

## Books Reviewed in Science

11 May 1973 through 3 May 1974

- The Actinide Elements*, K. W. Bagnall, 29 June 1973, 1357  
*Aerosols and Atmospheric Chemistry*, G. M. Hidy, Ed., 31 Aug. 1973, 837  
*Africa Counts*, C. Zaslavsky, 22 Feb. 1974, 741  
*Air Pollution and Lichens*, B. W. Ferry, M. S. Baddeley, and D. L. Hawksworth, Eds., 19 Oct. 1973, 275  
*Albert Einstein*, B. Hoffmann, 11 May 1973, 620  
*Alfred Binet*, T. H. Wolf, 15 Mar. 1974, 1071  
*The American Medical Machine*, A. Ribicoff, 11 May 1973, 628  
*Analysis of Leaf Development*, R. Maksymowycz, 17 Aug. 1973, 648  
*The Analysis of Tides*, G. Godin, 18 May 1973, 729  
*Animal Colonies*, R. S. Boardman, A. H. Cheetham, and W. A. Oliver, Jr., Eds., 5 Apr. 1974, 54  
*Animal Cytology and Evolution*, ed. 3, M. J. D. White, 12 Oct. 1973, 154  
*Annual Review of Anthropology*, vol. 1, B. J. Siegel, A. R. Beals, and S. A. Tyler, Eds., 29 June 1973, 1355  
*Annual Review of Earth and Planetary Sciences*, vol. 1, F. A. Donath, F. G. Stehlík, and G. W. Wetherill, Eds., 16 Nov. 1973, 706  
*Antarctic Geology and Geophysics*, R. J. Adie, Ed., 17 Aug. 1973, 647  
*Apatite*, D. McConnell, 23 Nov. 1973, 816  
*Arctic Geology*, M. G. Pitcher, Ed., 5 Apr. 1974, 57  
*The Arthropod-Borne Viruses of Vertebrates*, M. Theiler and W. G. Downs, 19 Oct. 1973, 273  
*Aspects of Quantum Theory*, A. Salam and E. P. Wigner, Eds., 1 June 1973, 943  
*Atlas of Palaeobiogeography*, A. Hallam, Ed., 3 Aug. 1973, 431  
*An Atlas of Primate Gross Anatomy*, D. R. Swindler and C. D. Wood, 18 Jan. 1974, 192  
*Atmospheric Energetics*, J. van Mieghem, 2 Oct. 1973, 48  
*Atoms and Molecules in Astrophysics*, T. R. Carson and M. J. Roberts, Eds., 1 Feb. 1974, 405  
*The Auditory Periphery*, P. Dallos, 1 Mar. 1974, 845  
*Aversive Maternal Control*, A. B. Heilbrun, Jr., 28 Sept. 1973, 1240  
*Barobiology and the Experimental Biology of the Deep Sea*, R. W. Brauer, Ed., 15 Mar. 1974, 1074  
*Behavior*, W. T. Powers, 26 Apr. 1974, 455

