



Mount Mayon spews rare *Nuees Ardentes* over Legazpi Harbor in the Philippines. Dr. William Melson was on the scene quickly to investigate the event for the Center for Short-Lived Phenomena.



THE SMITHSONIAN TORCH

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Melson Discovers Volcano Spews Rare *Nuees Ardentes*

Mount Mayon, rising 8,000 feet above Legazpi Harbor in the Philippines, has been featured on postcards and in several travel magazines. It is, indeed, a picturesque sight.

It also is a prehistoric volcano which, in 1814, killed 1200 people in a fiery display of upheavals and explosions.

Most recently, April 20th, Mayon erupted again (actually, it has "blown" about every 20 years in this century).

The Smithsonian's new Center for Short-Lived Phenomena swung into immediate action. The Center, headquartered at SAO, requested and received daily reports on the eruptive activity from the Philippine Volcanological Commission and, in turn, transmitted reports to scientific correspondents around the world.

One correspondent of the Center, Smithsonian petrologist William Melson, got permission to enter the event area. First, he made arrangements with the U.S. Air Force to provide aerial photography and reconnaissance of the eruption, which was increasing in frequency.

Later, Dr. Melson was joined by Dr. James Moore of the U.S. Geological Survey at the site. They observed the eruptive activity for nine days, witnessing a rare volcanic event: Mayon was spewing *Nuees Ardentes*, not lava.

A *Nuee Arden* is an avalanche of hot gas-emitting rocks—mostly huge boulders—which can advance two miles in two minutes, unlike a lava flow, which is much slower.

Two deaths were attributed to the eruption, some 35,000 people had to be evacuated from the event area, and numerous homes and crops were buried in the upheaval.

Dr. Melson believes that as a result of the Center's quick action, he and his colleagues were able to learn a number of things about eruptions in general and *Nuees Ardentes* in particular. He has his theories about what causes *Nuees Ardentes* and feels it is most likely that Mayon volcano will create another "special explosion" in the future.

Exclusive film footage of the eruption and several on-site color photographs are currently being processed and developed. Later this month, they will be shown to scientists and the press at a briefing at the Smithsonian. Samples of eruptive rock and ash also will be shown.

The Mayon eruption brought to seven the number of events in which the Center for Short-Lived Phenomena has participated and dispatched scientists for observation and study. The others, reports Center director Robert Citron, were volcanic eruptions on Deception Island and Metis Shoal; the Ocean Eagle oil spill in waters off Puerto Rico; an extremely bright Polo fireball over the Central United States; the Dayton Fireball over the Ohio Valley; and shortly before the Mayon eruption, a gigantic fireball passage across a wide section of Mexico.

SHOW BY CHARLES EAMES

'Photography and City' in A & I

by Charles Eames

On June 5, the Institution will open an important new photographic exhibition, "Photography and the City: the Evolution of an Art and a Science." The special exhibition will run for six months in the Arts and Industries Building.

More than 1,000 still shots, some motion pictures, and a selection of special photographic equipment show the evolution of photography as it has affected city change and attitudes toward the cities in which we live.

Charles Eames, internationally known designer of films, furniture, exhibitions, and architecture, selected the photographs and designed the show.

His statement on the exhibition and an outline of its scope follows:

Taylor Given Henry Medal



Frank A. Taylor, director of the U.S. National Museum, will be presented the Henry Medal June 5 at 4 p.m. in the Great Hall of the SI Building.

The medal has been presented only once before, to Dr. David E. Finley in

1967. It was created in honor of Joseph Henry, first Smithsonian Secretary, and is awarded by vote of the Regents.

The citation by Secretary Ripley reads: "Frank Augustus Taylor, a man in whose breast the word 'museum' has never struck terror, for 47 years a sturdy pillar of the Smithsonian, your persistence and imagination guided the Museum of History and Technology from drawing board to final completion against all odds, creating in the process the first evolutionary history museum with research programs and changing exhibits. The Regents of the Smithsonian Institution have asked me to present to you this award, the Henry Medal, for your unique services to this Institution, and through the National Museum, to the Nation."

