To understand the development of superconductivity one cannot, moreover, limit the focus almost exclusively to the experimental developments, as is done in this book. The liquefaction of helium and Leiden's "physics culture" cannot be properly assessed unless seen as part of Kamerlingh Onnes's theoretical agenda relating to the possible phenomenological ways of extending van der Waals's theory. Neither *The General Theory of Fluids*, written in 1881, nor *The Equation of State in Series*, written in 1901, is discussed. The Bardeen-Cooper-Schrieffer theory of 1957 is treated in less than a page with superficial details such as the date they mailed their manuscript. The Londons' theory is presented in a more detailed manner, but nowhere does one find a discussion of the notion of "macroscopic" quantum phenomena. The approach is mentioned a couple of times and at one point is attributed to both Fritz and Heinz. Yet in the only joint paper the two wrote there is no intimation of such a view about superconductivity. The first such suggestion was made by Fritz London in 1935 during the meeting of the Royal Society of London on low-temperature phenomena and was fully developed by him in his *Nouvelles Conceptions de la Supraconductibilité* in 1936. Fritz London's idea was that both superconductivity and superfluidity could be regarded as condensations in momentum space and therefore could be regarded as having macroscopic wave functions. The idea of accommodating the possibility of macroscopic quantum phenomena within the framework of quantum mechanics has been one of the most incisive contributions to the development of both quantum mechanics and low-temperature physics. The "macro" attitude had a long period of gestation and a difficult time getting accepted. These ideas have, in fact, their origin in Fritz London's doctoral dissertation—with Alexander Pfander, one of the founders of phenomenology—as well as in his early work in quantum theory, and specifically transformation theory. And, as is evident from his correspondence with Fritz London, these ideas had a decisive effect on the development of John Bardeen's own ideas about superconductivity.

Dahl's book has quite a few inaccuracies. "Onnes" is properly referred to as Kamerlingh Onnes. He was not, as stated, present at the Chicago Conference of 1913, having been prevented from attending by ill health, even though from the published papers it appears that he was there (in fact, Kamerlingh Onnes never visited the United States). Uhlenbeck's reminiscences about Kamerlingh Onnes's snobbishness toward the Maxwell equations were related to Max Dresden and not to Kramers. It is not the case that in the same issue of *Nature* in 1933 in which Lindemann announced the liquefaction of helium at Oxford Kapitza announced the liquefaction of helium at Cambridge. What was announced from Cambridge was the official opening of the Mond Laboratory, and helium was liquefied there about a year later, in 1934.

Despite their deficiencies, these two books remain welcome additions to the growing literature about the history of low-temperature physics in bringing together a wealth of information about its various aspects.

Kostas Gavroglu
Department of Physics,
National Technical University of Athens,
GR-157 80 Athens, Greece

■

Books Received

Applied Demography for Biologists with Special Emphasis on Insects. James R. Carey. Oxford University Press, New York, 1993. xvi, 206 pp., illus. $39.95.

Approaches to Numerical Relativity. Ray d'Inverno, Ed. Cambridge University Press, New York, 1993. xx, 378 pp., illus. $79.95. From a workshop, Southampton, U.K., Dec. 1991.

Archeology of the Frobisher Voyages. William W. Fitzhugh and Jacqueline S. Olin, Eds. Smithsonian Institution Press, Washington, DC, 1993. xvi, 271 pp., illus. $45.

Biosurfactants. Production, Properties, Applications. Naim Kosaric, Ed. Dekker, New York, 1993. xii, 483 pp., illus. $175. Surfactant Science Series, 48.

Chemical Alert! A Community Action Handbook. Marvin S. Legator and Sabrina F. Strawn, Eds. University of Texas Press, Austin, 1993. xvi, 238 pp., illus. $35; paper, $14.95. New edition of *The Health Detective's Handbook*.

The Chernobyl Papers. Vol. 1, Doses to the Soviet Population and Early Health Effects Studies. Steven E. Merwin and Michail Balonov, Eds. Research Enterprises, Richland, WA, 1993. xvi, 439 pp., illus., + map. $75.

Chromosome Coordinating Meeting 1992 (CCM92). (Baltimore, MD, Nov. 1992.) A. Jamie Cuticchia and Peter L. Pearson, Eds. Karger, New York, 1993. vi, 891 pp., illus. Paper, $397. Genome Priority Reports, vol. 1.

The Complete Correspondence of Signumd Freud and Ernest Jones 1908–1939. R. Andrew Paskauskas, Ed. Harvard University Press, Cambridge, MA, 1993. lii, 836 pp. $39.95.

The Complete T. rex. John R. Horner and Don Lessem. Simon and Schuster, New York, 1993. 239 pp., illus., + plates. $25.

Computer Algebra and Its Applications to Mechanics. V. G. Ganzha, V. M. Rudenko, and E. V. Vorozhtsov, Eds. Nova, Commack, NY, 1993. viii, 197 pp., illus. $93. From a seminar, Novosibirsk and Irkutsk, Aug. 1990.

Crystallography Made Crystal Clear. A Guide for Users of Macromolecular Models. Gale Rhodes. Academic Press, San Diego, CA, 1993. xiv, 202 pp., illus., + plates. Paper, $34.95.

The Culture of Flowers. Jack Goody. Cambridge University Press, New York, 1993. xviii, 462 pp., illus., + plates. $54.95; paper, $18.95.

