

ZOOLOGY
NATURE RAMBLINGS



Woodchuck

➤ THIS IS the time of year when you finally expect to learn how much wood a woodchuck really chucks, assuming the pesky animal could chuck wood after spending all summer digging tunnels through your garden.

The answer is "Not any." As a timber handler, the woodchuck is a decided flop. He bothers himself not at all in laying in a winter's supply of fire wood, for he has a much better way to keep warm.

By dint of all the vegetables he has pilfered, he is a veritable butter-ball by the time frost begins to sting his ears. His layers of fat will insulate him from the cold and supply enough energy to stay alive until another spring brings a new crop of good things to eat.

It is amazing the fine, resounding reputation the woodchuck has built up for himself. Not only is he considered a lumberjack of the Paul Bunyan school, but under an alias, the groundhog, he is presumed to be an infallible weather prognosticator.

Each year on Feb. 2 his opinion on the amount of winter remaining is eagerly sought. Yet there is no authentic case on record of his ever having paid attention to his shadow, even when it was in plain sight. "Groundhog" forecasts might just as well be made by flipping a coin.

The woodchuck, or groundhog, or marmot—call him what you please—is one of the medium-sized rodents, kin to the rabbit and the rat. He has, however, neither the long ears of the rabbit nor the long tail of the rat. He resembles instead his other cousin the guinea-pig.

It is surprising how many rodents are given false positions in the pig pen by colloquial nomenclature—groundhog, guinea-pig, and porcupine for examples. The woodchuck seems to have been given a double pig-christening for "chuck" is an English country dialect word meaning a small pig or shoat.

Although there is no connection in zoology's family tree, the woodchuck does vie with his ham-and-bacon namesakes as an eater and sleeper. He breakfasts heavily, lunches moderately and dines inordinately

OPTICAL BARGAINS

4 1/4" ASTRONOMICAL TELESCOPE

"PALOMAR, JR."

A REAL REFLECTOR TELESCOPE

Complete with Equatorial Mount, Tripod!



\$74.50

Designed by us to meet every need of the amateur astronomer! Specially engineered not only for blueprint precision, but for comfort, ease of operation and freedom from mechanical restrictions! 4 1/4" mirror **guaranteed** to give theoretical limit of resolution. Diagonal and combination eyepiece finished to equal or better tolerances than mirror. Look at all these revolutionary features: **Real** rack and pinion, micrometer-smooth focusing with tension adjustment. Two-piece rigid diagonal construction. All-aluminum black anodized tube. No-distortion adjustable mirror mount, easily removed for mirror cleaning. Tube ventilated. **Real** equatorial mount—one smooth motion follows stars, planets. Sturdy hardwood tripod. Counterweight for perfect balance.

Technical specifications: mirror aluminized, overcoated with silicon monoxide. Speed f/11. Focal length 45". Combination eyepiece gives powers of 57X (20mm.) and 115X (10mm.). A 6mm. eyepiece, available from us at extra cost, gives 190-power. All eyepieces are standard 1 1/4" size. Focus travel of eyepiece mount is 2 1/4". Tripod stained natural wood.

Stock No. 85,006-Q..... Complete..... **\$74.50 f.o.b. Barrington, N. J.**

"MAKE YOUR OWN" 4 1/4" MIRROR KIT

The same fine mirror as above, polished and aluminized, lenses for eyepieces and diagonal. No metal parts.

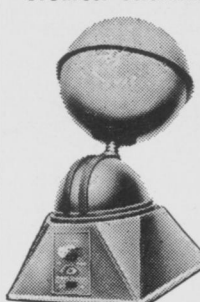
Stock No. 50,074-Q \$16.25 pstpd.

Greatest Scientific Toy Ever Offered!

NEW
SPITZ, Jr.
PLANETARIUM

EXPLORE THE MYSTERIES of the NIGHT SKY . . . Right in Your Own Room

A Great Teaching Aid!
See Over 70 Constellations, 400 Stars



Designed by Armand Spitz, world-famous maker of the Spitz Planetarium. Projects nearly 400 stars, more than 70 constellations in their correct relationships. Use it in any darkened room of the house, project it on walls and ceiling. No batteries, works on ordinary household current. Two simple adjustments that show you the sky as it appears from any point in the Northern Hemisphere . . . for any time of night . . . for any month of the year! Rheostat control for brightness.