Mr. Taylor, who holds a degree in mechanical engineering from the Massachusetts Institute of Technology and an L.I.B. from Georgetown University, came to the Smithsonian in 1922. He was named assistant director of the National Museum in 1955 and directed in 1962.

This is an exhibition of photographs—those photographs that have in some way influenced the changing form and nature of our cities.

The exhibition can be described as an "Evolution of an Art and a Science" in such photography, not because of any profound analysis but because the examples are drawn fairly evenly from the entire time span of the existence of photography.

Both art and science are present to varying degrees in most of the photographs. Certainly the designation—art, or science—does not presume to indicate where the beauty lies. However, it is possible to think of the photographs in the exhibition as belonging to two general groups.

One, The Evolution of an Art:

This refers to all those photographs made in the spirit of the discovery and

the recording of places, forms, and people—the reportage, the personal view.

This includes much of the very early photographs—the views of streets and cities, the travel books, stereos from all over the world.

It includes strong social statements from the late 19th century, some from the Thirties, and some very personal expressions of interest, concern and curiosity that belong to the present day.

Certain pictures in the news media belong in this group, from Rotogravure to Telstar. This includes the newsreel and television which, in many ways, have brought a new meaning to the concept of truth and photography.

Two, the Evolution of a Science:

This refers to those photographs that were made with the idea of measuring some property or quality—recording some state of an event so as to compare it with another.

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Sunset Over Manhattan, by Litton Industries Aero Service Division, will appear in Charles Eames' "Photography and the City" exhibition.

Gus Van Beek, Wallen Visiting Middle East

The Middle East has lured two SI travelers this month. *Gus Van Beek*, Office of Anthropology, leaves June 27 for Saudi Arabia and Israel. He will conduct a program of archeological study in Saudi Arabia, inspect SI projects in Israel, and be back in Washington in September.

Oceanographer *I. E. Wallen* is visiting Morocco, Tunisia, Pakistan, Iran, and Turkey to develop marine biological research projects and advise on establishment of oceanography programs.

Smithsonian ladies are also on the road. *Lois A. Bingham* and *Margaret Cogswell* of NCSA have gone to Italy to serve as commissioner and deputy commissioner for the Venice Biennale, and *Dr. Mary E. Rice*, Worms, is participating in the Atlantis II scientific cruise and collecting worms in Senegal.

In England are *Philip W. Bishop*, Arts and Manufactures, *Richard H. Benson*, Invertebrate Paleontology, and *Frederick J. Collier*, Invertebrate Paleontology. Collier is studying the collections in the British Museum and the Royal Scottish Museum and *Richard H. Benson* is using the scanning electron microscope at Leicester, while *Bishop* conducts research in museums and libraries not only in England but the Netherlands, Switzerland, Italy, and France as well.

Dr. William H. Klein and *Bernard Goldberg*, RBL, are in Greece and Israel until June 19. They are discussing and participating in joint research projects in solar radiation.

Dr. John F. Eisenberg, Zoo, leaves the country June 10 and will not be back for a year. He is conducting field research under the Smithsonian Primate Survey of Ceylon.

Congress Passes Lilly Coin Bill



Legislation has been passed by Congress which will bring the Josiah K. Lilly gold coin collection to the Smithsonian.

One of the finest in the world, the multi-million dollar collection contains 6,113 pieces. It will be delivered to the Smithsonian before the end of the month and will be put on special exhibition for a while before it is incorporated into existing numismatics displays, *Dr. V. Clain Stefanelli* stated.



Among the coins in the collection is the 1822 \$5 gold piece above, one of only three in the world. One of the other two was already in SI's collection, and the day the Lilly bill was passed *Dr. Stefanelli* was offered \$150,000 for it.

The bill provided a tax credit of 23 percent of the appraised value of the collection to the Lilly estate. It had been opposed by collectors who hoped the set would be broken up.

Charles Eames

(Continued on Page 1.)

This includes the development of Military Air Reconnaissance, the recording of the San Francisco fire by kite, the mapping of the Chicago lakefront by dirigible.

It includes analyzing of city forms from the air, and the study of the ethnic and economic stresses in the city much as one studies the geological stresses in the earth's crust.

