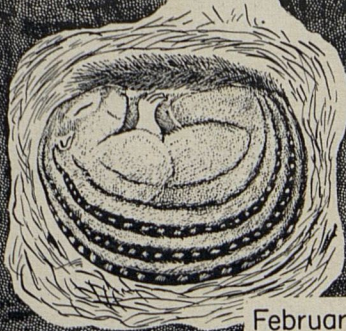


BULLETIN

JANUARY, 1950 Vol. 21, No. 1

*Chicago Natural
History Museum*



February



March



April



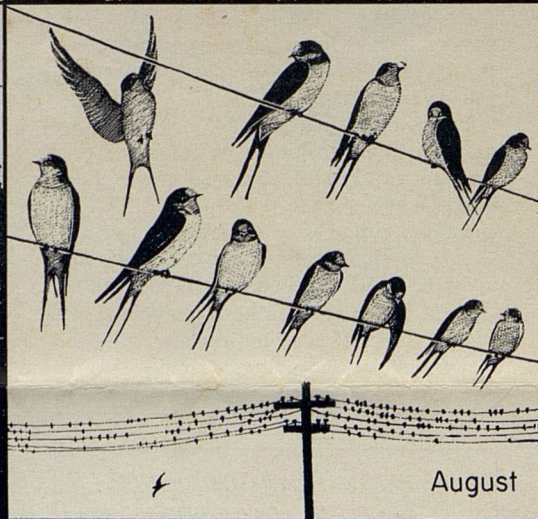
May



June



July



August



September



October



November



December

Chicago Natural History Museum

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Members are requested to inform the Museum promptly of changes of address.

THIS MONTH'S COVER—

The BULLETIN opens the New Year with a calendar of Nature on its cover depicting some characteristic phenomenon for each month of the year. Elsewhere in this issue is an article by Karl P. Schmidt, Chief Curator of Zoology, on the history, philosophy, and significance of naturalists' calendars. The observation of seasonal changes is the basis of much of our science and the starting point for the careers of many men eminent in research.

The cover calendar, executed by Staff Illustrator Douglas E. Tibbitts, represents subjects appropriate to the various months: for January, snowflake crystals; for February, the hibernating striped gopher; for March, hepatica flowers and early tree frog (spring peeper); for April, the meadowlark; for May, the white trillium; for June, the bullfrog, the last of the frog voices to be heard; for July, the small-mouth black bass; for August, barn swallows gathering for their southward migration; for September, the monarch butterfly; for October, the gray squirrel harvesting nuts; for November, a cock pheasant in flight; and for December, the winter stars over a white spruce, one of the more familiar Christmas trees.

Sponges, sea stars, corals, and other marine invertebrates are displayed in Hall M.

NATURE PHOTO CONTEST JUDGES APPOINTED

Three members of the staff of Chicago Natural History Museum have been named among the five judges for the Fifth Chicago International Nature Photography Exhibition. They are: Emmet R. Blake, Associate Curator of Birds; Dr. Julian A. Steyermark, Associate Curator of the Herbarium; and Robert K. Wyant, Curator of Economic Geology. The other two judges are William Dennin and Harry Langer, F.R.P.S., A.P.S.A., both well-known professional photographers.

The exhibition will be held in Stanley Field Hall of the Museum from February 1 to 28, inclusive. Deadline for entries, which may be sent to the Museum, is January 16. Entry forms may be obtained from the Museum or from Mrs. Louise Broman Janson, 6252 South Kedzie Ave., Chicago 29.

The exhibition will be conducted in accordance with recommendations of the Photographic Society of America and accepted contributors will be eligible for listing in *Who's Who in Nature Photography*.

The exhibition will be in two divisions, prints and transparencies, with an entry fee of \$1 in each. No more than four entries may be submitted in either division.

There are three classifications in each division. They are: A. *Animal Life*—animals, birds, insects, tracks, nests, etc. (no domestic animals); P. *Plant Life*—flowers (except formal arrangements), trees, shrubs, fungi, etc.; G. *General*—scenery, geology, clouds, etc.

Prints must be on 16" x 20" mounts. They may be in monochrome or color and any size up to that of the mounting. Each must be entirely the work of the individual contributor and must show on the back title, classification, and maker's name and address. Untitled prints will not be accepted.

Color slides or transparencies should not exceed 3 1/4" x 4" and must show title and maker's name and address. Slides may be

in glass or cardboard but glass is recommended. Glass over cardboard will not be accepted. Each must be spotted in the lower left-hand corner. Larger transparencies should be in cellophane envelopes if not bound.

Immediately after judging, notices will be sent to each contributor. A catalogue will be sent at the close of the exhibition. All accepted prints and slides will receive stickers. All contributors will receive the *Exhibition Bulletin* for a year. A number of accepted entries will be reproduced in the Museum BULLETIN, the P. S. A. Journal, and elsewhere. Permission for such reproduction is presumed unless there is notification to the contrary.

Silver medals and ribbons will be awarded in the various print and slide classifications. All winners will receive the Museum BULLETIN for a year, and their names will be inscribed on the Myrtle R. Walgreen plaque on display in the Museum.

Utmost care will be exercised by the Camera Club and the Museum but no responsibility is assumed for lost or damaged entries. All entries will be returned to owners prepaid immediately after close of the exhibition. Or, if owners so direct, they will be forwarded to any other exhibition indicated.

