

temperatures in various pure metals, such as mercury, tin and lead, and in many alloys.

SYSTEMATIC DICTIONARY OF MAMMALS OF THE WORLD—Maurice Burton—*Crowell*, 307 p., illus., \$7.50. Includes nearly every family or species, tells general characteristics, habits, habitat, food and feeding habits, breeding, present status, range, longevity, and additional data.

THE THERMODYNAMICS OF ELECTRICAL PHENOMENA IN METALS AND A CONDENSED COLLECTION OF THERMODYNAMIC FORMULAS—P. W. Bridgman—*Dover*, 244 p., illus., paper, \$1.65. Written for theoretical physicists, teachers, and students, author begins with the fundamental formulas and develops the subject from there. Reprint (1925, 1934).

A TREATISE ON DYNAMICS OF A PARTICLE—Edward John Routh—*Dover*, 417 p., paper, \$2.25. Textbook on dynamics, written especially for the beginning student of mathematics and physics, emphasizing the concrete aspects, while providing a detailed treatment of the entire subject. Reprint (1898).

YOUR CAREER OPPORTUNITIES IN MEDICINE—Chas. Pfizer and Co., Inc., 30 p., illus., paper, single copies free upon request direct to publisher, 235 East 42nd St., New York 17, N. Y. Designed to help communities interest more students in careers in medicine.

YOUR FUTURE IN MEDICAL TECHNOLOGY—Grace Paul—*Rosen, R.*, 156 p., \$2.95. Thorough study of the field, to help students weigh their capabilities and ambitions in light of the requirements, advantages and drawbacks of a medical technologist's career.

• Science News Letter, 82:28 July 14, 1962

## CHEMISTRY

## First Computer-Produced, Illustrated Periodical

► DEVELOPMENT of the world's first computer-produced, illustrated periodical has been started in Columbus, Ohio, by the Chemical Abstracts Service of the American Chemical Society. A Public Health Service grant of \$74,305 has made the first year of the project possible.

The experimental publication, to be produced at high speed, will contain abstracts of current information on the biological activities of chemical compounds reported in scientific journals from many countries. Graphic formulas and an index also will be included.

Early efforts will be directed towards production of an experimental issue, possibly to appear late this year. The publication, if successful, will provide current abstracted information intended particularly for researchers in the field of pharmacology and chemotherapy.

Information will be extracted and translated from original papers in many languages, transferred to "computer language" by a staff of analysts, and printed in English at high speed. Production has tentatively been set for two-week intervals.

The long term goal of the project is to extend whatever techniques are developed to other subdisciplines of chemistry.

Work on the project is being conducted in the Chemical Abstracts Service research and development division at Columbus under the direction of Dr. G. M. Dyson, director of research for CAS, and Dr. M. F. Lynch, also of the CAS staff.

• Science News Letter, 82:29 July 14, 1962

## CHEMISTRY

## Potent New Antibiotic Has No Adverse Effects

► A POTENT ANTIBIOTIC that does not have the adverse side effects of several related drugs now in use was described at the American Chemical Society's Eighth National Medicinal Chemistry Symposium, Boulder, Colo.

Scientists from the Upjohn Company, Kalamazoo, Mich., reported that they have succeeded in mapping the chemical structure of the antibiotic, which is called actinospectacin. The drug was discovered and isolated in the Upjohn laboratories last year.

It has been reported to show a broad spectrum of antibacterial activity in both laboratory and clinical trials, and to be effective in urinary tract and other serious infections.

Actinospectacin is designed for injection into the patient's muscle tissue or blood stream, depending on the kind and location of the infection. No oral dosage form has been developed.

Drs. Herman Hoeksema, A. D. Argoudelis and P. F. Wiley reported in detail the chemical detection methods they used in determining the structure of actinospectacin, the drug which is a distant chemical relative of the streptomycin-neomycin family of antibiotics. Unlike these relatives, however, actinospectacin has shown no tendency to cause nerve damage—specifically impairment of hearing—that sometimes results with the use of streptomycin or neomycin, they said.

Dr. Hoeksema pointed out that actinospectacin, Trobicin, was found to have a unique tricyclic or three-ring molecule in which "an unusual new type of sugar is joined with a new base, actinamine." This actinamine base, he said, is distantly related to the chemical base of both streptomycin and neomycin.

Actinospectacin is produced by a fermentation process using a species of microbe called *Streptomyces spectabilis*.

• Science News Letter, 82:29 July 14, 1962

## Questions

CHEMISTRY—How is actinospectacin produced? p. 29.

HORTICULTURE—What chemical has been found to speed the germination of pine seeds? p. 24.

ORNITHOLOGY—How many Florida Everglade kites are still in existence? p. 22.

PHYSICS—How many elements were discovered with the 60-inch cyclotron at the Lawrence Radiation Laboratory? p. 19.

PUBLIC SAFETY—How many poison control centers are there in the U.S.? p. 23.

RADIOLOGY—When is radiation from fallout at highest levels? p. 26.

Photographs: Cover, IBM Corporation; p. 19, University of California; p. 21, Linde Company, Division of Union Carbide Corporation; p. 22, Brookhaven National Laboratory; p. 23, U.S. Food and Drug Administration; p. 26, U.S. Public Health Service; p. 32 (top), Weckesser Company, Inc.; p. 32 (bottom), Science Service.



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