colony of Cells**. *Scientific American* May 1950, Volume 182 No 5 pp52 – 55. doi:10.1038/scientificamerican0550-52
- Philip Siekevitz. **Powerhouse of the Cell**. *Scientific American* July 1957, Volume 197 No 1 pp131 – 144. doi:10.1038/scientificamerican0757-131
- David E. Green. **Biological Oxidation**. *Scientific American* July 1958, Volume 199 No 1 pp56 – 62. doi:10.1038/scientificamerican0758-56
- Martin D. Kamen. **A Universal Molecule of Living Matter**. *Scientific American* August 1958, Volume 199 No 2 pp77 – 83. doi:10.1038/scientificamerican0858-77
- S. H. Hutner and John J. A. McLaughlin. **Poisonous Tides**. *Scientific American* August 1958, Volume 199 No 2 pp92 – 98. doi:10.1038/scientificamerican0858-92

- I. Mackenzie Lamb **Lichens**. Scientific American October 1959, Volume 201 No 4 pp144 – 156. doi: 10.1038/scientificamerican1059-144
- George Wald **Life and Light**. Scientific American October 1959, Volume 201 No 4 pp92 – 108. doi: 10.1038/scientificamerican1059-92
- John Tyler Bonner **Differentiation in Social Amoebae**. pp152 – 162. doi:10.1038/scientificamerican1259-152
- J. A. Bassham **The Path of Carbon in Photosynthesis**. pp88 – 100. doi:10.1038/scientificamerican0662-88
- Vernon Ahmadjian **The Fungi of Lichens**. pp122 – 133. doi:10.1038/scientificamerican0263-122
- David E. Green **The Mitochondrion**. pp63 – 74. doi:10.1038/scientificamerican0164-63
- Eugene I. Rabinowitch and Govindjee **The Role of Chlorophyll in Photosynthesis**. pp74 – 83. doi: 10.1038/scientificamerican0765-74
- Patrick Echlin **The Blue-Green Algae**. pp74 – 81. doi:10.1038/scientificamerican0666-74
- R. D. Preston **Plants without Cellulose**. pp102 – 108. doi:10.1038/scientificamerican0668-102
- Masayasu Nomura **Ribosomes**. pp28 – 35. doi:10.1038/scientificamerican1069-28
- R. P. Levine **The Mechanism of Photosynthesis**. pp58 – 72. doi:10.1038/scientificamerican1269-58
- Frank Hawking **The Clock of the Malaria Parasite**. pp123 – 131. doi:10.1038/scientificamerican0670-123
- George M. Woodwell **The Energy Cycle of the Biosphere**. pp64 – 74. doi:10.1038/scientificamerican0970-64
- H. L. Penman **The Water Cycle**. pp98 – 108. doi:10.1038/scientificamerican0970-98
- Preston Cloud and Aharon Gibor **The Oxygen Cycle**. pp110 – 123. doi:10.1038/scientificamerican0970-110
- Bert Bolin **The Carbon Cycle**. pp124 – 132. doi:10.1038/scientificamerican0970-124
- C. C. Delwiche. **The Nitrogen Cycle**. pp136 – 146. doi:10.1038/scientificamerican0970-136
- Edward S. Deevey, Jr. **Mineral Cycles**. pp148 – 158. doi:10.1038/scientificamerican0970-148
- F. Herbert Bormann and Gene E. Likens **The Nutrient Cycles of an Ecosystem**. pp92 – 101. doi: 10.1038/scientificamerican1070-92
- Ursula W. Goodenough and R. P. Levine **The Genetic Activity of Mitochondria and Chloroplasts**. pp22 – 29. doi:10.1038/scientificamerican1170-22
- Bert Hölldobler **Communication between Ants and Their Guests**. pp86 – 93. doi:10.1038/scientificamerican0371-86
- Lynn Margulis **Symbiosis and Evolution**. August 1971, Volume 225 No 2 pp48 – 57. doi:10.1038/scientificamerican0871-48
- David M. Gates **The Flow of Energy in the Biosphere**. pp88 – 100. doi:10.1038/scientificamerican0971-88
- Roger A. Morse **Environmental Control in the Beehive**. pp92 – 98. doi:10.1038/scientificamerican0472-92
- Edward O. Wilson **Animal Communication**. pp52 – 60. doi:10.1038/scientificamerican0972-52
- Howard R. Topoff **The Social Behavior of Army Ants**. pp70 – 79. doi:10.1038/scientificamerican1172-70
- Elliot A. Lapan and Harold Morowitz **The Mesozoa**. pp94 – 101. doi:10.1038/scientificamerican1272-9
- David R. Safrany **Nitrogen Fixation**. pp64 – 80. doi:10.1038/scientificamerican1074-64
- C. M. Yonge **Giant Clams**. pp96 – 105. doi:10.1038/scientificamerican0475-96
- Edward O. Wilson **Slavery in Ants**. pp32 – 36. doi:10.1038/scientificamerican0675-32
- John D. Isaacs and Richard A. Schwartzlose **Active Animals of the Deep-Sea Floor**. pp84 – 91. doi: 10.1038/scientificamerican1075-84
- Alice Alldredge **Appendicularians**. pp94 – 105. doi:10.1038/scientificamerican0776-94
- Winston J. Brill **Biological Nitrogen Fixation**. pp68 – 81. doi:10.1038/scientificamerican0377-68
- Siri von Reis Altschul **Exploring the Herbarium**. pp96 – 104. doi:10.1038/scientificamerican0577-96
- Holger W. Jannasch and Carl O. Wirsen **Microbial Life in the Deep Sea**. pp42 – 52. doi:10.1038/scientificamerican0677-42
- A. E. Walsby **The Gas Vacuoles of Blue-Green Algae**. pp90 – 97. doi:10.1038/scientificamerican0877-90
- Berthold K. Hölldobler and Edward O. Wilson **Weaver Ants**. pp146 – 154. doi:10.1038/scientificamerican1277-146
- J. W. Costerton, G. G. Geesey and K.-J. Cheng **How Bacteria Stick**. pp86 – 95. doi:10.1038/