Bulletin Comes of Age

With this issue, the BULLETIN begins the 21st year of its existence and its 21st volume. In its first twenty volumes it has covered all Museum events since its initiation in 1930. It also printed, in its first two volumes, a brief history of the Museum recording all the principal developments of the institution before the inauguration of this periodical.

NEW MEMBERS

The following persons became Museum Members between November 16 and December 15:

Associate Members

James A. Erickson, Christopher D. Norton

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Willis H. Scott

Annual Members

John R. Walsh Baldwin, Ralph Austin Bard, Jr., John T. Beatty, Louis E. Bohlin, Mrs. R. W. Cornelius, Dr. Maxwell Gitelson, Gordon L. Glassford, Harold V. Glen, George W. Harvey, Jr., Frederick W. Hawley, Jr., Max Homan, Lester B. Knight, F. Willis McGuire, Dr. Rose Menendian, R. R. Minor, A. E. Patton, C. D. Pettingell, Andrew Pettinger, Dr. Gerhart Piers, W. J. Reilly, Miss Forsythe Render, John W. Rose, Walter D. Rudolph, William R. Ruehlmann, Dr. Winfield W. Scott, Dr. W. Walter Sittler, Lendol D. Snow, Jr., Mrs. Louis Staudt, Dr. Augusta Webster, H. A. Wehmeier, James A. Wilhite, Charles C. Wooster, Mrs. Earl A. Zaus.

BOOK SHOP OFFERS NATURE CALENDAR

The BOOK SHOP offers an attractive 1950 nature calendar for the wall in home or office. It is spiral hinged, opens to 8 3/4" x 21 inches, and contains 12 full-color illustrations from Kodachrome photographs of plants, animals, and people. Price \$1.

Also available is the American Calendar for 1950. This 104-page engagement book has 52 full-page reproductions of the work of well-known photographers plus a frontispiece and cover in full color. Price \$1.25.

NATURALISTS' CALENDARS—THE FIRST ROOTS OF BIOLOGY

By KARL P. SCHMIDT
CHIEF CURATOR, DEPARTMENT OF ZOOLOGY

IT IS at the simplest observational level in natural history that one begins to keep a record of seasonal events—seasonable and unseasonable temperatures; winter visitants to one's bird shelf; the arrival of the first robin and then the stream of transient bird migrants; the blooming of the earliest flowers and of those that come

of flowering and the periods of growth of plants, we have the origin of much biology.

This very aspect of natural history continues to be much pursued, and when its facts are examined critically, it becomes the subsistence of *phenology*, which the dictionary defines as the "science of the relations between climate and periodic biological phenomena, as the migrations and breeding of birds, the flowering and fruiting of plants,

and meaningful ways in which they arrange themselves, and this is already "science."

All this is by way of introduction to a brief commentary on the subject of those naturalists' calendars that have found their way into book form. It is a little paradoxical that naturalists, having been admonished from Agassiz' time to "study nature, not books," should be so prone to bookishness and to the collecting of books and that they should be such ready victims of the urge to write yet more books. Indeed, Louis Agassiz himself was the first bibliographer of natural history and a prodigious writer of books. If his famous dictum were to be taken literally, naturalists, at least, would not have read them.

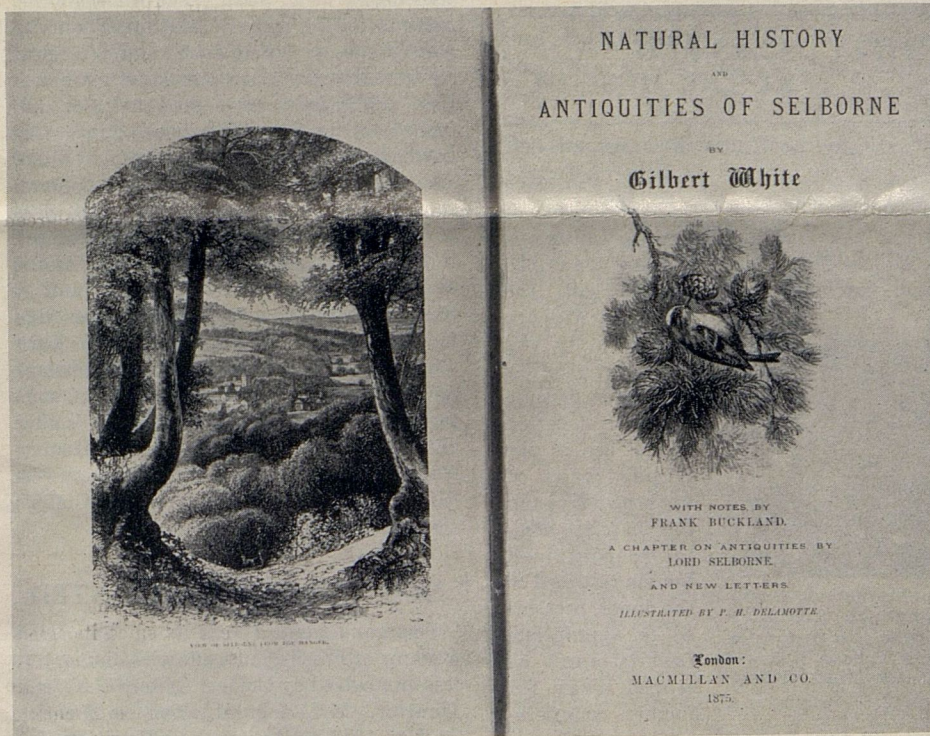
Clearly, we need both observation in nature and books. It is the cycle from reading to original observation to yet more reading and then to renewed observation that produces the naturalist. The beginning, of course, may lie in *observation*, and the chain of interaction, with the writing of books and essays and technical papers as added links, may extend through a lifetime.

