

Books of the Week

TO SERVE YOU: To get books, send us a check or money order to cover retail price. Address Book Dept., SCIENCE NEWS LETTER, 1719 N St., N. W. Washington 6, D. C. Ask for free publications direct from issuing organizations.

COLLEGE ZOOLOGY—George W. Hunter, III and F. R. Hunter—*Saunders*, 821 p., illus., \$5.50. A dynamic approach and a functional point of view in which morphology is introduced whenever possible in connection with the discussion of how the organism functions.

COMICS, RADIO, MOVIES—AND CHILDREN, pamphlet No. 148—Josette Frank—*Public Affairs Press*, 32 p., illus., paper, twenty cents.

THE MARRIAGE HANDBOOK—Judson T. Landis and Mary G. Landis—*Prentice-Hall*, 513 p., illus., \$3.50. An outgrowth of experience in teaching modern marriage courses to some 7,500 college students at Michigan State College. A few of the subjects treated are: Sex Education in Children, Buying Life Insurance, Mixed Marriages, and In-Laws and Marriage Adjustments.

OEDIPUS MYTH AND COMPLEX—Patrick Mullahy—*Hermitage*, 538 p., \$5.00. The familiar problems of the Oedipus complex are approached in an unfamiliar way. Sophocles' *Oedipus* trilogy is published together with the various psychoanalytic interpretations of the Oedipus myth.

OUR CONSERVATION JOB—Stephen Raushenbush—*Public Affairs Press*, 64 p., paper, fifty cents. An analysis of the problems of conservation.

SOCIAL PSYCHOLOGY OF MODERN LIFE—Stewart Henderson Britt—*Rinehart*, rev. ed., 703 p., illus., \$4.50. This new edition has been thoroughly revised, for new concepts and material have been introduced in every chapter. The author has done a splendid job of integrating all the new material. Exceptionally well illustrated.

RADIO LISTENING IN AMERICA: The People Look at Radio—Again—Paul F. Lazarsfeld and Patricia L. Kendall—*Prentice-Hall*, 178 p., illus., \$2.50. The report of a survey conducted by the National Opinion Research Center.

It makes a contribution to research into radio as a social institution.

STRATEGIC INTELLIGENCE: for American World Policy—Sherman Kent—*Princeton University Press*, 226 p., \$3.00. A remarkable book upon the subject of intelligence in the sense of knowledge which our highly placed civilian and military men must have to safeguard the national welfare. The Central Intelligence Agency is comprehensively explained.

THEORY OF OSCILLATIONS—A. A. Andronow and C. E. Chaikin—*Princeton University Press*, 358 p., illus., \$6.00. The original work on oscillations, by two leading members of the Soviet Institute of Oscillations, was published in Russia in 1937. Beginning with a treatment of linear systems, this study rapidly progresses to various types of non-linear systems.

Science News Letter, April 2, 1949

ENGINEERING

Coal-to-Oil Processes

➤ IT IS a long step ahead from the German process of making gasoline from coal to the methods to be employed in two new coal-to-oil government plants to be opened in Louisiana, Mo., on May 8, the anniversary of VE-Day.

Two processes are to be used in these U. S. Bureau of Mines' pilot plants, both improved from the methods that the Germans used during the war to produce aircraft fuels, motor vehicle gasoline and lubricating oils. One is based on direct hydrogenation or Bergius-Farben process, the other on the gas-synthesis or indirect Fischer-Tropsch method.

These processes are complementary rather than competitive, and the liquid products that each is best adapted to produce range all the way from heavy fuel oils for ships and industry to jet fuels and aviation gasoline.

The first of the two units, a hydrogenation demonstration plant, is now ready for operation. Production capacity is from 200 to 300 barrels a day. The plant is designed for pressures up to 10,300 pounds per square inch in two major operations.

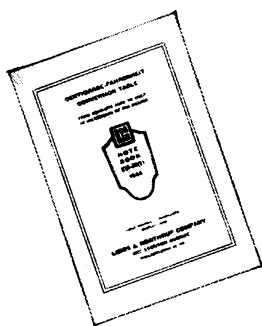
These are the liquid-phase hydrogenation which accomplishes liquefaction of the coal, and vapor-phase hydrogenation which converts the liquefied coal to gasoline and by-products. Chemically, crude petroleum contains more than twice as much hydrogen as does coal. Thus to convert coal to finished gasoline by this process, hydrogen is added under high pressure and temperature.

The second of the Bureau's new units, a gas synthesis demonstration plant, is scheduled for completion this year. This plant will gasify pulverized coal with oxygen and superheated steam. The resulting gases, a mixture of carbon monoxide and hydrogen, are converted to liquid fuels by the Fischer-Tropsch process.

Coal gasification is not only the first step in both basic processes but the number one

cost problem at the present time. For this reason, priority was given to this phase of construction, and runs will be made in this unit while the synthesis unit is being completed.

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QUICK-READING

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