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- Yolande Heslop-Harrison **Carnivorous Plants**. pp104 – 114. doi:10.1038/scientificamerican0278-104
- Charles M. Rick **The Tomato**. pp76 – 87. doi:10.1038/scientificamerican0878-76
- J. William Schopf **The Evolution of the Earliest Cells**. pp110 – 138. doi:10.1038/scientificamerican0978-110
- David W. Fraser and Joseph E. McDade **Legionellosis**. pp82 – 99. doi:10.1038/scientificamerican1079-82
- Kenneth R. Miller **The Photosynthetic Membrane**. pp102 – 113. doi:10.1038/scientificamerican1079-102
- William G. Eberhard **Horned Beetles**. pp166 – 182. doi:10.1038/scientificamerican0380-166
- Milton J. Friedman and William Trager **The Biochemistry of Resistance to Malaria**. pp154 – 164. doi:10.1038/scientificamerican0381-154
- Richard W. Merritt and J. Bruce Wallace **Filter-Feeding Insects**. pp132 – 147. doi:10.1038/scientificamerican0481-132
- Carl R. Woese **Archaea**. June 1981, Volume 244 No 6 pp98 – 122. doi:10.1038/scientificamerican0681-98
- James A. Lake **The Ribosome**. pp84 – 97. doi:10.1038/scientificamerican0881-84
- Arnold L. Demain and Nadine A. Solomon. **Industrial Microbiology**. pp66 – 75. doi:10.1038/scientificamerican0981-66
- Herman J. Phaff **Industrial Microorganisms**. pp76 – 89. doi:10.1038/scientificamerican0981-76
- Anthony H. Rose **The Microbiological Production of Food and Drink**. pp126 – 138. doi:10.1038/scientificamerican0981-126
- Yair Aharonowitz and Gerald Cohen. **The Microbiological Production of Pharmaceuticals**. pp140 – 152. doi:10.1038/scientificamerican0981-140
- Douglas E. Eveleigh **The Microbiological Production of Industrial Chemicals**. pp154 – 178. doi:10.1038/scientificamerican0981-154
- Elmer L. Gaden, Jr. **Production Methods in Industrial Microbiology**. pp180 – 196. doi:10.1038/scientificamerican0981-180
- Winston J. Brill **Agricultural Microbiology**. pp198 – 215. doi:10.1038/scientificamerican0981-198
- Corale L. Brierley **Microbiological Mining**. pp44 – 53. doi:10.1038/scientificamerican0882-44
- Glenn D. Prestwich **The Chemical Defenses of Termites**. pp78 – 87. doi:10.1038/scientificamerican0883-78
- Preston Cloud **The Biosphere**. pp176 – 189. doi:10.1038/scientificamerican0983-176
- Gonzalo Vidal **The Oldest Eukaryotic Cells**. pp48 – 57. doi:10.1038/scientificamerican0284-48
- Janice Moore **Parasites that Change the Behavior of their Host**. pp108 – 115. doi:10.1038/scientificamerican0584-108
- Lee C. Ryker **Acoustic and Chemical Signals in the Life Cycle of a Beetle**. pp112 – 123. doi:10.1038/scientificamerican0684-112
- Guy Ourisson, Pierre Albrecht and Michel Rohmer
The Microbial Origin of Fossil Fuels. pp44 – 51. doi:10.1038/scientificamerican0884-44
- Dina F. Mandoli and Winslow R. Briggs **Fiber Optics in Plants**. pp90 – 98. doi:10.1038/scientificamerican0884-90
- A. G. Cairns-Smith **The First Organisms**. pp90 – 100. doi:10.1038/scientificamerican0685-90
- Douglass H. Morse **Milkweeds and their Visitors**. pp112 – 119. doi:10.1038/scientificamerican0785-112
- Gerald A. Rosenthal **The Chemical Defenses of Higher Plants**. pp94 – 99. doi:10.1038/scientificamerican0186-94
- James J. Childress, Horst Felbeck and George N. Somero **Symbiosis in the Deep Sea**. May 1987, Volume 256 No 5 pp115 – 120. doi:10.1038/scientificamerican0587-114
- Douglas C. Youvan and Barry L. Marrs **Molecular Mechanisms of Photosynthesis**. June 1987, Volume 256 No 6 pp42 – 48. doi:10.1038/scientificamerican0687-42
- James A. Shapiro **Bacteria as Multicellular Organisms**. pp82 – 89. doi:10.1038/scientificamerican0688-82
- Edward O. Wilson **Threats to Biodiversity**. pp108 – 116. doi:10.1038/scientificamerican0989-108
- Govindjee and William J. Coleman **How Plants Make Oxygen**. pp50 – 58. doi:10.1038/scientificamerican0290-50
- John Mills and Henry Masur **AIDS-Related Infections**. pp50 – 57. doi:10.1038/

