

each other's feed boxes if they wished. Then one more non-vaccinated calf was added to the group as a control and all of them were given shots of virulent rinderpest virus. All the vaccinated animals proved to be immune to the disease. All the non-vaccinated ones developed the disease and died or were destroyed at the point of death.

At one stage of the work, the possibility of chickens and other birds being a reservoir of the disease, which might be spread from them by blood-sucking insects, was considered. This developed from the unique finding that embryos which had been infected with the virus would develop into chickens. This has never occurred in embryos infected with other viruses. The baby chicks had the virus in their bodies for as long as five days, but fortunately it did not get into the blood where it would have been available to insects for possible transfer to cattle.

The scientists at Grosse Isle worked not only under strict military secrecy but under constant and most vigilant precautions against possible escape of the virus from their island laboratory.

The danger of accidentally starting an epidemic of rinderpest in Canada or the United States was so great that, as one of many precautions, no hay was fed to any of the animals. This was because of the difficulty of disposing of the remnants, since even a shred of infected hay might cause a disastrous epidemic.

Calves vaccinated with the egg virus are solidly protected against rinderpest within 10 days after vaccination. The vaccine causes a mild disease in the calves but this mild form of the disease does not seem to be contagious.

The undried virus keeps well at temperatures well below freezing, but rapidly loses its potency at room temperature. It therefore has to be dried from the frozen state. For their first practical drying apparatus, the scientists used a defective depth bomb casing which happened to be available in their island locality. Early in 1945 they obtained a commercial experimental dessicator.

The dried vaccine packed in vacuum keeps as long as 15 months at temperatures close to freezing, but should be given to cattle within 12 hours after reconstituting it from the dried state.

Science News Letter, March 16, 1946

WOMAN AS FORCE IN HISTORY: A Study in Traditions and Realities—Mary R. Beard—*Macmillan*, 369 p., \$3.50. A survey of the relationship between men and women from earliest times to the present and of what history shows of the way in which men and women have actually lived and worked together.

Science News Letter, March 16, 1946

MEDICINE

Production of Hemoglobin Speeded After Hemorrhage

► PRODUCTION of hemoglobin, which gives blood its red color, may be speeded after severe hemorrhage by doses of a vitamin and another chemical derived from a vitamin, it appears from studies by Dr. M. L. Scott, Dr. L. C. Norris and Dr. G. F. Heuser, of the Agricultural Experiment Station and School of Nutrition at Cornell University.

Hens that had lost about one-third of the blood in their bodies made up the loss with hemoglobin quantities back to normal within eight to nine days when given the two vitamin-chemicals, the scientists report. (*Science*, Mar. 8)

The two chemicals that produced this speedy hemoglobin regeneration in the hens are the L. casei factor, which is a form of the vitamin, folic acid, and pyracin, also called pyrodoxic acid and derived from another vitamin, pyridoxine.

Science News Letter, March 16, 1946

France is the first of the liberated countries to start *penicillin* production.

Books of the Week

BIOLOGY AND CONTROL OF THE AMERICAN DOG TICK—Carroll N. Smith, Moses M. Cole and Harry K. Gouck—*Government Printing Office*, 74 p., diags. and illus., 20 cents. U. S. Technical Bull., No. 905.

BURMA SURGEON RETURNS—Gordon S. Seagrave, M.D.—*W. W. Norton*, 268 p., illus. and maps, \$3. The story of Dr. Seagrave's medical mission in Burma after the Japanese occupation. He writes of the medical problems and achievements of his unit and of the future of medicine and missions.

COMMON-SENSE BUSINESS LEADERSHIP: A Manual of Human Relations—G. E. Foscroke—*Duell*, 177 p., \$2.50. A definition of business leadership and suggestions about how it may be developed with a knowledge of the basic principles of human relations and liberal applications of common sense.

THE ELECTRON MICROSCOPE: An Introduction to Its Fundamental Principles and Applications—E. F. Burton and W. H. Kohl—*Reinhold*, 325 p., diags. and illus., \$4. A presentation of the physical principles upon which the operation of the electron microscope is based, making no assumptions in regard to the technical knowledge of the reader.

ESSENTIALS OF GENERAL CHEMISTRY—B. Smith Hopkins and John C. Bailar, Jr.—*Heath*, 520 p., tables and illus., \$3.50. A textbook for use in college freshman classes.

AN INTRODUCTION TO EDUCATIONAL STATISTICS—C. W. Odell—*Prentice-Hall*, 269 p., tables, \$4.67. A textbook pre-supposing no preparation in mathematics beyond

high school algebra and geometry and designed to cover a one semester's course.

AN INTRODUCTION TO HUMAN ANATOMY—Clyde Marshall, M.D., revised by Edgar L. Lazier—*W. B. Saunders*, 418 p., illus., \$2.50, 3rd ed. A textbook for use in colleges.

LET'S FIND OUT: A First Picture Science Book—Herman and Nina Schneider—*William R. Scott*, 39 p., illus., \$1.25. Experiments with very simple equipment to be found around the house. For 6 to 9 year olds.

LISTENING TO MUSIC CREATIVELY—Edwin J. Stringham—*Prentice-Hall*, 479 p., illus., \$5. An introduction to the broad world of music, revealing some of its inner workings, its historical traditions, its vocabulary, and establishing a practice for general listening.

MARINE MICROBIOLOGY: A Monograph on Hydrobacteriology—Claude E. ZoBell, *Chronica Botanica*, 240 p., tables and illus., \$5. Foreword by Selman A. Waksman.

THE PRINCIPLES OF HEREDITY—Laurence H. Snyder—*Heath*, 450 p., tables and illus., \$3.75, 3rd ed. An introductory textbook developing the principles of heredity as far as possible on the basis of organisms with which the reader is familiar. This revised edition includes material on the Rh factors, the bearing of these factors on feeble-mindedness, etc.

SUNSPOT CHANGES AND WEATHER CHANGES—H. H. Clayton—*Smithsonian Institution*, 29 p., diags. and tables, 20 cents. *Smithsonian Miscellaneous Collections*, Vol. 104, No. 19.



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