

Hammer Club, membership in which was (until its own founders aged) confined to the young, lest "older men . . . infect the meetings with solemnity and repress fearless discussion." That bonhomie has been a feature of the society in recent years is indicated in a number of ways, but most directly by an account of the Sleeping Bear Award, bestowed annually for deeds or words of "genuine good humor" by an anonymous committee whose members "lurk in the audience throughout the year, ever alert for humor, bon mots, grumbles, flatulence, or whatever." Some of this lightening up is attributed to the increased participation of women, who have always been represented in the membership and now constitute about a quarter of it.

The general history of the society having been set forth, the largest part of the book is given over to a series of page-and-a-half biographies, with photographs, of 40 founders and early members, arranged alphabetically from Marcus Baker to Bailey Willis and including the luminaries Grove Karl Gilbert and John Wesley Powell. These are followed by one-paragraph accounts of 55 "significant talks" that have been given at the society's meetings, beginning with an 1896 discussion, presumably involving T. W. Stanton and F. H. Knowlton, of problems of subdividing geological time and ending with Walter Alvarez on the "terminal Cretaceous event" (1990) and Wayne C. Shanks on sulfide deposits in the Escanaba trough (1991). Full lists of officers, awards, and presidential addresses, along with financial and attendance data, round out the history.

—Katherine Livingston

Frontiers of Science. Reports from the Final International Session of the Moscow Refusnik Seminar. YURI B. CHERNYAK and JOEL L. LEBOWITZ, Eds. New York Academy of Sciences, New York, 1992. xxvi, 371 pp., illus. Paper, \$90. *Annals of the New York Academy of Sciences*, vol. 661.

This volume, Joel Lebowitz notes in his foreword, marks a happy end, that of the Moscow Sunday Refusnik Seminar. Since 1973 a group of scientist refusniks (persons who had made open their dissatisfaction with the Soviet regime by applying for permission to emigrate) had been meeting in Moscow apartments to pursue their interest in science both for its own sake and as a means of promoting freedom in Soviet society. In 1989 members of the group began to be informed that "the circumstances preventing your family from leaving the USSR have expired," and within a year or so most had departed, thus ending the informal institution. Sympathetic Western

visitors attended the seminar over the years, and five previous volumes of proceedings of its "international sessions" have appeared among the *Annals* of the New York Academy of Sciences. Other volumes have included some recountings of the hardships its Soviet participants faced, but this one is distinguished by a retrospective account of the seminar as a whole, provided by Yuri Chernyak, one of its leaders. In addition to describing the fundamental goals and outlining the progress of the seminar—"probably the first independent group activity in the USSR that was not kept underground and that the authorities eventually failed to stop"—Chernyak tells some anecdotes from its history. One involves the deployment of a "young, pink-cheeked" policeman "confident in his power to stop any hoodlum" in an attempt to remove KGB officers who were blocking access to the seminar. Others have to do with the transport of manuscripts and books to and from the West. Among the imports were two personal computers that enabled the seminar members, who included many computer scientists, not only to offer courses in programming but to correct official lists that greatly underestimated the numbers of refusniks. In another general paper, Jørgen Bennedsen *et al.* describe the 1988 visit of a Scandinavian delegation to the seminar. As to the technical content of the volume, six papers each appear under the headings Physical Sciences, Mathematics and Computer Science, and Biology, Chemistry, and Biophysics. A sampling of titles includes "Mach's principle, inflation, antiinflation" (B. L. Altschuler), "Type III Padé approximants: applications to physical problems" (V. M. Krasnopol'sky), "Two classes of inverse problems for partial differential equations" (M. V. Klivanov), "A method of quasi-periodic stochastic process analysis" (E. Reznikov), "Active clusters and concentration-effect dependencies for biologically active substances" (S. Bushelev), and "Interpretation of a model for a DDT-treated population of *Ixodes persulcatus*" (I. Uspensky *et al.*). A fourth section, headed Miscellaneous, is largely given over to a series of five papers by Chernyak, A. I. Leonov, and A. Y. Lerner outlining a "constructive theory of human behavior," and 16 poster papers end the volume.

—Katherine Livingston

Books Received

Acoustics of American English Speech. A Dynamic Approach. Joseph P. Olive, Alice Greenwood, and John Coleman. Springer-Verlag, New York, 1993. x, 396 pp., illus. \$59.

Bacterial Growth and Lysis. Metabolism and Structure of the Bacterial Saccus. M. A. de Pedro,

J.-V. Høltje, and W. Löffelhardt, Eds. Plenum, New York, 1993. xii, 474 pp., illus. \$115. Federation of European Microbiological Societies Symposium no. 65. From a symposium, Mallorca, Spain, April 1992.