LITERARY STEPPINGSTONES

From the most cursory glance at book lists it appears that books with the title "Naturalist's Calendar" or "Naturalist's Almanac," under various literary permutations and combinations, are so numerous as to constitute a distinctive segment of popular natural-history writings. A naturalist's literary career has often begun with such a work, as seems to be the case with William Beebe (*A Log of the Sun*, 1906) and Donald Culross Peattie (*An Almanac for Moderns*, 1935). Contrariwise, an elder naturalist may gather his more fugitive essays under some such title toward the end of his career.

The kind of observation from which such books, and literary natural history in general, are derived is perhaps best exemplified by Gilbert White's *The Natural History and Antiquities of Selborne*, published in 1789. Gilbert White's only other work, published in 1795, after his death, is *A Naturalist's Calendar*. These works are so infused with love of nature and of the observation of nature for their own sake—are so objective in appearance, yet so clearly let the peaceful spirit of the old country curate shine in their pages—that they have had the qualities of popular and then of classic works in normal succession. There are almost as many editions of White's *Selborne* as there have been years since 1789. My own favorite is the Macmillan edition of 1875, with woodcut illustration and with *A Naturalist's Calendar* included. Gilbert White is to be regarded as the father of British natural history. It is the strength of the distinctively British school of eager observers in field and garden, at home and

(Continued on page 4, column 3.)



A FAMED NATURALIST'S CALENDAR

Woodcut frontispiece and title page of 1875 edition of Gilbert White's "The Natural History and Antiquities of Selborne." Original edition was published in 1789.

after through the summer; the opening of the fishing season; the departure of birds in the fall; the entry of spermophile and woodchuck into their winter sleep; the gathering of his winter stores by the chipmunk; harvest and hunting season; and so again to the coming of winter. One records with equal interest the normal natural event and the exceptional one.

The earliest roots of scientific observation in prehistoric times may be discerned in the need for dating seedtime and harvest, which thus gives rise to the marking of the seasons by the annual march of the stars, with the development of calendars and of astronomy. In the intimate need of surviving severe weather by making use of good seasons, and hence the need of some knowledge of the weather's regularities, we have the origins of meteorology and climatology. In the knowledge, implicit in the crudest of agricultural civilization, of the mating time and breeding seasons of animals and of the times

etc." The naturalist's calendar bears the same relation to phenology that natural history in general bears to the still new science of *ecology*.

CHILD'S PATH INTO SCIENCE

There is a natural recapitulation of the evolution of the race in our individual development from child to adult; and a parallel may be drawn between the mode of origin of early science and the way in which a child (or any amateur naturalist) may enter upon an interest in science. The simplest tool for the beginner, and one of the most important to any scientist, is a notebook. Any child who has enough tenacity to do so should be encouraged to keep his own notes of weather and of all that interests him in the world outside himself, for the writing down of observations will lead to more and better observation. It is only a short step from the gathering of facts to the discernment of the orderly

TEXAS FIND AUGMENTS MAMMALIAN HISTORY

On their way to attend the annual meeting of the Geological Society of America, held in El Paso during November, Dr. Rainer Zangerl, Curator of Fossil Reptiles, and Dr. Robert H. Denison, Curator of Fossil Fishes, made a brief stop in northern Texas. Their purpose was to examine an area that had been recommended by Glen L. Evans of the Texas Memorial Museum as a promising one for Early Cretaceous turtles. Noticing minute bone fragments on the surface of the ground, they made a close examination and almost at once Dr. Denison picked up a partial lower jaw of a mammal, a most exciting find that adds considerably to the history of mammals during the Age of Reptiles. Further search yielded hundreds of fragmentary remains of other vertebrates, among which were included those of dinosaurs, flying reptiles, lizards, frogs—the first thus far found in deposits of Cretaceous age—and fishes. On a return visit following the meetings, Dr. Denison found a second jaw, rather better preserved than the first. A brief summary of the early history of mammals will make the importance of this discovery clear.

The first record of mammals is contained in rocks of late Triassic age that were laid down about 180 million years ago. Very little is known about these earliest members of the class of animals to which we ourselves belong other than that they were diminutive and insignificant components of the fauna of that far-off time. Dinosaurs and other great reptilian groups had by that time entered their period of dominance that was to last for more than 100 million years longer. During this great stretch of time, which covered the Jurassic and Cretaceous Periods of earth history, the mammals remained small and inconspicuous. Not until after the extinction of the great reptiles, about 75 million years ago, did their turn for dominance arrive.

Despite the relatively unimportant role they appear to have played during the Age of Reptiles, mammals did achieve a considerable degree of evolutionary progress during this time. Glimpses from a few Jurassic localities reveal that at least four distinct groups were in existence by then, one of which may well have been broadly ancestral to all living mammals with the exception of the egg-laying monotremes of the Australian region. In late Cretaceous time, mammals were still small in size, but primitive representatives of the two major divisions of modern mammals—the placentals and the marsupials—were already in existence. Apart from a few isolated teeth found at a locality in southern England, mammalian history remained unknown from the end of the Jurassic until near the end of the Cretaceous, a span of some 60 million years.

