tinctions clearly occurred by the end of the Triassic Period, but exactly when, or how many major extinction events occurred, is still open to vigorous discussion. This is exemplified in chapters by Simms *et al.* and by Benton and in a well-reasoned summary by Padian. At issue are the number of extinction events—one or two—at the end of the Triassic, whether marine extinction coincides with extinction in the terrestrial realm, and even the possibility of an extraterrestrial cause for terminal Triassic extinctions. This is good stuff. And out of that time—somehow—spring the major tetrapod groups of our modern world.

In a humorous mutation of the parable of the blind men and the elephant, Padian compares the investigation of Late Triassic vertebrate-bearing terrestrial sediments to an attempt to understand the workings of an internal-combustion engine by using blueprints of six different kinds of engines torn into jigsaw puzzles and with some pieces missing. I am not much of a grease monkey myself, but I appreciate the Earth as an engine that works. As a manual to begin investigating the workings of the Late Triassic and Early Jurassic world, this is a good book.

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Vignettes: Sea Changes

Some inspired pack of rhipidistians or Dipnois came ashore for the first time in the late Devonian, either looking for a meal or trying to avoid becoming one. Maybe they were pursuing the as yet unknowable vertebrate dream of a future filled with cheeseburgers, pizza, Caesar salads, decent wine, homes of their own, and a new car every two years.

—*Brad Matsen*, in *Planet Ocean: A Story of Life, the Sea, and Dancing to the Fossil Record* (Ten Speed Press)

Cruise the aisles of a grocery store and it's hard to find many products without algae and algae byproducts. Alginates help keep beer foam from collapsing when it comes in contact with lipstick. The same alginates keep pimentos firm in green olives, stabilize pulp in juice concentrates, thicken instant soups, and substitute for oil and eggs in no-fat mayonnaise. Carrageenan is used as a stabilizer in air freshener gels, anti-icers, breads, infant formula, liquid cleanser, and pumpkin pie. Betacarotene pigment provides a natural yellow-orange food coloring for cheese, butter, beverages, pastries, and popcorn. Agar is found in canned meats, jellies, and marshmallows. And in the foreign food aisle you might find dried algae.

—*Michael Weber* and *Judith Gradwohl*, in *The Wealth of Oceans* (Norton)

Chemical Paperwork

Molecular Origami. Precision Scale Models from Paper. ROBERT M. HANSON. University Science, Sausalito, CA, 1995. xvi, 223 pp., illus. Paper, $22.

Chemical structures have to be understood in three dimensions, yet books and blackboards are in two, so chemistry classrooms and labs are often decorated with molecular models made of plastic, styrofoam, and the like. Many students purchase modeling kits that allow structures with "standard" bond lengths and angles to be constructed. Trickier structures, such as ones with fivefold symmetry or unusual bond lengths, can be difficult to construct, and the nuances of different structures are lost in an effort to ease the task of construction.

Hanson takes an approach that requires more patience and dexterity but likely yields a more satisfying learning experience. He has developed a workbook for constructing paper models of molecules, which he calls "molecular origami." Each structural type is introduced within the framework of molecular orbital theory, but Hanson emphasizes that the models, which reproduce the known bond lengths and angles, make no assumptions about bond orders or unpaired electrons. Instead, theory must be used to understand why the structures result. Thus the student can make models of NH_3, NF_3, and PF_3 and interpret the changes in bond lengths and angles. A series of questions are included with the simpler structures, and an answer guide is provided. More than 70 structures are explored, including coordination compounds such as iron carbonyl [$Fe_2(CO)_9$], network solids such as silicates, and even the highly complex shapes of C_{60} and the boron hydrides.

Clear instructions are given for the actual cutting, folding, and taping of the models; making some of the "inside" folds on the more complicated shapes is facilitated by putting a straight edge (ruler or business card) under the paper. The examples should prove useful in teaching chemical bonding concepts not only in high school and freshman chemistry classes but also in undergraduate inorganic chemistry. The models could also aid physical chemists looking for structural models to illustrate symmetry concepts in the application of group theory.

Phillip D. Szuromi

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Books Received

Adult T Cell Leukemia and Related Diseases. Takashi Uchiyama and Junji Yodoi. Landes, Austin, TX, and Springer-Verlag, New York, 1995 (distributor, CRC Press, Boca Raton, FL). vi, 139 pp., illus. $59. Medical Intelligence Unit.