It includes images drawn from many different bands of the spectrum—the ultraviolet, visible color, color infrared, infrared and microwave—all capable of providing valuable information in the

planning of new cities and the revitalization of old ones.

There are photographs from the present space program that have more to do with the immediate problems of our urban communities than many of us had ever suspected.

In the middle of the nineteenth century, when photography was very young, some perceptive, if somewhat romantic, statements were made about photography and truth. Today, they would perhaps be greeted with a degree of cynicism.

Still, photographs like those in the exhibition contain an impressive amount of information—and they have the one thing in common—If we learned how to really use them—they can have an effect on the shape and health of our cities.

Mrs. Ripley's SI Activities Varied

by Mary M. Krug

Mrs. S. Dillon Ripley is, by her own description, an old fashioned woman to whom home and family come first. And she is a shy, modest woman who expresses wonder that anyone would want to interview her, in spite of the fact that her background ranges from the OSS in Africa to bug-catching in Bhutan.

Mrs. Ripley, not surprisingly, is an enthusiastic supporter of the Smithsonian who contributes as much time as possible to its activities. "I only regret that there is so much going on that I don't have time to take it all in," says the wife of the Secretary, who makes it her practice to pick up her two youngest children from school and be with them in the evenings. "There is something at the Smithsonian for everyone. I would love to be able to take some of the courses being sponsored by the Associates."

The Associates Ladies' Committee is one of her primary activities. "I try to help in any way necessary, but I don't feel I should be in front at all," she says of the group that lends support to all Smithsonian programs from the Neighborhood Museum to the NCSA. "One of our problems is that the Institution is so vast. Your mind spreads in so many directions you don't know where to start. We will ultimately have to have a sub-committee for each museum."

She is a frequent browser and buyer in the Museum Shops and had just returned from her first visit to the new MNH bookstore when she received the TORCH interviewer in her home. The trip to MNH had also included getting two shots for a trip to Romania, where she and the Secretary were official guests of the Romanian government. The ten-day trip included visits to monasteries and museums, and a boat trip on the delta of the Danube to see the birds.

Before the three children (Julie, 16; Rosemary, 14; and Sylvia, 12) were born, Mrs. Ripley worked more closely with her husband, assisting him in his ornithology laboratory at Yale. She still manages to go along with him on expe-

ditions, one of "the most fascinating parts" of her association with the Smithsonian. She has lived with stone-age people in New Guinea and been one of the first Western women to go into the interior of Bhutan, a remote kingdom wedged between India and Tibet.

Although she has no formal science background, Mrs. Ripley can claim considerable exposure to it and helps to catch and skin birds on expedition. She has a special interest of her own that she likes to pursue—moths, butterflies and other insects. She got some special training at the Peabody before her trip to New Zealand and, armed with butterfly net and cyanide bottle, gathered a considerable collection for Yale.

She did some collecting for Smithsonian entomologists in Bhutan and "they were very polite in accepting them, because they had very little from that area, but it was a bad time of year for collecting." If a hoped-for second trip materializes, she expects to bring back more significant acquisitions.

One significant acquisition of the Bhutan trip, from a personal point of view, is Ashe, a Tibetan spaniel whose name means Princess. Acquired as a pup, she shared a sleeping bag with Mrs. Ripley and now "thinks she owns the house," Mrs. Ripley says. Another aim of a return trip to Bhutan is a mate for the animal, so rare in the United States that the American Kennel Club does not register the breed.

The children, taken along on travels as much as possible, have not yet been on an expedition. Although they are eager to go, Mrs. Ripley is reluctant to include them. "It would mean so much extra equipment," she notes, and "although I never worry about myself getting hurt or sick, I have a feeling that I would be concerned about them."

They did go along to New Guinea when they were 8, 6, and 3, but they stayed in the hotel, where they helped their mother collect moths. "They would find them around the hotel and I would go out with my cyanide bottle," she re-

calls. "After we got back home a moth got in the house and the six-year-old shouted 'Mama, quick, where's your bottle?!'"