The great interest of the Texas discovery

will now be apparent. It was made in Early Cretaceous deposits and therefore begins to close a great gap in our knowledge. The two specimens thus far found belong to an extinct group that was not ancestral to any living forms, but their finding holds forth the prospect that such ancestors may be found there in the future. Further work in the region is planned in co-operation with the Texas Memorial Museum and will be entered into with high hopes.

FIFTY YEARS AGO AT THE MUSEUM

Compiled by MARGARET J. BAUER

"An important action of the Executive Committee has been the abandonment of all the industrial and historical collections of the Museum. With the exception of the annex occupied by transportation, the



George M. Pullman, a Museum Benefactor for whom Pullman Hall was named, died in 1900.

halls heretofore occupied by the industrial arts have been or soon will be transferred to the use of the Department of Anthropology, and the material heretofore contained therein returned to the donor, presented to appropriate institutions or stored away for further consideration. In this connection it is well to note the distribution of the material, photographs, paintings, etc., in Columbus Memorial Hall to the Chicago Historical Society, the University of Chicago, [and] the Newberry Library..."

* * *

"The resignation of Mr. [J.] Dieserud, Librarian of the Museum, was accepted during the month of July, and Miss Elsie Lippincott was appointed as his successor.

"The most notable accession to the library was the splendid gift from Mr. Edward E. Ayer of his carefully selected Ornithological library, numbering approximately 400 volumes, many of them rare and all of the highest value. Special book cases were built for their installation, and also a special standing case for the set of Audubon."

The Hall of Plant Life (Martin A. and Carrie Ryerson Hall—Hall 29) presents a general view of the entire range of plant life from the lowest order, bacteria, as seen through a microscope, through the algae, fungi, mosses, and other flowerless plants, through the conifers, and flowering plants.

NATURALISTS' CALENDARS—

(Continued from page 3)

abroad, from which the great strength of the English and Scotch in the biological sciences is derived.

A glance at the Museum's library shelves reveals further exemplars of the naturalist's calendar. *A Year at the Shore* (1865) by Philip Henry Gosse, carries seaside observations through the year month by month. *Round the Year, A Series of Short Nature Sketches* (1896) is by the distinguished entomologist, L. C. Miall. *The Biology of the Seasons* (1911) is by J. Arthur Thomson, who wrote so voluminously on biological subjects that a work by him under some such title might have been predicted; he did, indeed, write a second book under this heading, *Nature All the Year Round* (1921). There is no likelihood of a dearth of volumes to represent the naturalist's calendar class of literary natural history. It is represented in 1949 by distinguished works—*The Twelve Seasons*, by Joseph Wood Krutch, and *A Sand Country Almanac*, by the late Aldo Leopold, whose poignantly tragic death while fighting a brush fire was somehow nobly fitting for a conservationist of such force and note. How appropriate it is that the current selection of the Natural History Book Club is a nature calendar from the Maine coast—Robert P. Tristram Coffin's *Coast Calendar*.

NEW CURATOR APPOINTED

George Langford has been appointed Curator of Fossil Plants effective January 1, it is announced by Colonel Clifford C. Gregg, Director. Mr. Langford joined the Museum staff in 1947 as Assistant in Fossil Plants. Before that he was engaged in industrial work as mechanical engineer with the Chicago Great Western Railroad for a brief period and with the McKenna Process Company from 1898 to 1945, inclusive. He invented and used new processes in metallurgy upon which seventy American and ten foreign patents have been issued in his name. He was a member of the class of 1897 of Yale University and obtained his mechanical engineering degree at the Sheffield Scientific School. Paleontology and paleobotany began as a hobby with Mr. Langford at the early age of twelve. In all the years in which he was engaged in industry, he was studying and collecting in this field on the side. After retiring from industry, he came to the Museum to make his hobby his principal occupation. He has also been interested in archaeology and is the author of several books and a number of articles in archaeological and other journals.

Civilizations of the ancient Near East from the middle of the fourth millennium B.C. to A.D. 400 are shown in Hall K.

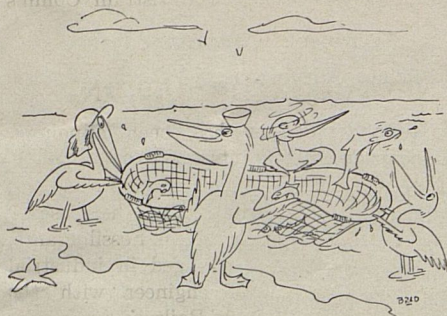
CO-OPERATION BY BIRDS

By AUSTIN L. RAND
CURATOR OF BIRDS

CO-OPERATION, according to my desk dictionary, is the working together of two or more individuals for a common object. The working together of two birds to rear a family is so well-known an affair that one forgets that it is an example of co-operation, not only in building the nest and brooding and feeding the young but also in defending nest and young.

Sometimes more than one species will join in ousting an enemy. For example, when a cat caught a young robin, recently out of the nest, the parents, in their frantic effort to make the cat release the bird, attracted the attention of another robin and a pair of cardinals nesting near-by in a honeysuckle. All five birds jumped on the cat's back, screaming and pecking it so vigorously that it released the young robin and returned to its home.

More spectacular are some of the co-operative activities of birds in food-getting. Bald eagles sometimes feed on ducks. Frequently two eagles may combine their efforts. The two birds may work together to force a black duck from the air onto the water, and when they are trying to catch a diving duck, they much more quickly exhaust their



prey by swooping at it in turn. Bald eagles sometimes take water birds too large for them to carry, and then they must flap along dragging their prey on the surface of the water to the nearest shore. On one occasion an eagle dragging a large cormorant ashore was joined by two other birds, and all three took turns in dragging it. When they got it ashore, all three shared it.