Advanced Calculus of Several Variables. C. H. Edwards, Jr. Dover, New York, 1995. xii, 457 pp., illus. $13.95. Reprint, 1973 ed.

Advances in Acoustic Microscopy. Vol. 1. Andrew Briggs, Ed. Plenum, New York, 1995. xxxii, 350 pp., illus. $79.50.

The Ages of Gaia. A Biography of Our Living Earth. James Lovelock. Norton, New York, 1995. xxii, 255 pp., illus. Paper, $12 or $C16. Reprint, 1988 ed.

Aging. A Natural History. Robert E. Ricklefs and Caleb E. Finch. Scientific American Library (HPHLP), New York, 1995 (distributor, Freeman, New York). xiv, 209 pp., illus. $32.95.

AIDS Update 1994-1995. An Annual Overview of Acquired Immune Deficiency Syndrome. Gerald J. Stine. Prentice Hall, Englewood Cliffs, NJ, 1995. xlvi, 381 pp., illus. Paper, $18.67. Alternate version of *Acquired Immune Deficiency Syndrome* (1995).

Bats. A Community Perspective. James S. Findley. Cambridge University Press, New York, 1995. xii, 167 pp., illus. $19.95. Cambridge Studies in Ecology. Reprint, 1993 ed.

Benzodiazepine Receptor Inverse Agonists. Martin Sarter, David J. Nutt, and Richard G. Lister, Eds. Wiley-Liss, New York, 1995. x, 304 pp., illus. $75.

Biology of Microorganisms. Thomas D. Brock *et al.* 7th ed. Prentice Hall, Englewood Cliffs, NJ, 1994. xviii, 909 pp., illus. $73.

Birth Control Vaccines. G. P. Talwar and Raj Raghupathy. Landes, Austin, TX, 1995 (distributor, CRC Press, Boca Raton, FL). xii, 171 pp., illus. $79. Medical Intelligence Unit.

Braving the Elements. Harry B. Gray, John D. Simon, and William C. Trogler. University Science, Sausalito, CA, 1995. xiv, 418 pp., illus. Paper, $29.50.

Calculating the Secrets of Life. Applications of the Mathematical Sciences in Molecular Biology. Eric S. Lander and Michael S. Waterman, Eds. National Academy Press, Washington, DC, 1995. xiv, 285 pp., illus. $39.95.

Captain James Cook. Richard Hough. Norton, New York, 1995. xviii, 398 pp. + plates. $29.95 or $C37.99.

Carbon-13 NMR Spectroscopy of Biological Systems. Nicolau Beckmann, Ed. Academic Press, San Diego, CA, 1995. xx, 334 pp., illus. $69.95.

Catching the Light. The Entwined History of Light and Mind. Arthur Zajonc. Oxford University Press, New

York, 1995. x, 388 pp., illus. Paper, $12.95. Reprint, 1993 ed.

Chemistry and Environment. Legislation, Methodologies and Applications. S. Facchetti and D. Pitea, Eds. Kluwer, Norwell, MA, 1995. xii, 531 pp., illus. $205 or £135 or Dfl. 320. Eurocourses. Environmental Management, vol. 4. Based on a course of lectures, Ispra, Italy, June 1992.

Darwin's Dangerous Idea. Evolution and the Meanings of Life. Daniel C. Dennett. Simon and Schuster, New York, 1995. 589 pp., illus. $30 or $C40.

Deficit Government. Taxing and Spending in Modern America. Iwan W. Morgan. Dee, Chicago, 1995. x, 213 pp., $24.95. American Ways Series.

Demographics. A Casebook for Business and Government. Hallie J. Kintner *et al.*, Eds. Westview, Boulder, CO, 1994. x, 361 pp., illus. $60; paper, $31.95.

Density Functional Theory. Eberhard K. U. Gross and Reiner M. Dreizler, Eds. Plenum, New York, 1995. xiv, 676 pp., illus. $149.50. NATO ASI Series B, vol. 337. From an institute, Il Ciocco, Italy, Aug. 1993.

The Descent of the Child. Human Evolution from a New Perspective. Elaine Morgan. Oxford University Press, New York, 1995. x, 197 pp. $19.95.