Mrs. Ripley's spirit of adventure and love of travel found an outlet in World War II, when she was with the OSS in North Africa, Italy and China—"in a clerical job, not as a spy. It gave me a good background for being married to Mr. Ripley, and it is three years of my life I wouldn't change at all. I have always loved to travel and have had a chance to visit places it is hard to go to now."

She is philosophical about the roughing-it required on an expedition. "You are uncomfortable when you are camping, and you do occasionally think how nice a hot bath would be, but it feels so marvelous when you do get back." She expects to get up to about 17,000 feet when she returns to Bhutan, a trip that will require her first ride on a yak. "I'm sure Mr. Ripley has been on a yak, though. He walked into Tibet when he was only 13."

To record that and any subsequent travels, she is getting informal instruction in photography from National Geographic. "Aside from taking pictures of the children I am not a mad photographer," she says.

In addition to her many other activities, Mrs. Ripley also finds time to serve on the boards of the Animal Rescue League and the Home for Incurables.

One of her contributions to the Smithsonian earned her a citation at the last employee awards ceremony. She was the first recipient of a special award established to honor persons not on the staff for significant suggestions or other contributions.

The award was a complete surprise to Mrs. Ripley. She was "quite touched" but "embarrassed"—which is in character for a woman who can recount experience after experience and then say sincerely, "I don't know why anyone would want to interview me."

50,000 Questions SIE Adopts Data System

by George J. Berkclacy

"Who is performing research on sex lures of the American Cockroach?"

"List all current U.S.-supported research in Peru."

"Who in northeast U.S. is doing research on the following...?"

These are typical of the more than 50,000 questions fielded and answered annually by the Science Information Exchange, a bureau of the Smithsonian located not on the Mall but on the third floor of a building in downtown Washington.

Just a few days ago, SIE inaugurated yet another new and improved method of science information handling of its more than 100,000 one-page records covering all areas of life, physical, social, and engineering sciences.

The new system, under development for more than a year, will employ an IBM Data Cell with an IBM 360-30 computer. All of SIE's records, reports, Deputy Director David F. Hersey, will now be maintained in the Cell rather than on separate tape and disk units previously and commonly employed.

Programming for the new Data Cell, he adds, was developed on a modular basis and now provides "a tremendous increase in the SIE's flexibility and versatility for information handling."

"The use of the new system with other recent SIE improvements in information handling," *Dr. Hersey* explains "will allow the exchange to meet an ever-increasing demand for its services by the research community."

The exchange has been serving the research community for nearly 20 years, providing a service to both administrators and scientists regarding information on who is currently doing what, where, when, and for how much.

This method of operation enables research administrators, as well as individual scientists, to identify unwarranted duplication and program strengths and weaknesses before rather than after the fact.

It is this point that explains the unique emphasis of SIE, which is on research projects at the time they are initiated, rather than one to three years later when the work winds up in journals, libraries, and documentation centers.

The total collection of ongoing research records registered at SIE in all the sciences is more than 100,000 annually from over 900 research organizations.

That SIE has proved a beneficial aid to researchers can be seen in poll conducted a few years ago: of 500 users queried, 95 percent stated that they learned for the first time about new investigations or investigators in their own specialties.

"There are limitations," *Dr. Monroe E. Freeman*, Director of SIE, said in a paper delivered to librarians in mid-1967. "SIE cannot assure complete coverage in all fields of scientific research. Some fields are more comprehensive than others. It is a long and tedious job to build up to a complete national inventory and keep it updated every year."

He advised users "not to expect complete coverage at this point in time, but there is hope for comprehensive coverage in the not too distant future."

"In the meantime, there will be new material they had not yet heard about. Even a few new Notices will have contributed something and in research this could be an important something."

Regents Named

Three citizen-members of the Board of Regents have been reappointed by Congress.