Several fish-eating birds co-operate in capturing their prey. "The merganser is primarily a fishing duck... very skillful and a voracious feeder. It pursues under water and catches successfully the swiftest fish. Often a party of sheldrakes may be seen fishing together, driving the panic-stricken fish into the shallows or into some small pool where they may be more easily caught."

When a school of fish approached a flock of white pelicans, the birds suddenly assumed a circular position, surrounding the school. All the pelicans moved slowly but cautiously toward the center of the circle,

their heads near the surface of the water or partly submerged and their necks slightly extended. The birds moved in perfect unison, making the circle progressively smaller, ready to engulf their helpless victims at the first opportunity. When all the pelicans were close to the fish, the birds made rapid jabs at the fish and apparently consumed a large number of them. It appeared that every bird got from one to several fish.

13,000 BAND TOGETHER

Avocets and, to a lesser extent, the black-necked stilts also band together for co-operative drives on small fry and aquatic insects. Such drives are made in water of wading depth. Instead of forming circles, the birds present compact spearhead and wedge formations and sweep the bottom muck with the characteristic back-and-forth side movements of their long bills. As many as 13,000 avocets have been observed taking part in such co-operative feeding projects.

Another striking example is furnished by black vultures. A three-quarters-grown skunk was wandering across a field. "One vulture (after having been banded and liberated) alighted near the skunk which was then about two hundred feet from where I stood at my banding work. The skunk immediately stopped and raised its tail. Other vultures that were sitting around on the ground soon joined the one that was near to the skunk, and when six or eight of them had gathered about the animal one suddenly attacked it from the side. The skunk immediately discharged its musk, but this seemed to have no effect on the vultures, which, on its discharge, attacked in a mass.

"As soon as the attack was made, other vultures that were circling above the meadow or sitting in the trees near-by joined the group, until there were probably twenty-five or more around the skunk. They piled on to it, and with much flapping and croaking, pulled it about until it was dead, then devoured it." (McIlhenny.)

On another occasion a black vulture came from high in the air to alight near two full-grown opossums "that were following a narrow cattle trail which led from the cypress swamp at the foot of the hills across a wide piece of open land to the timber on the hills. The first vulture was almost at once joined by many others that dropped down from the sky with almost unbelievable swiftness, until there were probably between seventy-five and one hundred black vultures following the opossums, some on both sides, some in the rear. Suddenly, three or four of the vultures attacked one opossum at the same time." Quickly, "both opossums were covered with a swarm of hissing, flapping birds, and within fifteen minutes there was nothing left of them but the larger bones and the hides, and these were stripped of every vestige of flesh." (McIlhenny.)

EIGHTEEN EXPEDITIONS
FOR MUSEUM IN 1950

A program calling for fourteen new expeditions, in addition to the continuation of four already in the field, has been announced by Colonel Clifford C. Gregg, Director.

The fourteen new expeditions are as follows:

Florida Keys Fish Collecting Trip (January)—Loren P. Woods, Curator of Fishes.
Appalachian and Ouachita Mountains Zoological Field Trip (March)—Clifford H. Pope, Curator of Amphibians and Reptiles.
Field Work for Cave Fishes (March)—Loren P. Woods, Curator of Fishes.

British North Borneo Zoological Expedition (April)—D. Dwight Davis, Curator of Vertebrate Anatomy, and Robert F. Inger, Assistant Curator of Fishes.

Texas Zoological Field Trip (April)—Karl P. Schmidt, Chief Curator of Zoology.
Wilmington (Illinois) Paleobotanical Trips (April)—George Langford, Curator of Fossil Plants.

Texas Paleontological Expedition (April, May, and June)—Bryan Patterson, Curator of Fossil Mammals, and Dr. Rainer Zangerl, Curator of Fossil Reptiles.

Mississippi Valley Field Trip (May)—Robert Kriss Wyant, Curator of Economic Geology.

Sixteenth Southwest Archaeological Expedition (June)—Dr. Paul S. Martin, Chief Curator of Anthropology, leader.

Bermuda Zoological Expedition (June, July, and August)—Dr. Fritz Haas, Curator of Lower Invertebrates, and Joseph B. Krstolich, Artist.

Utah Paleontological Expedition (June and July)—Dr. Robert H. Denison, Curator of Fossil Fishes.

Florida Zoological Field Trip (June)—Leon L. Walters, Taxidermist, and Ronald J. Lambert, Assistant Taxidermist.

Canadian Invertebrate Paleontological Expedition (July and August)—Eugene S. Richardson, Jr., Curator of Fossil Invertebrates.

Arkansas Zoological Field Trip (September)—Colin Campbell Sanborn, Curator of Mammals, and Kenneth Woehlek, Assistant Taxidermist.

ALREADY IN FIELD

The four expeditions continuing activities begun in 1949 or earlier are:

Micronesian Anthropological Expedition (1949-50)—Dr. Alexander Spoehr, Curator of Oceanic Ethnology.

Middle Central American Botanical Expedition (1948-49-50)—Paul C. Standley, Curator of the Herbarium.

Colombian Zoological Expedition (1948-49-50)—Philip Hershkovitz, Assistant Curator of Mammals.