Earth from Space. Amy Leventer and Geoffrey Seltzer. Knopf, New York, 1995. 192 pp., illus. Paper, $7.99 or $C10.95. National Audubon Society Pocket Guide.

The ECG Workbook. A Review and Discussion of ECG Findings and Abnormalities. Glenn N. Levine and Philip J. Podrid. Futura, Armonk, NY, 1995. vi, 550 pp., illus. $74.

Éducation du Patient et Ordinateur. Le Didacticiel David. Essai Épistémologique. Mutien-Omer Houziaux. Mardaga, Liège, Belgium, 1995. 159 pp., illus. Paper, 155 FF or 953 FB.

Effects of the Indoor Environment on Health. James M. Seltzer, Ed. Hanley and Belfus, Philadelphia, PA, 1995. x, 254 pp., illus. $36. *Occupational Medicine*, vol. 10, no. 1 (1995).

Einstein, History, and Other Passions. Gerald Holton. AIP Press, Woodbury, NY, 1995. xiv, 312 pp., illus. $29.95. Masters of Modern Physics.

Fingerprints of the Gods. The Evidence of Earth's Lost Civilization. Graham Hancock. Crown, New York, 1995. x, 562 pp., illus. $27.50.

The Formation and Evolution of Galaxies. C. Muñoz-Tuñón and F. Sánchez, Eds. Cambridge University Press, New York, 1995. xvi, 537 pp., illus. $64.95. From a school, Tenerife, Spain, Dec. 1993.

Fractal Concepts in Surface Growth. Albert-László Barabási and H. Eugene Stanley. Cambridge University Press, New York, 1995. xx, 366 pp., illus. $69.95; paper, $27.95.

The Freja Mission. Rickard Lundin, Gerhard Haerendel, and Sven Grahn, Eds. Kluwer, Norwell, MA, 1995. 203 pp., illus. $96 or £59.50 or Dfl. 145. Reprinted from *Space Science Reviews*, vol. 70, nos. 3-4 (1994).

G Protein-Coupled Receptors. Tiina P. Iismaa, Trevor J. Biden, and John Shine. Landes, Austin, TX, 1995 (distributor, CRC Press, Boca Raton, FL). xiv, 181 pp., illus. $79. Molecular Biology Intelligence Unit.

Genetics of Natural Populations. The Continuing Importance of Theodosius Dobzhansky. Louis Levine, Ed. Columbia University Press, New York, 1995. xiv, 399 pp., illus. $85.

Global Geological Record of Lake Basins. Vol. 1. E. Gierlowski-Kordesch and K. Kelts, Eds. Cambridge University Press, New York, 1995. xxxiv, 427 pp., illus. $120. World and Regional Geology Series.

The Gnat Is Older than Man. Global Environment and Human Agenda. Christopher D. Stone. Princeton University Press, Princeton, NJ, 1995. xxvi, 341 pp. Paper, $15.95 or £12.95. Reprint, 1993 ed.

Handbook of Biological Confocal Microscopy. James B. Pawley, Ed. 2nd ed. Plenum, New York, 1995. xxiv, 632 pp., illus. $85.

Harm de Blij's Geography Book. A Leading Geographer's Fresh Look at Our Changing World. Harm de Blij. Wiley, New York, 1995. 336 pp., illus. $22.95.

Harmony. Business, Technology, and Life After Paperwork. Arno Penzias. HarperBusiness, New York, 1995. xiv, 178 pp. $23.

Hidden Histories of Science. Robert B. Silvers, Ed. New York Review of Books, New York, NY, 1995 (distributor, Consortium, Saint Paul, MN). iv, 193 pp., illus. $19.95 or $C28.50.

Hilbert C*-Modules. A Toolkit for Operator Algebraists. E. C. Lance. Cambridge University Press, New York, 1995. x, 130 pp. Paper, $29.95. London Mathematical Society Lecture Note Series, 210.

Impacts of the Early Cold War on the Formulation of U.S. Science Policy. Selected Memoranda of William T. Golden, October 1950-April 1951. William A. Blanpied, Ed. Directorate for Science and Policy Programs, American Association for the Advancement of Science, Washington,DC, 1995. xliv, 97 pp. Paper, $14.95.

Interleukin-10. Jan E. de Vries and René de Waal Malefyt, Eds. Landes, Austin, TX, 1995 (distributor, CRC Press, Boca Raton, FL). xii, 162 pp., illus. $79. Molecular Biology Intelligence Unit.