A 32-PAGE BOOK INCLUDED FREE OF EXTRA COST. Contains valuable information about the stars, provides easy identification of the constellations. Planetarium is about 14" high on a 7" base. Projection sphere 7" diameter. Weight 3 lbs.

Stock #70,040-Q..... **\$15.00 pp**

New! 2 in 1 Combination! Pocket-Size

50 POWER MICROSCOPE and 10 POWER TELESCOPE

ONLY \$4.50 p.p.d.



Useful Telescope and Microscope combined in one amazing, precision instrument. Imported! No larger than a fountain pen. Telescope is 10 Power. Microscope magnifies 50 Times. Sharp focus at any range. Handy for sports, looking at rare objects, just plain snooping.

Send Check or M.O. Satisfaction Guaranteed
Order Stock #30,059-Q.. **\$4.50**

SIMPLE LENS KITS!

Fun for adults! Fun for children! Kits include plainly written, illustrated booklet showing how you can build lots of optical items.

Stock # 2-Q—10 lenses..... **\$ 1.00 Postpaid**
Stock # 5-Q—45 lenses..... **\$ 5.00 Postpaid**
Stock # 10-Q—80 lenses..... **\$10.00 Postpaid**

POPULAR OPTIC SERIES

"How to Make It" Instruction Booklets.
Wonderful for classroom and club use . . . group projects. Easy to follow—accurate—8 1/2 x 11 page size—many illustrations. Do-it-yourself—Save! and have Fun!

	Stock No.	Price
How to Build Projectors	9014-Q	30¢
Homebuilt Telescopes	9006-Q	40¢
Method to Clean Precision Optics	9024-Q	15¢
Homebuilt Riflescopes	9018-Q	40¢
ULTRA CLOSE-UP Photography	9042-Q	60¢
Infra-Red Light and Its Uses	9040-Q	75¢
Homemade Stereo-Adapters	9032-Q	30¢
Homemade Stereo-Viewers	9034-Q	30¢
Photo Micrography with Pen Microscope	9029-Q	10¢
Dummy Cameras	9035-Q	20¢
Collimating Systems	9031-Q	15¢
"Building a Condenser Enlarger"	9036-Q	40¢
"All About Telephoto Lenses"	9038-Q	60¢

Order by stock No. Send Check or M.O. Satisfaction Guaranteed!

IMPORTED MICROSCOPE

Low Price Yet Suitable for Classroom Use!



ONLY \$14.95

100, 200, 300 Power

Good optical qualities. Fine focusing. Definition is surprisingly clear and good . . . in fact amazingly so at this price. Revolving disc-light, adjustable mirror. Square Stage (2 1/4" x 2 1/4") with slide clamps. Serviceable construction. The greatest microscope bargain on the market! TRY IT FOR 10 DAYS . . . if you're not completely satisfied your money will be refunded in full. Instrument comes packed in sturdy, hardwood case. Accessory Eyepieces and objective available.

Stock No. 70,008-Q..... **\$14.95 Postpaid**

FREE! Clip this ad for 93-page book "Hunting with the Microscope" sent free! Regular advertised price 60¢. Limited time only!

GET FREE CATALOG #Q—World's largest variety of Optical items. Excellent for Xmas Gifts! Bargains galore . . . War Surplus—Imported—Domestic! Microscopes, Telescopes, Hand Spectroscopes, Prisms, Lenses, Reticles, Mirrors and dozens of other hard-to-get Optical items. Ask for FREE CATALOG #Q.

EDMUND SCIENTIFIC CORP., BARRINGTON, N. J.

on the most appetizing green stuff that he can find. After sleeping from dusk to dawn, he takes a long nap in the morning and a shorter one in the afternoon.

Then, as winter approaches, he retires with a yawn and settles down to a real

sleep. Like most of his rodent relatives, the woodchuck is a burrower, though not at all a particular one. Once he has dug a home he sleeps in it, rather than expending any effort in improving it.

Science News Letter, October 9, 1954

• Books of the Week •

For the editorial information of our readers, books received for review since last week's issue are listed. For convenient purchase of any U. S. book in print, send a remittance to cover retail price (postage will be paid) to Book Department, Science Service, 1719 N Street, N.W., Washington 6, D. C. Request free publications direct from publisher, not from Science Service.

ABSTRACTS OF SCIENTIFIC PAPERS, Second World Congress of Cardiology and the 27th Annual Scientific Sessions of the American Heart Association, Inc.—*American Heart Association*, 559 p., paper, \$3.00. For the first time communication and mutual understanding among the delegates to an international scientific congress was facilitated by circulating abstracts of the papers in the easy-to-read international language Interlingua.