United States Naval Medical Research Unit No. 3, Cairo, Egypt (1949-50)—Harry Hoogstraal, Field Associate.

RUSH WATKINS COLLECTION FROM SIAM RECEIVED

The collections made by the Rush Watkins Zoological Expedition to Siam arrived recently at the Museum after more than two months in transit from Bangkok.

Among the specimens are two Malay tapirs to be used in a habitat group in the Hall of Asiatic Mammals (Hall 17). Besides

brought home. One species was found with sharp curved bones hidden in a socket under each eye that can be extruded at will as an extraordinarily effective means of defense. The collection of shells represents most of the fresh-water species known from Siam, and most of the marine forms are



CAMP OF THE RUSH WATKINS EXPEDITION IN SIAM

the tapirs there are skins and horns of the fast-disappearing Eld's deer and a series of five species of squirrels including the giant squirrel, which is about four feet in length. Many bats were collected, and some extremely rare and interesting parasites were found on them.

Nearly 1,000 specimens of fishes were

new to the Museum series. Some birds, reptiles, and amphibians were also included.

The expedition members were A. Rush Watkins, sponsor, Colin Campbell Sanborn, Curator of Mammals, and Frank C. Wonder, Preparator. Time in the field amounted to eight weeks in the west-central and later in the southern part of the country.

Books

(All books reviewed in the BULLETIN are available in *The Book Shop of the Museum*. Mail orders accompanied by remittance are promptly filled—*The Book Shop* pays the postage on shipments.)

THE AWAKENING VALLEY. By John Collier, Jr., and Anibal Buitron. University of Chicago Press, October, 1949. 199 pages, 167 illustrations. Price \$6.

Most ethnological reports make dull reading for the layman, because such reports are written for the specialist.

Here, however, in *The Awakening Valley*, one finds a rare if not unique type of ethnological report—one that makes immediate appeal to any reader because of the subtle and rich blending of text and photographs.

The text is simply written—a fact that implies great skill, feeling, and insight. The illustrations express an artistry that is breath-taking and an imagination that illuminates the entire book. The photographs alone tell the story; and yet the text is complete also. Each is a beautiful entity and yet the two, like the themes of a fugue, are so interwoven that they cannot be separated.

The artist, Collier, and the social scientist, Buitron, tell the story of a small settlement of Ecuadorian Indians and their near-by town Otavalo. By means of sections that deal with such subjects as agriculture, civil affairs, marriage, baptism, death, and the changing economy this story is told so skillfully by words and photographs that the reader feels he is indeed in Ecuador and is sharing the life of these Indians.

But aside from these techniques, the great event that makes the story worth telling is

the miraculous and recent economic improvement that the Indians have achieved by their own efforts. Indians in many places in the New World live in poverty that belies description—not so much poverty of tangibles as of the spirit, a poverty that robs them of independence, initiative, purposefulness, self-reliance. When a man has these things—be he red, white, or black—he walks as a free man, not as a slave.

By chance, a textile industry has come into being in the Valley during the last generation—at first small and weak, now lusty and growing. The tweeds woven by the Indians there are now sought after wide and far. The money thus acquired is used for buying back from the hacienda owners the land that was once Indian property. The events that follow in the train of successful business, the absorption of the good in white civilization and the rejection of that which is not needful, and the development of energy and faith—an almost complete rebirth—these are the things that make the story of *The Awakening Valley* vital and exciting.

Here, for once, the ethnologist has a chance to observe and describe a resurgence instead of a decline, or worse, a degeneration.

PAUL S. MARTIN

Chief Curator, Department of Anthropology

Technical Publications Issued

Fieldiana: Anthropology, Vol. 39. *Majuro, A Village in the Marshall Islands*. By Alexander Spoehr. November 17, 1949. 266 pages, 50 text figures, 11 maps. \$3.50.

The Museum Press has recently issued a publication entitled *Majuro, A Village in the Marshall Islands*, by Dr. Alexander Spoehr, Curator of Oceanic Ethnology. This 266-page report contains the results of Dr. Spoehr's investigations on Majuro Atoll during the Ethnological Expedition to Micronesia, 1947, which was carried out in co-operation with the Pacific Science Board and the United States Navy. It is a study of the social organization of these people and the changes in their way of life resulting from the American administration of Micronesia, from the events of the last war, and from previous contacts with European and Asiatic cultures. The report is generously illustrated with photographs, drawings, maps, and charts.

Plant life of the sea may, in numbers of kinds and individuals, exceed the vegetation found on land. Some of the outstanding seaweeds are shown, as they grow in life, in the North Atlantic coast habitat group installed in Martin A. and Carrie Ryerson Hall (Plant Life, Hall 29).

The proximity of Roosevelt College to the Museum has occasioned the frequent use of Museum exhibits by its students.

DESPISED WEEDS SOMETIMES PROVE BENEFACTORS OF MAN

By HUGH C. CUTLER
CURATOR OF ECONOMIC BOTANY

A WEED, the dictionary says, is any useless or troublesome plant. But, like humans, plants are never entirely bad or good and some plants we call weeds are

the banks of our expanding highway system.

Soon afterwards, when a series of dry years shriveled up the fields of grain and weakened even native plants, only a few weeds, among them the Russian thistle, were left on farms to keep the soil in place.



RURAL SCENE IN KANSAS
Russian thistles in lower left foreground.

really friends and helpers. The Russian thistle, or tumbleweed, is one of these.