Intermetallics. Gerhard Sauthoff. VCH, New York, 1995. xii, 165 pp., illus. $80.

Killing Time. The Autobiography of Paul Feyerabend. Paul Feyerabend. University of Chicago Press, Chicago, 1995. viii, 192 pp., + plates. $22.95.

Kuwaiti Oil Fires. Regional Environmental Perspectives. Tahir Husain. Pergamon (Elsevier Science), Tarrytown, NY, 1995. xvi, 292 pp., illus. $110 or £68.

Laser. Experiments for Beginners. Richard N. Zare *et al.* University Science, Sausalito, CA, 1995. xviii, 232 pp., illus. Paper, $26.50.

Laser Light Scattering. Charles S. Johnson, Jr., and Don A. Gabriel. Dover, New York, 1994. iv, 96 pp., illus. Paper, $6.95. Republication of a chapter of *Spectroscopy in Biochemistry*, vol. 2 (1981).

Launching Europe. An Ethnography of European Cooperation in Space Science. Stacia E. Zabusky. Princeton University Press, Princeton, NJ, 1995. xiv, 261 pp. $49.50 or £37.50; paper, $17.95 or £14.95.

Lens Design. Milton Laikin. 2nd ed. Dekker, New York, 1995. xii, 446 pp., illus., + diskette. $115. Optical Engineering, vol. 48.

Macroecology. James H. Brown. University of Chicago Press, Chicago, 1995. xiv, 269 pp., illus. $42.50 or £33.95; paper, $15.95 or £12.75.

The Major Transitions in Evolution. John Maynard Smith and Eörs Szathmáry. Freeman, New York, 1995. xiv, 346 pp., illus. Paper, $29.95.

Man and Microbes. Disease and Plagues in History and Modern Times. Arno Karlen. Putnam, New York, 1995. vi, 266 pp. $24.95 or $C32.50.

A Man on the Moon. The Voyages of the Apollo Astronauts. Andrew Chaikin. Penguin, New York, 1995. xviii, 670 pp., + plates. Paper, $15.95. Reprint, 1994 ed.

Monoclonal Antibodies. Principles and Applications. J. R. Birch and E. S. Lennox, Eds. Wiley-Liss, New York, 1995. x, 344 pp., illus. $74.95.

Mousterian Lithic Technology. An Ecological Perspective. Steven L. Kuhn. Princeton University Press, Princeton, NJ, 1995. xiv, 209 pp., illus. $49.50 or £39.50.

My Body. Women Speak Out about Their Health Care. Marion Crook. Insight (Plenum), New York, 1995. xxviii, 304 pp. $24.95.

Nazi Science. Myth, Truth, and the German Atomic Bomb. Mark Walker. Plenum, New York, 1995. viii, 325 pp., illus. $28.95.

Neural Control of Movement. William R. Ferrel and Uwe Proske, Eds. Plenum, New York, 1995. xiv, 311 pp., illus. $89.50. From a congress, Glasgow, Scotland, UK, Aug. 1992.

Neural Development and Schizophrenia. Theory and Research. Sarnoff A. Mednick and J. Meggin Hollister, Eds. Plenum, New York, 1995. x, 262 pp., illus. $79.50. NATO ASI Series A, vol. 275. From an institute, Castelvecchio Pascoli, Italy, Sept.-Oct. 1993.

Newton's Clock. Chaos in the Solar System. Ivars Peterson. Freeman, New York, 1995. xvi, 317 pp., illus. Paper, $15.95. Reprint, 1993 ed.

Objectivity and Its Other. Wolfgang Natter, Theodore R. Schatzki, and John Paul Jones III, Eds. Guilford, New York, 1995. x, 214 pp., illus. $40; paper, $18.95. Multidisciplinary Studies in Social Theory.

Ocean-Atmosphere Interaction and Climate Modelling. Boris A. Kagan. Cambridge University Press, New York, 1995. xiv, 377 pp., illus. $79.95. Cambridge Atmospheric and Space Science Series. Translated by Mikhail Hazin.

Omega-3 Fatty Acids and Health. Joyce A. Nettleton. Chapman and Hall, New York, 1995. xvi, 359 pp., illus. $69.95.

p53 Suppressor Gene. Tapas Mukhopadhyay, Steven A. Maxwell, and Jack A. Roth. Landes, Austin, TX, 1995 (distributor, CRC Press, Boca Raton, FL). xii, 129 pp., illus. $69. Molecular Biology Intelligence Unit.