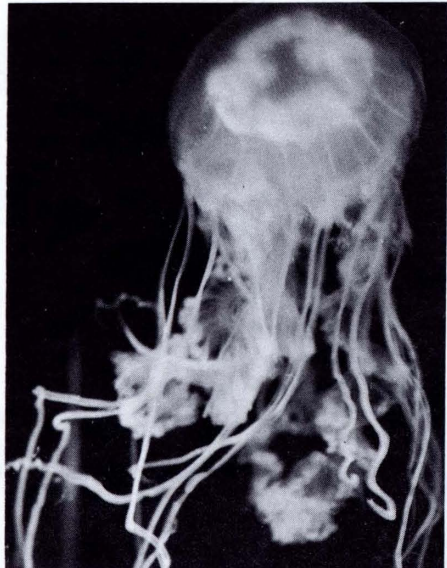
Dr. Crawford H. Greenewalt, Wilmington, Del., *Dr. Caryl P. Haskins*, Washington, and *Dr. William A. M. Burden*, New York City, will each serve an additional six-year term.

Sea Nettle Menace Object of Tender Study

If you are planning a trip to the Chesapeake Bay after July 4, take along some meat tenderizer, Dr. Leonard Schultz, senior scientist in the Department of Vertebrate Zoology, advises.

Not for the picnic lunch—for sea nettle stings.

Dr. Schultz's research has forced him to find out what will relieve such stings. He is engaging in long-range studies



Medusa—the villain

that may some day save the bay from the jellyfish menace, and he gets stung virtually every time he collects specimens.

Aware that the drippings of a slashed papaya fruit are used as a Malay remedy for sea wasp stings, Dr. Schultz and his partner, Dr. David G. Cargo, decided to try commercial meat tenderizer, which has the same key ingredient, papain. Not only does it work for nettles, but also for mosquito bites, says Schultz. Moisten the affected area, apply immediately, and rinse off a few minutes later.

The meat tenderizer discovery was merely a happy corollary to the main research, being sponsored by the University of Maryland's Chesapeake Biological

Laboratory, Solomons Island, Maryland. It was begun at Dr. Schultz's suggestion in 1965 and has already turned up a possible control. But years of study must be conducted first on what effect removal of the jellyfish and introduction of a biological control might have on the Bay's ecology.

The jellyfish interferes with fishing, plugs up intake systems on boats, and clogs nets. It competes with economically valuable fish, eats oyster larvae, and above all, stings bathers. So far, Schultz and Cargo have found no benefits that might compensate at all for the trouble it causes.

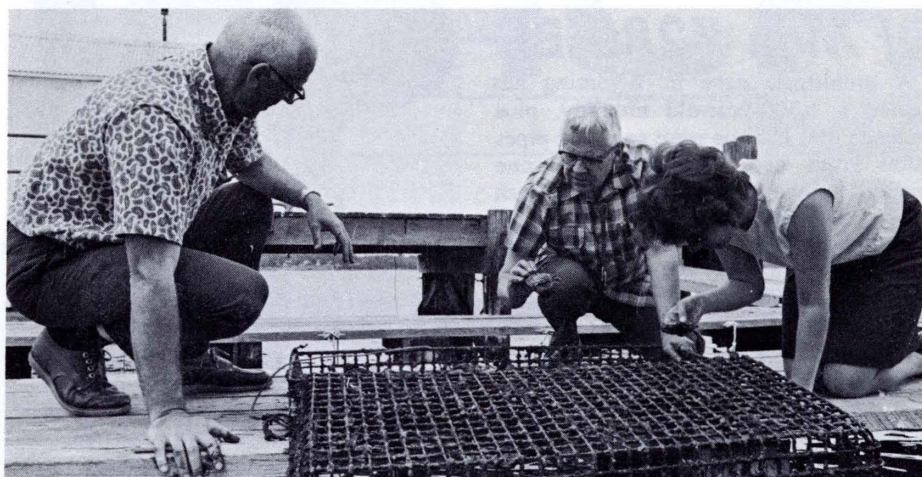
A general knowledge of the nettle's life cycle is necessary to understand their research. Adult jellyfish, or medusae, reproduce sexually, creating a larva which swims around a while and then attaches itself to some hard object on the estuary bottom, where it develops into a polyp.

Polyps reproduce asexually at an "absolutely phenomenal" rate, Schultz says. About 1/16-inch tall and stationary, they bud off to form either cysts or new polyps. They winter over as cysts. The following spring the cysts become polyps and each polyp forms four to ten ring-like segments, or disks, at its top. This process is called strobilation.