It came to the United States from Europe more than fifty years ago and slowly spread through the dry West. The Russian thistle made little progress on good soils where it had to compete with native prairie vegetation or with cultivated grain crops, but on poor soils, where other plants struggled, the immigrant flourished.

About the time of World War I the Russian thistle began to spread more rapidly, especially along the ditches of new roads. Many agriculturists spoke angrily about the advancing weed, as few of them realized the tumbleweed was helping to control erosion on

In some places even the Russian thistle was blown out. The plants tumbled over the fields and piled up along the fences, a last line of resistance to the dust storms.

When the first explorers penetrated the Navajo country, many canyons were thickly covered with green plants, and small streams of clear water ran throughout the year. Then the Navajos acquired sheep and before long the flocks had multiplied so that most of the accessible forage was destroyed. With the protective plant-cover gone, rains washed away the good topsoil and cut the stream beds until they were deep gullies, always dry except for the short-lived floods that followed a rain.

The Russian thistle began to spread over the poor soils and before long there was enough of it to protect more desirable plants. When dead, the old plants rolled over the plains, scattering their seeds, and fell into the gullies. Here they slowed down the flow of the silt-laden floodwaters. Erosion-control dams and reduction in the numbers of livestock allowed on the land have helped to restore the Navajo country, but the Russian thistle is responsible for much of the improvement.

EVEN RAGWEED IS USEFUL

But the Russian thistle is not the only plant that saves man from his follies. In the Chicago area we are familiar with ragweed covering land that has been disturbed by construction work. To the ever-growing number of hay-fever sufferers the plant is troublesome when in flower, but it is covering the ground and helping to hold it in place. Where the land is left for a long time, other plants eventually replace the ragweed.

On many of the ranches of our West, sagebrush (an entire plant of this is on exhibition in the center of Hall 26) is the most common plant now because cattle have eaten all the grass. Without competition from the grasses, the less palatable sagebrush flourished. Many ranchers who attempted to keep more cattle than the land could carry would have been left with only bare rocks and gullies if the sagebrush had not held the soil once the grass was gone.

Some other plants, like creosote bush, blackbrush, rabbit brush, and saltbrush, function in the same way. Ranchers are now trying to eliminate these plants by cutting and burning and by using weed-killers like 2,4-D. These expedients are necessary whenever grasses are so weakened by continued grazing that they cannot compete successfully with the less desirable shrubs.

Thus, as weeds are often useful, useful plants are often weeds. The scattered corn plants in fields of soybeans are examples of this. Soybeans are usually planted the year after corn and some of the corn dropped at harvest time grows up the following year. These plants shade and compete with the soybeans and interfere with the harvest operations. The stalks seldom bear usable ears, and even if they did, it would not be worth while to collect them.

Exploring Florida Waters

Loren P. Woods, Curator of Fishes, left last month on a field trip to southern Florida. He is seeking species of fishes to fill gaps in the Museum collection.

Coming. February 1-28, Fifth Chicago International Nature Photography Exhibition.

JANUARY LECTURE TOURS DAILY EXCEPT SUNDAYS

Tours of exhibits, under the guidance of staff lecturers, are conducted every afternoon at 2 o'clock, except Sundays and certain holidays. On Mondays, Tuesdays, Thursdays, and Saturdays, general tours are given covering all departments. Special subjects are offered on Wednesdays and Fridays; a schedule of these follows:

Wed., Jan 4—Circus Animals and Their Homes (*Jane Sharpe*).

Fri., Jan. 6—Your Winter Vacation—The Andes Countries. Illustrated introduction in Meeting Room (*June Buchwald*).

Wed., Jan. 11—Chinese Fundamentals—Ancient Foundations of the Chinese Way of Life (*Harriet Smith*).

Fri., Jan. 13—From Polar Bears to Penguins. Illustrated introduction in Meeting Room (*Marie Svoboda*).

Wed., Jan 18—The Primitive Traveler (*June Buchwald*).

Fri., Jan. 20—Adventures of a Fossil Hunter. Illustrated introduction in Meeting Room (*Lorain Farmer*).

Wed., Jan. 25—Natural Storage of Food—Seeds, Roots, and Other Plant Parts (*Miriam Wood*).

Fri., Jan. 27—Building Blocks of the Universe—Atoms and Elements. Illustrated introduction in Meeting Room (*Anne Stromquist*).

Persons wishing to participate should apply at North Entrance. Tours are free.

STAFF NOTES

D. Dwight Davis, Curator of Vertebrate Anatomy, has concluded the special laboratory course on "Comparative Anatomy of the Head" that he gave for students in the graduate school at the University of Chicago. The course was under the direction of **Dr. Everett C. Olson** of the university faculty (Museum Research Associate in Fossil Vertebrates). **Dr. Rainer Zangerl**, Curator of Fossil Reptiles, and other members of the Museum staff contributed advice and assistance. . . . **Donald Collier**, Curator of South American Ethnology and Archaeology, has been appointed book-review editor of the *American Anthropologist*, official organ of the American Anthropological Association. . . . **Dr. Paul S. Martin**, Chief Curator of Anthropology, and **George I. Quimby**, Curator of Exhibits, recently were interviewed on a radio program for station WMBI, the topic being the exhibits in the new Hall of Indian America. . . . **Dr. Jose Cuatrecasas**, Curator of Colombian Botany, spoke to the Ecology Group (students and faculty at the University of Chicago, Department of