scientificamerican0890-50

- Steven N. Handel and Andrew J. Beattie **Seed Dispersal by Ants**. pp76 - 83A. doi:10.1038/scientificamerican0890-76
- Sevgi O. Aral and King K. Holmes **Sexually Transmitted Diseases in the AIDS Era**. pp62 – 69. doi: 10.1038/scientificamerican0291-62
- Gary A. Strobel **Biological Control of Weeds**. pp72 – 78. doi:10.1038/scientificamerican0791-72
- John Rennie **Living Together**. pp122 – 133. doi:10.1038/scientificamerican0192-122 (parasites)
- Philip J. DeVries **Singing Caterpillars, Ants and Symbiosis**. pp76 – 82. doi:10.1038/scientificamerican1092-76
- Elaine Tuomanen **Breaching the Blood-Brain Barrier**. pp80 – 84. doi:10.1038/scientificamerican0293-80
- James H. Tumlinson, W. Joe Lewis and Louise E. M. Vet **How Parasitic Wasps Find their Hosts**. pp100 – 106. doi:10.1038/scientificamerican0393-100
- Paul W. Ewald **The Evolution of Virulence**. pp86 – 93. doi:10.1038/scientificamerican0493-86
- Manfred Eigen **Viral Quasispecies**. pp42 – 49. doi:10.1038/scientificamerican0793-42
- Wayne W. Carmichael **The Toxins of Cyanobacteria**. pp78 – 86. doi:10.1038/scientificamerican0194-78
- Lynn Margulis **Sex, Death and Kefir**. p96. doi:10.1038/scientificamerican0894-96
- Donald M. Anderson **Red Tides**. pp62 – 68. doi:10.1038/scientificamerican0894-6
- Fred S. Kantor **Disarming Lyme Disease**. pp34 – 39. doi:10.1038/scientificamerican0994-34
- William P. Jacobs **Caulerpa**. pp100 – 105. doi:10.1038/scientificamerican1294-100 (large single-celled alga)
- Peter J. Hotez and David I. Pritchard **Hookworm Infection**. pp68 – 74. doi:10.1038/scientificamerican0695-68
- George C. McGavin and Vern L. Bullough **Six Legs Good**. pp104 – 107. doi:10.1038/scientificamerican0895-104 (book review)
- Bernard Le Guenno **Emerging Viruses**. pp56 – 64. doi:10.1038/scientificamerican1095-56
- Martin J. Blaser **The Bacteria Behind Ulcers**. pp104 – 107. doi:10.1038/scientificamerican0296-104
- Christian de Duve **The Birth of Complex Cells**. pp50 – 57. doi:10.1038/scientificamerican0496-50
- J. Roger P. Angel and Neville J. Woolf **Searching for Life on Other Planets**. pp60 – 66. doi:10.1038/scientificamerican0496-60
- James K. Fredrickson and Tullis C. Onstott **Microbes Deep Inside the Earth**. pp68 – 73. doi:10.1038/scientificamerican1096-68
- Richard Losick and Dale Kaiser **Why and How Bacteria Communicate**; February 1997; pp68 – 73. doi:10.1038/scientificamerican0297-68
- Roger S. Seymour **Plants That Warm Themselves**. pp104 – 109. doi:10.1038/scientificamerican0397-104
- Madigan, Michael T.; Mairs, Barry L. **Extremophiles**. *Scientific American*, April97, Vol. 276 Issue 4, pp82 – 87. doi:10.1038/scientificamerican0497-82
- Douglas C. Wallace. **Mitochondrial DNA in Aging and Disease**. pp40 – 47. doi:10.1038/scientificamerican0897-40
- Nancy E. Beckage **The Parasitic Wasp's Secret Weapon**. pp82 – 87. doi:10.1038/scientificamerican1197-82
- Eshel Ben-Jacob and Herbert Levine **The Artistry of Microorganisms**. pp82 – 87. doi:10.1038/scientificamerican1098-82
- Paul Groves **Leafy Sea Dragons**. pp84 – 89. doi:10.1038/scientificamerican1298-84
- JoAnn M. Burkholder **The Lurking Perils of *Pfiesteria***. pp42 – 49. doi:10.1038/scientificamerican0899-42
- Howard Topoff **Slave-Making Queens**. pp84 – 90. doi:10.1038/scientificamerican1199-84
- W. Ford Doolittle **Uprooting the Tree of Life**. pp90 – 95. doi:10.1038/scientificamerican0200-90
- Sönke Johnsen **Transparent Animals**. pp80 – 89. doi:10.1038/scientificamerican0200-80
- Eric Bonabeau and Guy Théraulaz **Swarm Smarts**. pp72 – 79. doi:10.1038/scientificamerican0300-72
- Gustavo Martinelli **The Bromeliads of the Atlantic Forest**. pp86 – 93. doi:10.1038/scientificamerican0300-86 (pictures)
- Kate Wong. September 12, 2000. **Photosynthesis's Purple Roots**. *Sci. Amer.* <http://www.scientificamerican.com/article.cfm?id=photosynthesis-purple-ro>
- **Evolution** Alison McCook. **Species-Making Bacteria**. p29. doi:10.1038/scientificamerican0401-29b

