

to soils) and is described in section 6. In the direct method soil is maintained under conditions similar to those in the field, and the microbial types which develop on added substrates are identified by direct microscopic examination and subsequent culture. This technique was used to show the importance of the cytophagias in the aerobic decomposition of cellulose in soil (section 7) and to demonstrate that *Azotobacter* is by far the most significant fixer of nitrogen (section 8).

The production of ammonia by *Azotobacter* is discussed at length. Numerous experiments, intended to prove that it is a product of nitrogen fixation rather than autolysis, are described. Although by modern biochemical standards the data and experimental techniques do not establish conclusively that N_2 is reduced directly to ammonia, the results do show that ammonia is given off from the cells under conditions simulating those in nature.

Data on ammonia production by nodules of legumes are presented in section 9, with results essentially similar to those found with *Azotobacter*. The concluding section formulates some principles of microbial ecology.

The keen analysis of fundamental problems and the simple and successful methods used to solve them mark Winogradsky as one of the world's greatest masters of microbiology. All microbiologists, but particularly beginners in soil microbiology, should be greatly indebted to him for this edition, which fully realizes the purpose of the author. His work has already profoundly influenced the ideas and practices of innumerable scientists, and its ready availability in *Microbiologie du Sol* assures that this influence will continue.

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Scientific Book Register

- The Cerebral Cortex of Man: A Clinical Study of Localization of Function.* Wilder Penfield and Theodore Rasmussen. New York: Macmillan, 1950. 248 pp. \$6.50.
- Metallurgical Applications of the Electron Microscope.* London, England: Institute of Metals, 1950. 164 pp. \$3.50.
- Soviet Psychiatry.* Joseph Wortis. Baltimore, Md.: Williams & Wilkins, 1950. 314 pp. \$5.00.
- Inorganic Syntheses*, Vol. III. Ludwig F. Audrieth, Ed. New York: McGraw-Hill, 1950. 230 pp. \$3.75.
- Electromagnetic Theory*, Vols. I, II and III. Oliver Heaviside. New York: Dover Publs., 1950. 386 pp. \$7.50.
- Handbook of Physiology & Biochemistry.* 40th ed. R. J. S. McDowall. London: John Murray; Philadelphia: Blakiston, 1950. 767 pp. \$7.00.
- Principles of Genetics.* 4th ed. Edmund W. Sinnott, L. C. Dunn and Th. Dobzhansky. New York: McGraw-Hill, 1950. 505 pp. \$5.00.
- Electricity and Magnetism: Theory and Applications.* 3rd ed. Norman E. Gilbert. New York: Macmillan, 1950. 569 pp. \$5.00.
- Heat and Temperature Measurement.* 2nd ed. Robert L. Weber. New York: Prentice-Hall, 1950. 422 pp. \$6.65.
- Some Theory of Sampling.* William Edwards Deming. New York: John Wiley; London: Chapman & Hall, 1950. 602 pp. \$9.00.
- Elements of Ordinary Differential Equations.* Michael Golomb and Merrill Shanks. New York: McGraw-Hill, 1950. 356 pp. \$3.50.



Association Affairs

Salt Lake City Meeting of the Pacific Division

The 31st annual meeting of the Pacific Division, AAAS, was held in Salt Lake City, June 19-24, at the invitation of the University of Utah. The university, which this year is celebrating its one-hundredth anniversary, offered a most cordial and hospitable welcome and provided unusually fine facilities for the meeting. The Student Union Building, which served as registration headquarters, provided a cafeteria and coffee shop, rooms for group luncheons and banquets, committee rooms, and meeting rooms for part of the scientific sessions. General sessions were held in Kingsbury Hall, which has a seating capacity of 2,000. Other sessions were held in conveniently located university buildings. The physical arrangements contributed markedly to a successful, well-integrated meeting.

The divisional symposium held on Tuesday morning—"The Westward Migration and Its Consequences"—was

of outstanding interest and importance. Four papers were presented: "Westward Ho! America Moves West," by Leland H. Creer, professor of history, University of Utah; "Population Pressure and Its Impact on the Environment," by John Tee-Van, of the Conservation Foundation and the New York Zoological Society; "Land Use, the Basis of Western Economy," by Sigmond V. Wantrup, professor of agricultural economics, University of California; and "Forestry Practice and Watershed Management, the Key to Resource Conservation," by Reed W. Bailey, director of the Intermountain Forest and Range Experiment Station. Presentation of these papers was followed by lively discussion.

This symposium was followed by an address on Tuesday evening by Olaus J. Murie, president of the Wilderness Society, on "Saving the Western Wilderness."

On Tuesday afternoon the president of the University of Utah, Albert Ray Olpin, and Mrs. Olpin, received