Zoology) on "Mangroves of the Pacific Coast of South America." . . . **Dr. Theodor Just**, Chief Curator of Botany, gave two botanical seminar talks at the University of Illinois, Urbana, on "Work of the Department of Botany, Chicago Natural History Museum," and "Rates of Evolutionary Processes." . . . **Dr. Hugh C. Cutler**, Curator of Economic Botany, visited Cornell University in December for some special plant studies in the Bailey Hortorium. . . . **Dr. Cutler**, **Dr. Julian A. Steyermark**, Associate Curator of the Herbarium, and **Dr. Cuatrecasas** attended the New York meetings in December of the American Association for the Advancement of Science and participated in the symposium on the plant geography of South America. . . . **Marie Svoboda**, Raymond Foundation lecturer, represented the Museum in a panel discussion on "How can science be made an integral part of the elementary school school program?" at a Chicago conference of the Central Association for Science and Mathematics Teachers. Miss Svoboda described and demonstrated with materials how this Museum helps make science a part of the school curriculum.

GIFTS TO THE MUSEUM

Following is a list of the principal gifts received during the last month:

Department of Anthropology:

From: **A. W. Bahr**, Westmount, Que., Canada—a stone head of a Buddhistic deity of the Tang dynasty (621–907), China.

Department of Botany:

From: **Donald Richards**, Chicago—158 specimens of algae, New Brunswick; **Elmer J. Richards**, Chicago—2,011 specimens of algae; **Dr. Richard Evans Schultes**, Cambridge, Mass.—107 herbarium specimens, Brazil and Colombia; **William Culbertson**, Cincinnati—52 specimens of fungi, Cincinnati region; **Dr. Maxwell S. Doty**, Evanston, Ill.—79 hepatics, Oregon and California; **Dr. William Randolph Taylor**, Ann Arbor, Mich.—56 specimens of algae, Bermuda.

Department of Geology:

From: **William M. Murray**, Chicago—a physical geology specimen showing differential weathering, Glacier Park; **Stuart H. Perry**, Adrian, Mich.—Gergenti meteorite specimen (incomplete individual, with crust, 2,151 grams), Sicily; **Dr. and Mrs. R. H. Whitfield** and **Jon S. Whitfield**, Evanston, Ill.—319 fossil plant specimens.

Department of Zoology:

From: **Harry Hoogstraal**, Chicago—28 robber flies, including one allotype and two holotypes, Mexico; **Leslie Hubricht**, Danville, Va.—14 salamanders, southeastern U.S.; **Maj. Robert Traub**, Washington, D.C.—29 mammal skins and skulls, Malaya; **Chicago Zoological Society**, Brookfield, Ill.—2 lizards, Australia; **Frank H. Seaton**, Tampa, Fla.—a snake, Florida; **Maj. Howard T. Wright**, Orlando, Fla.—445 insects and allies, and 18 isopods, southeastern Asia and the Philippine Islands;

4-H BOYS AND GIRLS LAUD MUSEUM

During the period of the International Live Stock Exposition in Chicago, which closed early last month, the Museum entertained, as usual, the delegates to the National Congress of 4-H Clubs, totaling some 1,235 American boys and girls. As usual, these splendid young people from the rural areas of the United States were enthusiastic in their praise not only of the Museum but of almost everyone and everything in Chicago. This visit marked for many of them their first stay in a large city.

Of special interest perhaps is the opening sentence in a letter of thanks received from a young lady in Texas shortly after her return home: "A building so large and exhibits so grand I have never seen—even in Texas!"

Another letter commented: "You cannot imagine what a world of wonders the Museum opened up to me—a junior in a little high school in a small prairie town. I wish I could spend a month looking at the exhibits for I am terribly interested. Someday, I would like to be in an expedition to find things."

Audubon Lecture Jan. 7

The Illinois Audubon Society will present the third lecture in its current series on Saturday, January 7, at 2:30 p.m. in the James Simpson Theatre of the Museum. **George and Arlene Hadley**, leaders in Detroit's out-of-doors movement, will present the story of their activities under the title "Happy Valley." The lecture will be accompanied by a color motion-picture film recording canoe treks through northern Michigan—the land of Hiawatha. The Hadleys will tell of the poetry and philosophy they found in trees, wild flowers, songbirds, and wild animals of the woods.

Henry S. Dybas, Hazelcrest, Ill.—1,177 insects, U.S., Mexico, and Colombia; **Lillian A. Ross**, Chicago—159 insects and allies, U.S. and Virgin Islands; **Col. Clifford C. Gregg**, Valparaiso, Ind.—2 millipedes, 2 spiders, a phalangid, and 10 ants, Indiana; **Clair Cotterill**, Chicago—48 insects, Maine; **American Museum of Natural History**, New York—a parrot fish and 75 pomacentrid fishes, British West Indies; **Richard Archbold**, Lake Placid, Fla.—a lizard, Florida; **Dr. Alvin R. Cahn**, U.S. Army—a salamander, Honshu Island, Japan; **Col. E. W. Wentworth**, Chicago—5 skulls of selected purebred hogs, with pedigrees; **Lieut. John F. Kurfess**, U.S. Navy—15 lizards and 9 snakes, Guam.

Library:

From: **Art Institute of Chicago**; **Col. Clifford C. Gregg**, Valparaiso, Ind.; **Dr. Henry Field**, Washington, D.C.; **Anthony Mazur**, Chicago; and **Eugene S. Richardson, Jr.**, Winnetka, Ill.

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