- **Profile** Steve Mirsky **A Host with Infectious Ideas**. pp32 – 33. doi:10.1038/scientificamerican0501-32 (infectious origin of chronic disease)
- Marguerite Holloway **War and Peace among the Pinnipeds**. pp92 – 95. doi:10.1038/scientificamerican0501-92
- J. W. Costerton and Philip S. Stewart **Battling Biofilms**. pp74 – 81. doi:10.1038/scientificamerican0701-74
- John A. T. Young and R. John Collier **Attacking Anthrax**. pp48 – 59. doi:10.1038/scientificamerican0302-48
- Laurence D. Hurst and James P. Randerson **Parasitic Sex Puppeteers**. pp56 – 61. doi:10.1038/scientificamerican0402-56
- Rachael Moeller. 6/19/2002. **New Theory of Cell Evolution Rejects Single-Ancestor Doctrine**. Sci. Amer. <http://www.scientificamerican.com/article.cfm?id=new-theory-of-cell-evolut>
- Joachim Adis, Oliver Zompro, Esther Moombolah-Goagoses and Eugène Marais **Gladiators: A New Order of Insect**. pp60 – 65. doi:10.1038/scientificamerican1102-60
- Robert Sapolsky **Bugs in the Brain**. pp94 – 97. doi:10.1038/scientificamerican0303-94
- Steve Nadis **The Cells That Rule the Seas**. pp52 – 53. doi:10.1038/scientificamerican1203-52 <http://www.scientificamerican.com/article.cfm?id=the-cells-that-rule-the-s>
- **Insights** Marguerite Holloway **Talking Bacteria**. pp34 – 35. doi:10.1038/scientificamerican0204-34 (quorum signals)
- James F. Kasting **When Methane Made Climate**. pp78 – 85. doi:10.1038/scientificamerican0704-78
- Martin J. Blaser **An Endangered Species in the Stomach**. pp38 – 45. doi:10.1038/scientificamerican0205-38 (*Helicobacter* benefits to host)
- David M. Ojcius, Toni Darville and Patrik M Bavoil **Can Chlamydia Be Stopped?** pp72 – 79. doi:10.1038/scientificamerican0505-72
- **Remediation** Patrick Di Justo **Blue-Green Acres**. pp22 – 24. doi:10.1038/scientificamerican0905-2
- **Biotech** Gunjan Sinha **Bugs and Drugs**. pp29 – 31. doi:10.1038/scientificamerican1105-29 (influence of intestinal flora on drug efficacy)
- **Evolution** Steven Ashley **Lean Gene Machine**. pp26 – 28. doi:10.1038/scientificamerican1205-26 (*Pelagibacter* streamlined genome)
- Claire Panosian Dunavan **Tackling Malaria**. pp76 – 83. doi:10.1038/scientificamerican1205-76
- Frank Keppler **Methane, Plants and Climate Change**. pp52 – 57. doi:10.1038/scientificamerican0207-52
- Patrick Skelly **Fighting Killer Worms**. pp94 – 99. doi:10.1038/scientificamerican0508-94
- **Metabolomics** Melinda Wenner **Going with His Gut Bacteria**. pp90 – 92. doi:10.1038/scientificamerican0708-90
- Clifton E. Barry III and Maija S. Cheung **New Tactics Against Tuberculosis**. pp62 – 69. doi:10.1038/scientificamerican0309-62
- **Microbiology** Melinda Wenner **Don't Talk, Reproduce**. pp19 – 20. doi:10.1038/scientificamerican0509-19 (cheaters in resistant biofilms)
- Christopher T. Walsh and Michael A. Fischbach **New Ways to Squash Superbugs**. pp44 – 51. doi:10.1038/scientificamerican0709-44
- **Technology** Michael Moyer **Chlorophyll Power**. pp17 – 18. doi:10.1038/scientificamerican0909-17
- **Origin Of Life** Alexander S. Bradley **Expanding the Limits of Life**. pp62 – 67. doi:10.1038/scientificamerican1209-62 (deep sea vent ecosystems)
- **Environment** Katey Walter Anthony **Methane: A Menace Surfaces**. pp68 – 75. doi:10.1038/scientificamerican1209-68
- **Biology** John D. Young and Jan Martel **The Rise and Fall of Nanobacteria**. pp52 – 59. doi:10.1038/scientificamerican0110-52
- Peter Jay Hotez **A Plan to Defeat Neglected Tropical Diseases**. pp90 – 96. doi:10.1038/scientificamerican0110-90
- B. Brett Finlay **The Art of Bacterial Warfare**. pp56 – 63. doi:10.1038/scientificamerican0210-56
- Crispin T. S. Little **The Prolific Afterlife of Whales**. pp78 – 84. doi:10.1038/scientificamerican0210-78 (ecosystems around carcasses)
- **Hydrothermal Vents**. pp8. doi:10.1038/scientificamerican0410-8 (letter to the editor)
- James M. Trappe and Andrew W. Claridge **The Hidden Life of Truffles**. pp78 – 84. doi:10.1038/scientificamerican0410-78

- amoeba endocytosis videos <http://sciencevideos.wordpress.com/2007/09/24/amoeba-feeding-endocytosis/>

WEEK 7: THE BIRTH, DEATH AND MOVEMENT OF GENES IN GENOME EVOLUTION AND THE ORIGIN OF GENOMIC NOVELTIES

- Olivia Judson, 2008. “When genes go retro.” NYTimes <http://judson.blogs.nytimes.com/2008/05/06/when-genes-go-retro/?pagemode=print>

WEEK 8: WHERE DOES SEX COME FROM?