ACCENT ON FORM: An Anticipation of the Science of Tomorrow—Lancelot Law Whyte—*Harper*, 198 p., \$2.75. A British physicist raises the question, "What kind of universe is this into which we are born?"

ADMINISTRATIVE MEDICINE: Transactions of the Second Conference, December 8, 9, and 10, 1953, Princeton, N. J.—George S. Stevenson,

Ed.—*Josiah Macy Jr. Foundation*, 164 p., illus., \$3.00. Discussing this problem from varied points of view.

THE ANATOMY OF PERSONALITY—Donald K. Adams—*Doubleday*, Doubleday Papers in Psychology, 44 p., illus., paper, 85 cents. A basic exposition of the application of the field-theoretical perspective to personality, the first since that presented by the late Kurt Lewin.

THE ANIMAL KINGDOM: The Strange and Wonderful Ways of Mammals, Birds, Reptiles, Fishes and Insects. A New and Authentic Natural History of the Wildlife of the World—Frederick Drimmer, Ed. in Chief—*Greystone*, 2062 p., three volumes, illus., \$17.50. The work of seven naturalists on the staffs of the American Museum of Natural History and the New York Zoological Society, this book is intended to fill the place of the old standby "Wood's Natural History."

ART AND PLAY THERAPY—Emery I. Gondor—*Doubleday*, Doubleday Papers in Psychology, 61 p., illus., paper, 95 cents. A clinician describes a particular method used to work with children and to gain an understanding of their problems and needs.

ART OF ASIA—Helen Rubissow—*Philosophical Library*, 237 p., illus., \$6.00. Man's most authentic record, the author comments, is his art. In deep caves beneath the earth and on the rocks of high mountain tops, early man has left fragments of his story.

THE CHEMICAL PATHOLOGY OF ANIMAL PIGMENTS: A Symposium Held at the London School of Hygiene and Tropical Medicine on 20 February 1954—R. T. Williams, Ed.—*Cambridge University Press*, 84 p., illus., paper, \$2.75. Devoting special attention to porphyrin and heme metabolism.

THE CONCEPT OF SCHIZOPHRENIA—W. F. McAuley with foreword by John H. Ewen—*Philosophical Library*, 145 p., \$3.75. Surveying our

present knowledge of this most common of all mental diseases and evaluating the importance of environment and heredity.

THE DISTRIBUTION AND ABUNDANCE OF ANIMALS—H. G. Andrewartha and L. C. Birch—*University of Chicago Press*, 782 p., illus., \$15.00. Discussing where the various animals are to be found over the earth's surface and the niche each occupies in the animal community.

THE DRAGONFLY LARVA—R. E. Snodgrass—*Smithsonian*, 38 p., illus., paper, 35 cents. Metamorphosis, the author reminds us, still baffles the understanding.

THE ENCYCLOPEDIA OF CHILD CARE AND GUIDANCE—Sidonie Matsner Gruenberg, Ed.—*Doubleday*, 1016 p., illus., \$7.50. An alphabetical list of topics parents might wish to look up from "Abilities" to "Youth Organizations," followed by chapters of guidance on child care. The editors recommend the book especially to grandparents to help them bring themselves up-to-date.

EXHAUST FOR HOT PROCESSES—W. C. L. Hemeon—*Mellon Institute*, 8 p., illus., paper, free upon request direct to publisher, 4400 Fifth Ave., Pittsburgh 13, Pa. Convection currents and thermal head are two of the influences analyzed here.

FACTORS AFFECTING THE COSTS OF HOSPITAL CARE: Volume I of Financing Hospital Care in the United States—John H. Hayes, Ed.—*Blakiston*, 300 p., illus., \$4.00. The first of three volumes that will contain the detailed report of the Commission on Financing Hospital Care. Lower costs, in the opinion of the commission, should not be achieved by sacrificing hospital services.

GENERAL CHEMISTRY—W. Norton Jones Jr.—*Blakiston*, 907 p., illus., \$6.50. A text for first-year college students, designed to be suitable for those who have had high-school chemistry and those who have not.

GENETICS, BIOLOGICAL INDIVIDUALITY AND CANCER: Lane Medical Lectures—Clarence C. Little—*Stanford University Press*, Stanford University Publications University Series Medical Sciences, Volume VII, 115 p., illus., paper, \$2.50. Summing up the basic information on the nature of cancer growth.