- Behavioral Embryology*, G. Gottlieb, Ed., 8 Mar. 1974, 948  
*Behaviour of Micro-Organisms*, A. Pérez-Miravete, Ed., 30 Nov. 1973, 914  
*Behavioural Aspects of Parasite Transmission*, E. U. Canning and C. A. Wright, Eds., 14 Dec. 1973, 1124  
*Bell*, R. V. Bruce, 22 June 1973, 1268  
*Bigfoot*, J. Napier, 26 Oct. 1973, 376  
*Biogeography and Ecology in Madagascar*, R. Battistini and G. Richard-Vindard, Eds., 15 June 1973, 1163  
*Biology and Geology of Coral Reefs*, O. A. Jones and R. Endean, Eds., 3 May 1974, 558  
*The Biology of Blue-Green Algae*, N. G. Carr and B. A. Whitton, Eds., 21 Dec. 1973, 1240  
*Biology of Coccinellidae*, I. Hodek, 25 Jan. 1974, 299  
*Biology of Hydra*, A. L. Burnett, Ed., 19 Oct. 1973, 275  
*The Biology of the Indian Ocean*, B. Zeitzschel, Ed., 1 Feb. 1974, 405  
*The Biology of Trematodes*, D. A. Erasmus, 24 Aug. 1973, 739  
*Black Monday's Children*, G. J. Powell, 6 July 1973, 46  
*Blackberry Winter*, M. Mead, 11 May 1973, 618  
*Blepharisma*, A. C. Giese, 29 June 1973, 1355  
*Blueprint for Survival*, E. Goldsmith, R. Allen, M. Allaby, J. Davoll, and S. Lawrence, 11 May 1973, 580  
*Bonds and Bands in Semiconductors*, J. C. Phillips, 1 Feb. 1974, 403  
*Boranes in Organic Chemistry*, H. C. Brown, 1 June 1973, 942  
*Brain-Pituitary-Adrenal Interrelationships*, Z. Brodish and E. S. Redgate, Eds., 9 Nov. 1973, 575  
*Bridge and Barrier*, D. Walker, Ed., 7 Sept. 1973, 934  
*Building the City of Man*, W. W. Wagar, 11 May 1973, 580  
*Buoyancy Effects in Fluids*, J. S. Turner, 29 June 1973, 1356  
*Calcium and Phosphorus Metabolism*, J. T. Irving, 1 Mar. 1974, 845  
*Carbenes*, vol. 1, M. Jones, Jr., and R. A. Moss, Eds., 3 Aug. 1973, 435  
*Carbon-13 NMR Spectroscopy*, J. B. Stothers, 18 May 1973, 728  
*Carbon-13 Nuclear Magnetic Resonance for Organic Chemists*, G. C. Levy and G. L. Nelson, 18 May 1973, 728  
*The Carnivores*, R. F. Ewer, 3 Aug. 1973, 433  
*The Case for American Medicine*, H. Schwartz, 11 May 1973, 628  
*The Cell Cycle in Development and Differentiation*, M. Balls and F. S. Billett, Eds., 19 Oct. 1973, 274  
*Changing Women in a Changing Society*, J. Huber, Ed., 2 Nov. 1973, 471  
*Chemistry and Functions of Colicins*, L. P. Hager, Ed., 15 Mar. 1974, 1076  
*The Chemistry of Organophosphorus Pesticides*, C. Fest and K.-J. Schmidt, 8 Feb. 1974, 506  
*The Chemistry of Platinum and Palladium*, F. R. Hartley, 2 Oct. 1973, 49  
*Chemistry of the Lower Atmosphere*, S. I. Rasool, Ed., 9 Nov. 1973, 575  
*Chromosome Identification*, T. Caspersson and L. Zech, Eds., 15 Feb. 1974, 647  
*Circumpolar Problems*, G. Berg, Ed., 20 July 1973, 257  
*The Coccidia*, D. M. Hammond and P. L. Long, Eds., 16 Nov. 1973, 709  
*The Collected Works of Leo Szilard*, B. T. Feld, G. W. Szilard, and K. R. Winsor, Eds., 14 Sept. 1973, 1036  
*Comparative Ecology and Behaviour of Primates*, R. P. Michael and J. H. Crook, Eds., 12 Apr. 1974, 149  
*Comparative Morphology of the Mammalian Ovary*, H. W. Mossman and K. L. Duke, 8 Mar. 1974, 948  
*The Computer from Pascal to von Neumann*, H. H. Goldstine, 11 May 1973, 588  
*A Computer Perspective*, C. Eames and R. Eames, 11 May 1973, 590  
*Contemporary Archaeology*, M. P. Leone, Ed., 11 May 1973, 616  
*The Context of Social Psychology*, J. Israel and H. Tajfel, Eds., 11 May 1973, 610  
*Control Mechanisms and Protein Synthesis*, S. D. Wainwright, 22 June 1973, 1270  
*Critical Variables in Differentiation*, B. E. Wright, 1 June 1973, 942  
*Culture, Behavior, and Personality*, R. A. LeVine, 11 May 1973, 613  
*Cytochromes*, R. Lemberg and J. Barrett, 8 Feb. 1974, 505  
*Cytogenetics of Aneuploids*, G. S. Khush, 12 Apr. 1974, 151  
*Deep Impurities in Semiconductors*, A. G. Milnes, 29 Mar. 1974, 1284  
*The Detection of Fish*, D. Cushing, 3 May 1974, 558  
*Developmental Nephrology*, W. W. McCrory, 2 Oct. 1973, 48  
*Developmental Physiology and Aging*, P. S. Timiras, 8 June 1973, 1048  
*Developmental Systems: Insects*, S. J. Counce and C. H. Waddington, Eds., 17 Aug. 1973, 649  
*Disease and Economic Development*, B. A. Weisbrod, R. L. Andreano, R. E. Baldwin, E. H. Epstein, and A. C. Kelley, 29 Mar. 1974, 1286  
*Distribution and Ecology of Living Benthic Foraminiferids*, J. W. Murray, 12 Oct. 1973, 154  
*Domestikationsforschung und Geschichte der Haustiere*, J. Matolcsi, Ed., 1 Mar. 1974, 844  
*Dr Robert Broom, F.R.S.*, G. H. Findlay, 11 May 1973, 609  
*Dynamic Ecology*, B. D. Collier, G. W. Cox, A. W. Johnson, and P. C. Miller, 28 Sept. 1973, 1238  
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*Ecology*, R. E. Ricklefs, 28 Sept. 1973, 1238  
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*Energy, Ecology, Economy*, G. Garvey, 30 Nov. 1973, 911  
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*Evolutionary Paleoecology of the Marine Biosphere*, J. W. Valentine, 15 Feb. 1974, 648  
*Family and Community in the Kibbutz*, Y. Talmon, 8 June 1973, 1046  
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*Function of Naturally Occurring Polyamines*, U. Bachrach, 15 Mar. 1974, 1075