- Paul A. Zahl. **The Evolution of Sex**. Scientific American April 1949, Volume 180 No 4 pp52 – 55 doi: 10.1038/scientificamerican0449-52
- Verne Grant. **The Fertilization of Flowers**. Scientific American June 1951, Volume 184 No 6 pp52 – 56. doi:10.1038/scientificamerican0651-52
- W. F. Loomis **The Sex Gas of Hydra**. Scientific American April 1959, Volume 200 No 4 pp145 – 156. doi:10.1038/scientificamerican0459-145
- Robert D. Allen **The Moment of Fertilization**. *Scientific American* July 1959, Volume 201 No 1 pp124 – 137. doi:10.1038/scientificamerican0759-124
- Jack Colvard Jones **The Sexual Life of a Mosquito**. pp108 – 116. doi:10.1038/scientificamerican0468-108
- Patrick Echlin **Pollen**. pp80 – 91. doi:10.1038/scientificamerican0468-80
- H. C. Bennet-Clark and A. W. Ewing **The Love Song of the Fruit Fly**. pp84 – 92. doi:10.1038/scientificamerican0770-84
- Dietrich Schneider **The Sex-Attractant Receptor of Moths**. pp28 – 35. doi:10.1038/scientificamerican0774-28
- David Epel **The Program of Fertilization**. pp128 – 138. doi:10.1038/scientificamerican1177-128
- David Crews **The Hormonal Control of Behavior in a Lizard**. pp180 – 187. doi:10.1038/scientificamerican0879-180
- James E. Lloyd **Mimicry in the Sexual Signals of Fireflies**. pp138 – 145. doi:10.1038/scientificamerican0781-138
- J. David Ligon and Sandra H. Ligon **The Cooperative Breeding Behavior of the Green Woodhoopoe**. pp126 – 134. doi:10.1038/scientificamerican0782-126
- Peter B. Stacey and Walter D. Koenig **Cooperative Breeding in the Acorn Woodpecker**. pp114 – 121. doi:10.1038/scientificamerican0884-114
- T. H. Clutton-Brock **Reproductive Success in Red Deer**. pp86 – 92. doi:10.1038/scientificamerican0285-86
- Gerald Borgia **Sexual Selection in Bowerbirds**. pp92 – 100. doi:10.1038/scientificamerican0686-92
- Karl J. Niklas **Aerodynamics of Wind Pollination**. pp90 – 95. doi:10.1038/scientificamerican0787-90
- David Crews **Courtship in Unisexual Lizards: A Model for Brain Evolution**. pp116 – 121. doi: 10.1038/scientificamerican1287-116
- Laurie Burnham **Love on the Fly**. pp30 – 32. doi:10.1038/scientificamerican0688-30b
- Paul M. Wassarman **Fertilization in Mammals**. pp78 – 84. doi:10.1038/scientificamerican1288-78
- T.M.B. **Successful Sex**. p18. doi:10.1038/scientificamerican0889-18a
- David H. Funk **Science in Pictures: The Mating of Tree Crickets**. pp50 – 59. doi:10.1038/scientificamerican0889-50
- Doreen Kimura **Sex Differences in the Brain**. pp118 – 125. doi:10.1038/scientificamerican0992-118
- John Rennie **How Many Genes and Y**. pp16 – 17. doi:10.1038/scientificamerican0193-16
- Gary Stix **Anything Goes**. pp26 – 27. doi:10.1038/scientificamerican0193-2
- Gerard J. FitzGerald **The Reproductive Behavior of the Stickleback**. pp80 – 85. doi:10.1038/scientificamerican0493-80
- C. Sue Carter and Lowell L. Getz **Monogamy and the Prairie Vole**. pp100 – 106. doi:10.1038/scientificamerican0693-100
- Paul Alan Cox **Water-Pollinated Plants**. pp68 – 74. doi:10.1038/scientificamerican1093-68
- David Crews **Animal Sexuality**. pp108 – 114. doi:10.1038/scientificamerican0194-108
- Frans B. M. de Waal **Bonobo Sex and Society**. pp82 – 88. doi:10.1038/scientificamerican0395-82
- David W. Pfennig and Paul W. Sherman **Kin Recognition**. pp98 – 103. doi:10.1038/

scientificamerican0695-98

- Londa Schiebinger **The Loves of the Plants**. pp110 – 115. doi:10.1038/scientificamerican0296-110
- Brenda DeKoker **Sex and the Spinal Cord**. pp30 – 32. doi:10.1038/scientificamerican1296-30a
- Darryl T. Gwynne **Glandular Gifts**. pp66 – 71. doi:10.1038/scientificamerican0897-66
- Lee Alan Dugatkin and Jean-Guy J. Godin **How Females Choose Their Mates**. pp56 – 61. doi:10.1038/scientificamerican0498-56
- Ronald L. Rutowski **Mating Strategies in Butterflies**. pp64 – 69. doi:10.1038/scientificamerican0798-64
- Ken Preston-Mafham and Rod Preston-Mafham **Mating Strategies of Spiders**. pp94 – 99. doi:10.1038/scientificamerican1198-94 (pictures)
- Paul Groves **Leafy Sea Dragons**. pp84 – 89. doi:10.1038/scientificamerican1298-84 (male pregnancy)
- Roger Smith **The Timing of Birth**. pp68 – 75. doi:10.1038/scientificamerican0399-68
- Rodger Doyle **The Decline of Marriage**. pp36 – 37. doi:10.1038/scientificamerican1299-36
- Irwin Goldstein **Male Sexual Circuitry**. pp70 – 75. doi:10.1038/scientificamerican0800-70
- Karin Jegalian and Bruce T. Lahn **Why the Y is so Weird**. pp56 – 61. doi:10.1038/scientificamerican0201-56
- Karen R. Rosenberg and Wenda R. Trevathan **The Evolution of Human Birth**. pp72 – 77. doi:10.1038/scientificamerican1101-72
- Laurence D. Hurst and James P. Randerson **Parasitic Sex Puppeteers**. pp56 – 61. doi:10.1038/scientificamerican0402-56
- **Evolution** Charles Choi **Sexual Healing**. p29. doi:10.1038/scientificamerican0804-29c (algal sex induced by oxidative stress)
- **Insights** Gary Stix **Geographer of the Male Genome**. pp40 – 42. doi:10.1038/scientificamerican1204-40 (David Page interview)
- **Insights** Sally Lehrman **Going beyond X and Y**. pp40 – 41. doi:10.1038/scientificamerican0607-40
- **Q & A With Isabella Rossellini** Charles Q. Choi **A Bug's Sex Life**. pp30 – 31. doi:10.1038/scientificamerican0708-30

WEEK 9: HOW DOES EVOLUTION WORK IN MORPHOGENESIS AND THE ADAPTIVE IMMUNE SYSTEM?