Parasitic Nematodes of Freshwater Fishes of Europe. Frantisek Moravec. Kluwer, Norwell, MA, 1995. 473 pp., illus. $186 or £124 or Dfl. 325.

The Physicists. The History of a Scientific Community in Modern America. Daniel J. Kelves. Harvard University Press, Cambridge, MA, 1995. xlix, 489 pp. Paper, $17.95. Reprint, 1977 ed.

The Physiology and Biochemistry of Prokaryotes. David White. Oxford University Press, New York, 1995. xx, 378 pp., illus. $45.

The Price of Greatness. Resolving the Creativity and Madness Controversy. Arnold M. Ludwig. Guilford, New York, 1995. x, 310 pp., illus. $26.95.

Principles of Quantum General Relativity. Eduard Prugovečki. World Scientific, River Edge, NJ, 1995. xxii, 351 pp. $74; paper, $36.

Radicals on Surfaces. Anders Lund and Christopher J. Rhodes, Eds. Kluwer, Norwell, MA, 1995. x, 317 pp., illus. $154 or £100 or Dfl. 240. Topics in Molecular Organization and Engineering, vol. 13.

Radio. The Forgotten Medium. Edward C. Pease and Everette E. Dennis, Eds. Transaction, New Brunswick, NJ, 1995. xxii, 213 pp. Paper, $19.95. Reprinted from the *Media Studies Journal*, summer 1993.

Radiochemistry and Nuclear Chemistry. Gregory R. Choppin, Jan-Olov Liljenzin, and Jan Rydberg. Butterworth-Heinemann, Stoneham, MA, 1995. vi, 707 pp., illus. Paper, $64.95. New edition of *Nuclear Chemistry: Theory and Applications*.

Radiofrequency Radiation Standards. Biological Effects, Dosimetry, Epidemiology, and Public Health Policy. B. Jon Klauenberg, Martino Grandolfo, and David N. Erwin, Eds. Plenum, New York, 1995. xiv, 455 pp., illus. $120. NATO ASI Series A., vol. 274. From a workshop, Rome, Italy, May 1993.

Samuel Hartlib and Universal Reformation. Studies in Intellectual Communication. Mark Greengrass, Michael Leslie, and Timothy Raylor, Eds. Cambridge University Press, New York, 1995. xx, 372 pp. $59.95.

Schizophrenia. Exploring the Spectrum of Psychosis. R. J. Ancill, S. Holliday, and J. Higenbottam, Eds. Wiley, New York, 1995. xviii, 376 pp., illus. $110. From a conference, Vancouver, British Columbia, Canada, 1994.

Science under Scarcity. Principles and Practice for Agricultural Research Evaluation and Priority Setting. Julian M. Alston, George W. Norton, and Philip G. Pardey. Cornell University Press, Ithaca, NY, 1995. xxxiv, 585 pp. $39.95. Food Systems and Agrarian Change.

Theoretical Nuclear and Subnuclear Physics. John Dirk Walecka. Oxford University Press, New York, 1995. xx, 610 pp., illus. $65. Oxford Studies in Nuclear Physics, 16.

The Theory of Gambling and Statistical Logic. Richard A. Epstein. 2nd ed. Academic Press, San Diego, CA, 1995. xvi, 450 pp., illus. Paper, $29.95.

Thermodynamics of Small Systems. Parts 1 and 2. Terrell L. Hill. Dover, New York, 1994. xii, 210 pp., illus. Paper, $10.95. Reprint, 1963-64 ed.

The Third Culture. Scientists on the Edge. John Brockman. Simon and Schuster, New York, 1995. 415 pp. $25.

Publishers' Addresses

Below is information about how to direct orders for books reviewed in this issue. A fuller list of addresses of publishers represented in *Science* appears in the issue of 26 May 1995, page 1220.

Cambridge University Press, 110 Midland Ave., Port Chester, NY 10573-4930. Phone: 800-872-7423; 914-937-9600. Fax: 914-937-4712.

University Science Books, 55D Gate Five Rd., Sausalito, CA 94965. Phone: 415-332-5390. Fax: 415-332-5393. E-mail: univscibks@igc.org.