GROWING WITH THE YEARS—Thomas C. Desmond and others—*New York State Joint Legislative Committee on Problems of the Aging*, 159 p., illus., paper, free upon request direct to publisher, 94 Broadway, Newburgh, N. Y. A group of articles by various specialists discussing ways of making the later years of life happier and more rewarding to the individual and to society.

HOW CHILDREN CAN BE CREATIVE—Wilhelmina Hill, Helen K. Mackintosh and Arne Randall—*Govt. Printing Office*, Office of Education

Can curved space be visualized? Here's what Bertrand Russell says:

"The world of physics must be continuous with the world of our perceptions, for it is the latter which supplies the evidence for the laws of physics," writes Lord Russell in the opening chapter of his widely-acclaimed **ANALYSIS OF MATTER**. In the remaining 37 chapters he shows the part our perceptions must play in understanding relativity theory, geodesics, causal laws, space-time, periodicity, Weyl's theory, etc. A brilliant 412-page book ("One of the best that Mr. Russell has given us."—*London Times*) now in new unabridged edition. Paperbound.

→ only \$1.85

Where do ideas come from?

How are ideas created? What role does the unconscious play? Jacques Hadamard's 156-page **PSYCHOLOGY OF INVENTION IN THE MATHEMATICAL FIELD** answers these and similar questions with its fascinating case histories of Dalton, Einstein, Descartes, Poincare, and more than 30 other leading innovators. Paperbound.

→ only \$1.25

Science books at half price

3. **PRINCIPLE OF RELATIVITY** by Einstein, Lorentz, Minkowski, Weyl. Eng. translation of 11 basic papers on relativity. Notes by Sommerfeld. 224pp. Costs \$3.50 in cloth. Paperbound, \$1.50
4. **INTRODUCTION TO SYMBOLIC LOGIC** by Susanne K. Langer. How to use math. logic—even if you never got beyond high school algebra. 368pp. Costs \$3.50 in cloth. Paperbound, \$1.60
5. **FLATLAND** by E. A. Abbott. Satirical fantasy of life in two-dimensional world. 128pp. Costs \$2.50 in cloth. Paperbound, \$1.00

Act now

→ editions limited

DOVER PUBLICATIONS, 920 B'way,
N. Y. 10, Dept. 8
Please send books circled: ANALYSIS OF
MATTER PSYCHOL. OF INVENTION
3. 4. 5.
NAME.....
ADDRESS.....
CITY.....ZONE.....STATE.....
I enclose \$..... in full payment.
(Add 10¢ per book to cover handling and
mailing.) Money back in 10 days if not
delighted.
Check here for FREE SCIENCE CATALOG.

HOW DO YOU KNOW YOU CAN'T SELL WHAT YOU WRITE?

There are probably 2,000 magazines, newspapers, feature syndicates, literary agents, etc. you never thought of — logical markets for that story you've been thinking of putting down into words, that article you've thought of writing, those personal experiences that so thrill people, that book you want to write.

Now, at last, in one handy, low cost guide, called **Why Not Write?**, you can see at a glance where to send whatever you write. Here are thousands of literary markets, complete with names and addresses, you'd never have thought of. (And neither will most other writers and would-be writers, who flood the best known publishers with so much material they just couldn't publish it all in a hundred years.) Avoid the competition, get your manuscript where it's wanted — and write what you have to say.

Only \$1 on a money back guarantee, if not satisfied.

For your copy of **Why Not Write?** send name & address with dollar bill to **HARIAN PUBLICATIONS, 11 Scranton Ave., GREENLAWN (LONG ISLAND), NEW YORK.**

SEND FOR
Free Record

START SPEAKING
FRENCH
OR
SPANISH ALMOST OVERNIGHT!

HERE'S the easiest way to learn FRENCH, SPANISH, Russian, German, Italian, Japanese or Brazilian. Listen to FREE 2-sided non-breakable record. Let your eyes follow words in FREE sample lesson. Almost at once you'll be chatting in a new language with a perfect accent! That's all you hear! No memorizing needed. Just listen—imitate! It's that easy! Offer may end soon. Rush 25¢ to help cover cost of special packaging, shipping. State language you want. We'll also send free information on full Cortina course. No obligation. **CORTINA ACADEMY, Dept. 6010, 136 W. 52nd St., New York 19.**