MORPHOGENESIS AND DEVELOPMENT:

- Paul C. Mangelsdorf. **The Mystery of Corn**. Scientific American July 1950, Volume 183 No 1 pp20 – 24. doi:10.1038/scientificamerican0750-20
- George Wald. **Eye and Camera**. Scientific American August 1950, Volume 183 No 2 pp32 – 41. doi:10.1038/scientificamerican0850-32
- John Tyler Bonner. **D'Arcy Thompson**. August 1952, Volume 187 No 2 pp60 – 65. doi:10.1038/scientificamerican0852-60
- C. H. Waddington. **How do Cells Differentiate?** Scientific American September 1953, Volume 189 No 3 pp108 – 116. doi:10.1038/scientificamerican0953-108
- George W. Gray **"The Organizer"**. Scientific American November 1957, Volume 197 No 5 pp79 – 91. doi:10.1038/scientificamerican1157-79
- N. J. Berrill. **The Indestructible Hydra**. Scientific American December 1957, Volume 197 No 6 pp118 – 125. doi:10.1038/scientificamerican1257-118
- Frank B. Salisbury **The Flowering Process**. Scientific American April 1958, Volume 198 No pp108 – 117. doi:10.1038/scientificamerican0458-108
- Marcus Singer. **The Regeneration of Body Parts**. Scientific American **October 1958, Volume 199 No 4 pp79 – 90**. doi:10.1038/scientificamerican1058-79
- V. B. Wigglesworth **Metamorphosis, Polymorphism, Differentiation**. Scientific American **February 1959, Volume 200 No 2 pp100 – 110**. doi:10.1038/scientificamerican0259-100
- A. A. Moscona **Tissues from Dissociated Cells**. Scientific American **May 1959, Volume 200 No 5 pp132 – 144**. doi:10.1038/scientificamerican0559-132
- William Hovanitz **Insects and Plant Galls**. pp151 – 162. doi:10.1038/scientificamerican1159-151
- Martin F. Glaessner **Pre-Cambrian Animals**. pp72 – 78. doi:10.1038/scientificamerican0361-72
- John Napier **The Evolution of the Hand**. pp56 – 65. doi:10.1038/scientificamerican1262-56
- Irwin R. Konigsberg **The Embryological Origin of Muscle**. pp61 – 66. doi:10.1038/