*Functional Anatomy of Marine Mammals*, vol. 1, R. J. Harrison, Ed., 15 June 1973, 1165  
*Functions of Language in the Classroom*, C. B. Cazden, V. P. John, and D. Hymes, Eds., 11 May 1973, 615  
*The Functions of Sleep*, E. L. Hartmann, 26 Apr. 1974, 457  
*Galenism*, O. Temkin, 15 Feb. 1974, 650  
*General Ecology*, S. J. McNaughton and L. J. Wolf, 28 Sept. 1973, 1238  
*Genetic Control of Immune Responsiveness*, H. O. McDevitt and M. Landy, Eds., 8 Feb. 1974, 507  
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*Gravitation*, C. W. Misner, K. S. Thorne, and J. A. Wheeler, 22 Mar. 1974, 1186  
*Gravity and Tectonics*, K. A. De Jong and R. Scholten, Eds., 22 Mar. 1974, 1186  
*Growth by Intussusception*, E. S. Deevey, Ed., 11 May 1973, 601  
*Habituation*, H. V. S. Peeke and M. J. Herz, Eds., 15 Feb. 1974, 649  
*The Harvard Fatigue Laboratory*, S. M. Horvath and E. C. Horvath, 11 May 1973, 609  
*Harvard University Program on Technology and Society, 1964-1972*, 11 May 1973, 582  
*Health Care: Can There Be Equity?*, O. W. Anderson, 11 May 1973, 628  
*Hierarchy Theory*, H. H. Pattee, Ed., 17 Aug. 1973, 647  
*A History of Biochemistry*, parts 1 and 2, M. Florkin, 11 May 1973, 606  
*History of Entomology*, R. F. Smith, T. E. Mittler, and C. N. Smith, Eds., 7 Dec. 1973, 1013  
*History of Genetics*, H. Stubbe, 27 July 1973, 336  
*The History of the Study of Landforms or the Development of Geomorphology*, vol. 2, R. J. Chorley, R. P. Beckinsale, and A. J. Dunn, 26 Oct. 1973, 375  
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*The Hydrophobic Effect*, C. Tanford, 3 May 1974, 559  
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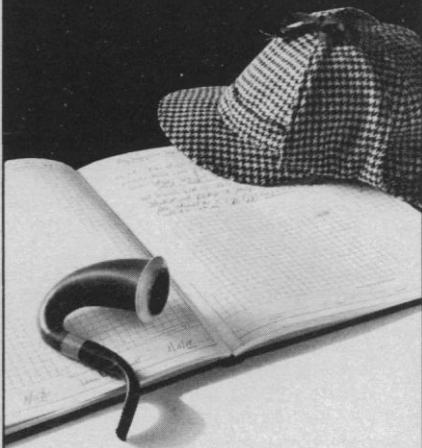
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*The Legacy of George Ellery Hale*, H. Wright, J. N. Warnow, and C. Weiner, Eds., 11 May 1973, 592  
*Licit and Illicit Drugs*, E. M. Brecher, 27 July 1973, 335  
*Life of Marsupials*, H. Tyndale-Biscoe, 9 Nov. 1973, 572  
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*The Mathematical Career of Pierre de Fermat (1601-1665)*, M. S. Mahoney, 13 July 1973, 152  
*Mathematical Physiology*, H. M. Lieberstein, 30 Nov. 1973, 914  
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*Meteorites and Their Origins*, G. J. H. McCall, 15 June 1973, 1165  
*The Milky Way*, S. L. Jaki, 22 June 1973, 1269  
*Mind*, vol. 2, S. K. Langer, 21 Dec. 1973, 1238  
*Models in Archaeology*, D. L. Clarke, Ed., 7 Sept. 1973, 933  
*Molecular Bioenergetics and Macromolecular Biochemistry*, H. H. Weber, Ed., 11 May 1973, 608  
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*Molecules and Life*, J. S. Fruton, 11 May 1973, 606  
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*Nature Conservation in the Pacific*, 28 Sept. 1973, 1240  
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*Newton and Russia*, V. Boss, 11 May 1973, 623  
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*Palaeomagnetism and Plate Tectonics*, M. W. McElhinny, 10 Aug. 1973, 538