Chaos in Dynamical Systems. Edward Ott. Cambridge University Press, New York, 1993. xii, 385 pp., illus. \$69.95; paper, \$29.95.

The Dictionary of Geographical Literacy. The Complete Geography Reference. Kieran O'Mahony. EduCare, Seattle, WA, 1993. viii, 374 pp., illus. Paper, \$19.95.

Electronics, Noise and Signal Recovery. E. R. Davies. Academic, San Diego, CA, 1993. xx, 346 pp., illus. Paper, \$24.95. *Microelectronics and Signal Processing*, 10.

The Fractured Marketplace for Standardized Testing. Walter M. Haney, George F. Madaus, and Robert Lyons. Kluwer, Norwell, MA, 1993. xiv, 347 pp., illus. \$59.95, P46.50, or Dfl.130. *Evaluation in Education and Human Services*.

Guidance and Control 1993. Robert D. Culp and George Bickley, Eds. Published for American Astronautical Society by Univelt, San Diego, CA, 1993. xviii, 630 pp., illus. \$120; paper, \$90. *Advances in Astronautical Sciences*, vol. 81. From a conference, Keystone, CO, Feb. 1993.

Handbook of Affinity Chromatography. Toni Kline, Ed. Dekker, New York, 1993. viii, 332 pp., illus. \$135. *Chromatographic Science Series*, 63.

Isotonic Transport in Leaky Epithelia. Hans H. Ussing *et al.*, Eds. Munksgaard, Copenhagen, 1993. 519 pp., illus. Dkr450. Alfred Benzon Symposium Series, no. 34. From a symposium, Copenhagen, June 1992.

Language and Communication. Comparative Perspectives. Herbert L. Roitblat, Louis M. Herman, and Paul E. Nachtigall, Eds. Erlbaum, Hillsdale, NJ, 1993. xvi, 502 pp., illus. \$89.95; paper, \$39.95. *Comparative Cognition and Neuroscience*.

The Mammalian Cochlear Nuclei. Organization and Function. Miguel A. Merchán *et al.*, Eds. Plenum, New York, 1993. xiv, 517 pp., illus., + plate. \$125.

Management and Biology of Carcinoma in situ and Cancer of the Testis. Niels E. Skakkebaek *et al.*, Eds. Karger, New York, 1993. iv, 256 pp., illus. \$60. From a workshop, Copenhagen, Nov. 1992. Reprint of *European Urology*, vol. 23, no. 1 (1993). NATO Advanced Science Institutes Series A, vol. 239. From a workshop, Salamanca, Spain, Sept. 1991.

El Niño. Historical and Paleoclimatic Aspects of the Southern Oscillation. Henry F. Diaz and Vera Markgraf, Eds. Cambridge University Press, New York, 1993. xiv, 476 pp., illus. \$69.95.

Optimal Control and the Calculus of Variations. Enid R. Pinch. Oxford University Press, New York, 1993. viii, 234 pp., illus. \$49.95.

Paleomagnetism of the Atlantic, Tethys and Iapetus Oceans. Rob Van der Voo. Cambridge University Press, New York, 1993. x, 411 pp., illus. \$89.95.

The Rise and Fall of the Fifth Force. Discovery, Pursuit, and Justification in Modern Physics. Allan Franklin. American Institute of Physics, New York, 1993. viii, 141 pp., illus. \$29.95.

Satellite Communication Systems Design. Sebastiano Tiro, Ed. Plenum, New York, 1993. xxx, 837 pp., illus. \$110.

Through a Universe Darkly. A Cosmic Tale of Ancient Ethers, Dark Matter, and the Fate of the Universe. Marcia Bartusiak. HarperCollins, New York, 1993. xvi, 383 pp., illus. \$27.50.

The Uruk World System. The Dynamics of Expansion of Early Mesopotamian Civilization. Guillermo Algaze. University of Chicago Press, Chicago, 1993. xii, 162 pp., illus. \$39.95.

The Vascular Flora of Pennsylvania. Annotated Checklist and Atlas. Ann Fowler Rhoads and William McKinley Klein, Jr. Janet E. Klein, illustrator. American Philosophical Society, Philadelphia, 1993. vi, 636 pp., illus. \$50. American Philosophical Society Memoir Series, vol. 207.

The World Treasury of Physics, Astronomy, and Mathematics. Timothy Ferris, Ed. Little Brown, New York, 1993. xvi, 859 pp., illus. Paper, \$17.95. Reprint, 1991 ed.

Wetlands. William J. Mitsch and James G. Gosselink. 2nd ed. Van Nostrand Reinhold, New York, 1993. xiv, 722 pp., illus. \$59.95.