scientificamerican0864-61

- William Etkin **How a Tadpole Becomes a Frog.** pp76 – 88. doi:10.1038/scientificamerican0566-76
- Johannes van Overbeek **The Control of Plant Growth.** pp75 – 81. doi:10.1038/scientificamerican0768-75
- Ernst Hadorn **Transdetermination in Cells.** pp110 – 120. doi:10.1038/scientificamerican1168-110
- J. B. Gurdon **Transplanted Nuclei and Cell Differentiation.** pp24 – 35. doi:10.1038/scientificamerican1268-24
- Russell Ross **Wound Healing.** pp40 – 50. doi:10.1038/scientificamerican0669-40
- John Tyler Bonner **Hormones in Social Amoebae and Mammals.** pp78 – 91. doi:10.1038/scientificamerican0669-78
- Eric T. Pengelley and Sally J. Asmundson **Annual Biological Clocks.** pp72 – 79. doi:10.1038/scientificamerican0471-72
- Alan E. Beer and R. E. Billingham **The Embryo as a Transplant.** pp36 – 47. doi:10.1038/scientificamerican0474-36
- Alfred Gierer **Hydra as a Model for the Development of Biological Form.** pp44 – 54. doi:10.1038/scientificamerican1274-44
- Peter J. Bryant, Susan V. Bryant and Vernon French **Biological Regeneration and Pattern Formation.** pp66 – 81. doi:10.1038/scientificamerican0777-66
- G. Adrian Horridge **The Compound Eye of Insects.** pp108 – 120. doi:10.1038/scientificamerican0777-108
- Richard Gordon and Antone G. Jacobson **The Shaping of Tissues in Embryos.** pp106 – 113. doi:10.1038/scientificamerican0678-106
- James W. Valentine **The Evolution of Multicellular Plants and Animals.** pp140 – 158. doi:10.1038/scientificamerican0978-140
- Lewis Wolpert **Pattern Formation in Biological Development.** pp154 – 164. doi:10.1038/scientificamerican1078-154
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- Gunther S. Stent and David A. Weisblat **The Development of a Simple Nervous System.** pp136 – 146. doi:10.1038/scientificamerican0182-136
- James F. Shepard **The Regeneration of Potato Plants from Leaf-Cell Protoplasts.** pp154 – 166. doi:10.1038/scientificamerican0582-154
- Paul C. Mangelsdorf **The Origin of Corn.** pp80 – 86. doi:10.1038/scientificamerican0886-80
- James D. Murray **How the Leopard Gets its Spots.** pp80 – 87. doi:10.1038/scientificamerican0388-80
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- William P. Jacobs **Caulerpa.** pp100 – 105. doi:10.1038/scientificamerican1294-100 (large single-celled alga)
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- Bradley R. Smith **Visualizing Human Embryos**. pp76 – 81. doi:10.1038/scientificamerican0399-76
- Juan Carlos Izpisua Belmonte **How the Body Tells Left from Right**. pp46 – 51. doi:10.1038/scientificamerican0699-46
- Fred H. Gage **Brain, Repair Yourself**. pp46 – 53. doi:10.1038/scientificamerican0903-46
- Marguerite Holloway **The Mutable Brain**. pp78 – 85. doi:10.1038/scientificamerican0903-78
- Robert Lanza and Nadia Rosenthal **The Stem Cell Challenge**. pp92 – 99. doi:10.1038/scientificamerican0604-92
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- **Reviews Evo Devo Is the New Buzzword ...** pp102 – 104. doi:10.1038/scientificamerican0405-102
- Paul T. Sharpe and Conan S. Young **Test-Tube Teeth**. pp34 – 41. doi:10.1038/scientificamerican0805-34
- **Biology** Gary Stix **Selfless Giving**. pp20 – 22. doi:10.1038/scientificamerican0407-20 (maternal effects on embryonic development)
- J. Lee Nelson **Your Cells Are My Cells**. pp72 – 79. doi:10.1038/scientificamerican0208-72 (maternal cell contributions to embryo and adult)
- Ken Muneoka, Manjong Han and David M. Gardiner **Regrowing Human Limbs**. pp56 – 63. doi:10.1038/scientificamerican0408-56
- Sean B. Carroll, Benjamin Prud'homme and Nicolas Gompel **Regulating Evolution**. pp60 – 67. doi:10.1038/scientificamerican0508-60
- Neil H. Shubin **This Old Body**. pp64 – 67. doi:10.1038/scientificamerican0109-64
- Claus C. Hilgetag and Helen Barbas **Sculpting the Brain**. pp66 – 71. doi:10.1038/scientificamerican0209-66
- **Evolution** Charles Q. Choi **Juvenile Thoughts**. pp23 – 24. doi:10.1038/scientificamerican0709-23
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- Raphael H. Levey **The Thymus Hormone**. pp66 – 77. doi:10.1038/scientificamerican0764-66
- G. J. V. Nossal **How Cells Make Antibodies**. pp106 – 115. doi:10.1038/scientificamerican1264-106
- R. R. Porter **The Structure of Antibodies**. pp81 – 90. doi:10.1038/scientificamerican1067-81
- Gerald M. Edelman **The Structure and Function of Antibodies**. pp34 – 42. doi:10.1038/scientificamerican0870-34
- Ralph A. Reisfeld and Barry D. Kahan **Markers of Biological Individuality**. pp28 – 37. doi:10.1038/scientificamerican0672-28
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- J. Donald Capra and Allen B. Edmundson **The Antibody Combining Site**. pp50 – 59. doi:10.1038/scientificamerican0177-50
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- Richard L. Edelson and Joseph M. Fink **The Immunologic Function of Skin**. pp46 – 53. doi:10.1038/scientificamerican0685-46
- Jeffrey Laurence **The Immune System in AIDS**. pp84 – 93. doi:10.1038/scientificamerican1285-84
- Philippa Marrack and John Kappler **The T Cell and its Receptor**. pp36 – 45. doi:10.1038/scientificamerican0286-36
- Ronald C. Kennedy, Joseph L. Melnick and Gordon R. Dreesman **Anti-Idiotypes and Immunity**. pp48 – 56. doi:10.1038/scientificamerican0786-48
- Gordon L. Ada and Sir Gustav Nossal **The Clonal-Selection Theory**. pp62 – 69. doi:10.1038/scientificamerican0887-62
- John Ding-E Young and Zanvil A. Cohn **How Killer Cells Kill**. pp38 – 44. doi:10.1038/scientificamerican0188-38
- Richard A. Lerner and Alfonso Tramontano **Catalytic Antibodies**. pp58 – 70. doi:10.1038/scientificamerican0388-58
- Irun R. Cohen **The Self, the World and Autoimmunity**. pp52 – 60. doi:10.1038/scientificamerican0488-52
- T.M.B. **Superantigens**. pp19 – 20. doi:10.1038/scientificamerican0889-19
- Howard M. Grey, Alessandro Sette and Søren Buus **How T Cells see Antigen**. pp56 – 64. doi:10.1038/scientificamerican1189-56
- Kendall A. Smith **Interleukin-2**. pp50 – 57. doi:10.1038/scientificamerican0390-50
- Steven A. Rosenberg **Adoptive Immunotherapy for Cancer**. pp62 – 69. doi:10.1038/scientificamerican0590-62
- Harald von Boehmer and Pawel Kisielow **How the Immune System Learns about Self**. pp74 – 81. doi:10.1038/scientificamerican1091-74
- Howard M. Johnson, Jeffrey K. Russell and Carol H. Pontzer **Superantigens in Human Disease**. pp92 – 101. doi:10.1038/scientificamerican0492-92
- Thierry Boon **Teaching the Immune System to Fight Cancer**. pp82 – 89. doi:10.1038/scientificamerican0393-82
- Ronald H. Schwartz **T Cell Anergy**. pp62 – 71. doi:10.1038/scientificamerican0893-62
- Gustav J. V. Nossal, Sir **Life, Death and the Immune System**. pp52 - 62. doi:10.1038/scientificamerican0993-52
- Irving L. Weissman and Max D. Cooper **How the Immune System Develops**. pp64 – 71. doi:10.1038/scientificamerican0993-64
- Charles A. Janeway, Jr. **How the Immune System Recognizes Invaders**. pp72 – 79. doi:10.1038/scientificamerican0993-72
- Philippa Marrack and John W. Kappler **How the Immune System Recognizes the Body**. pp80 – 89. doi:10.1038/scientificamerican0993-80
- William E. Paul **Infectious Diseases and the Immune System**. pp90 – 97. doi:10.1038/scientificamerican0993-90
- Warner C. Greene **AIDS and the Immune System**. pp98 - 105. doi:10.1038/scientificamerican0993-98
- Lawrence Steinman **Autoimmune Disease**. pp106 – 114. doi:10.1038/scientificamerican0993-106
- Lawrence M. Lichtenstein **Allergy and the Immune System**. pp116 – 124. doi:10.1038/scientificamerican0993-116
- Hans Wigzell **The Immune System as a Therapeutic Agent**. pp126 – 134. doi:10.1038/scientificamerican0993-126
- Avron Mitchison **Will we Survive?**. pp136 – 144. doi:10.1038/scientificamerican0993-136
- Victor H. Engelhard **How Cells Process Antigens**. pp54 – 61. doi:10.1038/scientificamerican0894-54