*Papers of the Peabody Museum, Harvard University*, vols. 62-64 (reports on the ruins of Altar de Sacrificios, Department of Petén, Guatemala), 25 Jan. 1974, 297

*Paradoxes of Rationality*, N. Howard, 11 May 1973, 595

*Pattern Recognition, Learning, and Thought*, L. Uhr, 1 Feb. 1974, 403

*Patterns in Plant Development*, T. A. Steeves and I. M. Sussex, 21 Sept. 1973, 1160

*Periglacial Processes and Environments*, A. L. Washburn, 29 Mar. 1974, 1285

*Perspectives in Membrane Biophysics*, D. P. Agin, Ed., 10 Aug. 1973, 539

*Phase Transitions and Critical Phenomena*, vols. 1 and 2, C. Domb and M. S. Green, Eds., 9 Nov. 1973, 575

*Phloem Translocation*, M. J. Canny, 11 Jan. 1974, 68

*Physics in the Twentieth Century*, V. F. Weisskopf, 31 Aug. 1973, 836

*Physiological Adaptations*, M. K. Yousef, S. M. Horvath, and R. W. Bullard, Eds., 8 June 1973, 1047

*The Physiology of Insecta*, ed. 2, vol. 1, M. Rockstein, Ed., 1 Feb. 1974, 404

*Phytochemistry*, L. P. Miller, Ed., 22 Mar. 1974, 1190

*Phytochrome*, K. Mitrakos and W. Shropshire, Jr., Eds., 12 Oct. 1973, 153

*A Plague of Corn*, D. A. Roe, 8 Mar. 1974, 949

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*Proceedings of the Colloquium on Conservation Problems in Antarctica*, B. C. Parker, Ed., 23 Nov. 1973, 817

*Proceedings of the Sixth Berkeley Symposium on Mathematical Statistics and Probability*, vol. 5, L. M. Le Cam, J.

- Neymann, and E. L. Scott, Eds., 11 May 1973, 600
- Protein-Protein Interactions*, R. Jaenicke and E. Helmreich, Eds., 7 Dec. 1973, 1014
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- Scientist Extraordinary*, C. Bibby, 6 July 1973, 47
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