Cystic Fibrosis. Pamela B. Davis, Ed. Dekker, New York, 1993. xviii, 551 pp., illus. $185. Lung Biology in Health and Science, 64.

Differential Algebras in Topology. David Anick. Peters, Wellesley, MA, 1993. xxvi, 274 pp., illus. $49.50. Research Notes in Mathematics, vol. 3.

Energy Policy in the Greenhouse. Vol. 2, part 1, Cutting Carbon Emissions. Burden or Benefit? The Economics of Energy-Tax and Non-Price Policies. Florentin Krause *et al.* International Project for Sustainable Energy Paths, El Cerrito, CA, 1993. Variously paged, illus. Paper, $50.

Engineering Analysis of Flight Vehicles. Holt Ashley. Dover, New York, 1992. x, 386 pp., illus. Paper, $12.95. Dover Books on Engineering. Corrected reprint, 1974 ed.

Environmental Profiles. A Global Guide to Projects and People. Linda Sobel Katz, Sarah Orrick, and Robert Honig. Jane Svoboda, illustrator. Garland, New York, 1993. xxvi, 1083 pp., illus. $125. Garland Reference Library of Social Science, vol. 736.

Exploding the Gene Myth. How Genetic Information is Produced and Manipulated by Scientists, Physicians, Employers, Insurance Companies, Educators, and Law Enforcers. Ruth Hubbard and Elijah Wald. Beacon, Boston, 1993. xvi, 206 pp., illus. $24.

Exploring Brain Functions. Models in Neuroscience. T. A. Poggio and D. A. Glaser, Eds. Published for Freie Universität Berlin by Wiley, New York, 1993. xviii, 340 pp., illus. $150. Life Sciences Research Report LS52. From a workshop, Berlin, Sept. 1991.

Hemispheric Asymmetry. What's Right and What's Left. Joseph B. Hellige. Harvard University Press, Cambridge, MA, 1993. xvi, 396 pp., illus. $35. Perspectives in Cognitive Neuroscience.

An Introduction to Fungal Biotechnology. M. Wainwright. Wiley, New York, 1992. xii, 202 pp., illus. Paper, $34.95. Wiley Biotechnology Series.

An Introduction to Partial Differential Equations. Michael Renardy and Robert C. Rogers. Springer-Verlag, New York, 1993. xiv, 428 pp., illus. $42. Texts in Applied Mathematics, 13.

Introduction to Statistical Optics. Edward L. O'Neill. Dover, New York, 1992. x, 179 pp., illus. Paper, $6.95. Dover Books on Physics and Chemistry. Reprint, 1963 ed.

Language and Its Disturbances in Dreams. The Pioneering Work of Freud and Kraepelin Updated. Frank Heynick. Wiley, New York, 1993. xii, 308 pp., illus. $44.95.

Medicine, Money, and Morals. Physicians' Conflicts of Interest. Marc A. Rodwin. Oxford University Press, New York, 1993. xx, 411 pp., illus. $25.

Methods in Enzymology. Vol. 214, Carotenoids. Part B, Metabolism, Genetics, and Biosynthesis. Lester Packer, Ed. Academic Press, San Diego, CA, 1993. xxviii, 468 pp., illus. $75.

Methods in Enzymology. Vol. 217, Recombinant DNA. Part H. Ray Wu, Ed. Academic Press, San Diego, CA, 1993. xxx, 724 pp., illus. $90.

Neurobiology of Invertebrates. Signal Molecules, Networks, Behaviour. J. Salánki, K. S.-Rósa, and K. Elekes, Eds. Akadémiai Kiadó, Budapest, 1993. iv, 449 pp., illus. $58. From a symposium, Tihany, Hungary, June 1991. Reprinted from *Acta Biologica Hungarica*, vol. 43.

Population-Environment Dynamics. Ideas and Observations. Gayl D. Ness, William D. Drake, and Steven R. Brechin, Eds. University of Michigan Press, Ann Arbor, 1993. xvi, 456 pp., illus. $45. From a symposium, Oct. 1990.

Poucher's Perfumes, Cosmetics, and Soaps. Vol. 3, Cosmetics. Hilda Butler, Ed. 9th ed. Chapman and Hall, New York, 1993. xii, 751 pp., illus. $79.50.

Power Semiconductor Devices and Circuits. André A. Jaecklin, Ed. Plenum, New York, 1992. xiv, 393 pp., illus. $95. Asea Brown Boveri Symposia. From a symposium, Baden-Dättwil, Switzerland, Sept. 1991.

Rypins' Basic Sciences Review. Edward D. Frohlich, Ed. 16th ed. Lippincott, Philadelphia, 1993. xvi, 856 pp., illus. Paper, $34.50.

Secondary Metabolites. Their Function and Evolution. Wiley, New York, 1992. x, 318 pp., illus. $75. Ciba Foundation Symposium, 171. From a symposium, London, Feb. 1992.

The Self-Aware Universe. How Consciousness Creates the Material World. Amit Goswami. Putnam, New York, 1993. xvi, 319 pp., illus. $24.95.

The Seminar of Jacques Lacan. Book III, The Psychoses 1955–1956. Jacques-Alain Miller, Ed. Norton, New York, 1993. x, 341 pp., illus. $35. Translated from the French edition (Paris, 1981) by Russell Grigg.