- Martin A. Nowak and Andrew J. McMichael **How HIV Defeats the Immune System**. pp58 – 65. doi: 10.1038/scientificamerican0895-58
- Jack Newman **How Breast Milk Protects Newborns**. pp76 – 79. doi:10.1038/scientificamerican1295-76
- Gary W. Litman **Sharks and the Origins of Vertebrate Immunity**. pp67 – 71. doi:10.1038/scientificamerican1196-67
- Gregory Beck and Gail S. Habicht **Immunity and the Invertebrates**. pp60 – 66. doi:10.1038/scientificamerican1196-60
- Robert P. Lanza, David K. C. Cooper and William L. Chick **Xenotransplantation**. pp54 – 59. doi: 10.1038/scientificamerican0797-54
- Nancy E. Beckage **The Parasitic Wasp's Secret Weapon**. pp82 – 87. doi:10.1038/scientificamerican1197-82 (inhibits immunity)
- David B. Weiner and Ronald C. Kennedy **Genetic Vaccines**. pp50 – 57. doi:10.1038/scientificamerican0799-50
- William H. R. Langridge **Edible Vaccines**. pp66 – 71. doi:10.1038/scientificamerican0900-66
- Carol Ezzell **Magic Bullets Fly Again**. pp34 – 41. doi:10.1038/scientificamerican1001-34 (therapeutic monoclonal antibodies)
- Jacques Banchemareau **The Long Arm of the Immune System**. pp52 – 59. doi:10.1038/scientificamerican1102-52
- Luke A. J. O'Neill **Immunity's Early-Warning System**. pp38 – 45. doi:10.1038/scientificamerican0105-38
- Moncef Zouali **Taming Lupus**. pp70 – 77. doi:10.1038/scientificamerican0305-70
- Daniel M. Davis **Intrigue at the Immune Synapse**. pp48 – 55. doi:10.1038/scientificamerican0206-48
- Zoltan Fehervari and Shimon Sakaguchi **Peacekeepers of the Immune System**. pp56 – 63. doi: 10.1038/scientificamerican1006-56
- **Insights** Marguerite Holloway **Graft and Host, Together Forever**. pp32 – 33. doi:10.1038/scientificamerican0207-32 (transplant rejection)
- Abner Louis Notkins **New Predictors of Disease**. pp72 – 79. doi:10.1038/scientificamerican0307-72 (autoimmune antibodies)
- Rodney E. Willoughby, Jr. **A Cure for Rabies?** pp88 – 95. doi:10.1038/scientificamerican0407-88
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- **HIV/AIDS** Bianca Nogrady **T Cell Turnoff**. pp24 – 26. doi:10.1038/scientificamerican1207-24
- Alexander Hellemans **Beating the Flu in a Single Shot**. pp104 – 107. doi:10.1038/scientificamerican0608-104
- Nathalie Garçon and Michel Goldman **Boosting Vaccine Power**. pp72 – 79. doi:10.1038/scientificamerican1009-72

WEEK 10: GENOMICS, CREATIONISM, INTELLIGENT DESIGN AND THE DOVER PA DECISION

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- Dorothy Nelkin **The Science-Textbook Controversies**. pp33 – 39. doi:10.1038/scientificamerican0476-33
- Tim Beardsley **Darwin Denied**. pp12 – 14. doi:10.1038/scientificamerican0795-12
- John Horgan **The New Social Darwinists**. pp174 – 181. doi:10.1038/scientificamerican1095-174
- **By The Numbers** Rodger Doyle **Down with Evolution!** p30. doi:10.1038/scientificamerican0302-30
- John Rennie **15 Answers to Creationist Nonsense**. pp78 – 85. doi:10.1038/scientificamerican0702-78
- **Skeptic** Michael Shermer **The Fossil Fallacy**. pp94 – 95. doi:10.1038/scientificamerican0305-32
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- **Biotechnology** Gary Stix **An Antibiotic Resistance Fighter**. pp80 – 83. doi:10.1038/scientificamerican0406-80 (inhibiting SOS response) – used by ID proponents
- **Insights** Sally Lehran **The Christian Man's Evolution**. pp100 – 102. doi:10.1038/

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- Glenn Branch and Eugenie C. Scott **The Latest Face of Creationism**. pp92 – 99. doi:10.1038/scientificamerican0109-92