

so admirably the relationship between doubt and certainty—a most appropriate title for the booklet.

Professor Young describes the higher activities of man (scientists) by considering the brain processes that produce them. Communication is essential to cooperation between individuals and dominates all man's actions—speaking habits and other behavior patterns. The brain does this by building up a series of rules, which act as models for the brain when it deals with new events. Models of communication have a historical pattern, which is brought out by the author in tracing the changing concepts in science; i.e., "matter and forces" have been gradually replaced by those of "relative motion and energy." Appropriate photographic and sketch illustrations make the explanation quite meaningful. The booklet has value as a reference in psychology and biology besides being of interest to the general reader.

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BULLOUGH, W. S. *Vertebrate Sexual Cycles*. John Wiley & Sons, Inc., New York. viii + 117 pp. 1951. \$1.50.

This little book is written by a research fellow of the Royal Society of London, for the non-specialist, and published as one of Methuen's Monographs on Biological Subjects. It deals with the two best known sexual cycles—the long seasonal or yearly cycle found in vertebrates of all classes and the short oestrus cycle of female mammals. The author attempts to summarize the knowledge gained during the past generation or so on the interactions of the numerous and complex factors affecting these cycles. Although great advances have been made, he admits that much research remains to be done. The book is documented with a literature list of 203 titles.

Facts are given to show that seasonal cycles are especially subject to the external environment, light in particular, acting upon the nervous system, and through it upon the pituitary gland, whose hormones in turn affect the gonads. For example, autumn-breeding sheep were taken from England to South Africa. The ewes lambed after arrival in January. When the southern autumn began in March they came into heat and were mated in May. Thereafter they bred only in the southern autumn. Similar reversals are cited in other mammals. Increasing or decreasing daylight is the effective stimulus.

Oestrus cycles are primarily genetic in that each species of mammal has its own inherent periodicity. The physiological mechanism here also involves the pituitary gland and the nervous system acting upon the gonads. Man seems to be a peculiar species in showing the widest variation in time of ovulation within the cycle, although within the individual this time is regarded as fairly constant.

There is a glossary, a list of 112 species mentioned, and an index. The book is recommended as stimulating reading for the student in general biology or zoology.

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A Proof Book of Forestry Ad Mats, available free from the American Forest Products Industries, Inc., 1319 Eighteenth Street, N.W., Washington 6, D. C.

Twenty-eight different ready-made ads can be varied to fit a local situation and may be used by any type of business organization which advertises. These are powerful conservation education aids at a high level of advertising skill and public appeal. Every publisher or printer in every community should be using them. They are helpful at any teaching level.

RAUSHENBUSH, STEPHEN (editor). *The Future of Our Natural Resources*. 1952, The Annals of the American Academy of Political and Social Science, Volume 281, Philadelphia.

This is a symposium published by a galaxy of glittering names in the wide fields of conservation. It is the most comprehensive over-all picture of the problems of conservation in all phases which has ever been published. Familiarity with the subject matter of this volume is indispensable for anyone who seeks to project his comprehension of natural resource requirements into the future. It offers the most adequate basis for understanding conservation education yet published.

JAMES M. SANDERS,
*Chicago Teachers College,
Chicago, Illinois*

BAER, MARIAN E. *Sound—An Experiment Book*. Holiday Press. 126 pp. 1952. \$2.50.

The varied and bewildering sounds in our everyday life are given clearer meaning in this book of interesting experiments for older children. The book is easy to read, the experiments easy to per-