Something triggers the top disk into undulating spasms that free it from the rest of the polyp. It then swims away as an ephyra, which will develop into a 7-inch medusa within five weeks. Even at only one inch, however, it is capable of stinging. One polyp can produce strobila as many as four times in a summer, Dr. Schultz notes, and a polyp in the laboratory has been seen to produce as many as 52 cysts.

Scientists have had a general knowledge of his life cycle from laboratory studies for 30 years, but until Cargo and Schultz began their research, no one had ever found the hard substrate on which the polyps develop.

"It's hard to understand why," says Cargo. "When we went looking for polyps



Dr. David M. Cargo, Dr. Leonard Schultz, and lab assistant Mrs. Rosalie Vogel look for nettle polyps on oyster shells kept stored in baskets along the Chesapeake Biological Lab's pier at Solomons Island.

we reasoned that they would be attached to a hard substrate that was common to the shallower waters of the Bay. The most common substrate we could think of in the Chesapeake was oyster shells. That's where we looked and that's where we found them"—on the first day they looked.

Cargo and Schultz have studied the sea nettle life cycle in nature and have cultivated the creature in the laboratory, where they had to contend with the problem of the medusae floating down the drain. They now know the water

temperatures it prefers, and the salinity. They know there are cycles of abundance that, according to Schultz, do not seem to correlate with temperature, rainfall or salinity changes. And they may have discovered a control.

The nudibranch, an ugly-looking little species of sea slug, eats sea nettle polyps voraciously. Much study remains to be done on its life cycle as well as that of the nettle because, as Dr. Schultz points out, "If we did destroy the jellyfish, we don't know what the ramifications would be for other organisms." But as of now, it offers the most hope.

Every chemical tested so far that kills polyps also kills oysters. And nets, the only form of control at all successful to date, are not fully effective along the open bay because of wave action.

The jellyfish stings by reflex, and repeatedly. It has thousands of stingers all over its body, even on the umbrella. Beach owners understandably have offered enthusiastic support to the Schultz-Cargo research, which someday could relieve them of a major problem.

In the meantime, there is meat tenderizer.



Nudibranch—potential hero

Dr. Doris M. Cochran Dies, Served SI for 50 Years

Dr. Doris M. Cochran, curator of the Division of Reptiles and Amphibians, died May 22 after a long illness. She was 70 years old.

One of the Smithsonian's most veteran staff members, Dr. Cochran had been cited at the awards ceremony the week before her death for 50 years service to the Institution. She began her career as a museum aide in the Division in 1919, even before earning her undergraduate degree.

Dr. Cochran earned an AB from George Washington University in 1920 and an MS in 1921. She added an MA from Johns Hopkins University in 1928 and a Ph.D. from the University of Maryland in 1933, all while working full time.

The frogs of South America were Dr. Cochran's major field of research interest, although she also wrote numerous articles and papers on snakes. A bibliography of her papers fills a 13-page booklet, and many of them were not only written but illustrated by her as well.

Her most popular book, *Living Amphibians of the World*, has been produced in Dutch, Swedish, French, Spanish,

Portuguese, Norwegian, German, and Italian, and a Japanese translation is now in preparation. The book is sold by the Museum Shops.

Dr. Cochran was highly regarded by her colleagues. The Herpetologists League dedicated an issue of its journal to her in 1953, and C. J. Goin wrote at that time:

"Almost every one who has done extensive work in American herpetology has sooner or later found himself in the National Museum and there he has found that Miss Cochran, despite her multifarious duties, always willingly took time to help. I am young enough to remember how readily she laid aside her own interests and obligations to help a somewhat bewildered student in finding the specimens and literature he needed and then aided him in making an adequate interpretation of them. And her willingness to help is not restricted to students. She has always cheerfully taken time to examine a type or compare specimens for those who have called on her for help."

The same sentiments were expressed when the American Society of Ichthyologists and Herpetologists elected her a Distinguished Fellow of the Society in 1962.

Dr. Cochran was curator-in-charge of her division from 1956 to 1966.

In addition to her talents as biologist and scientific illustrator, Dr. Cochran was also a skillful weaver. Memorial contributions may be made to:

Doris Cochran Memorial Weaving Library

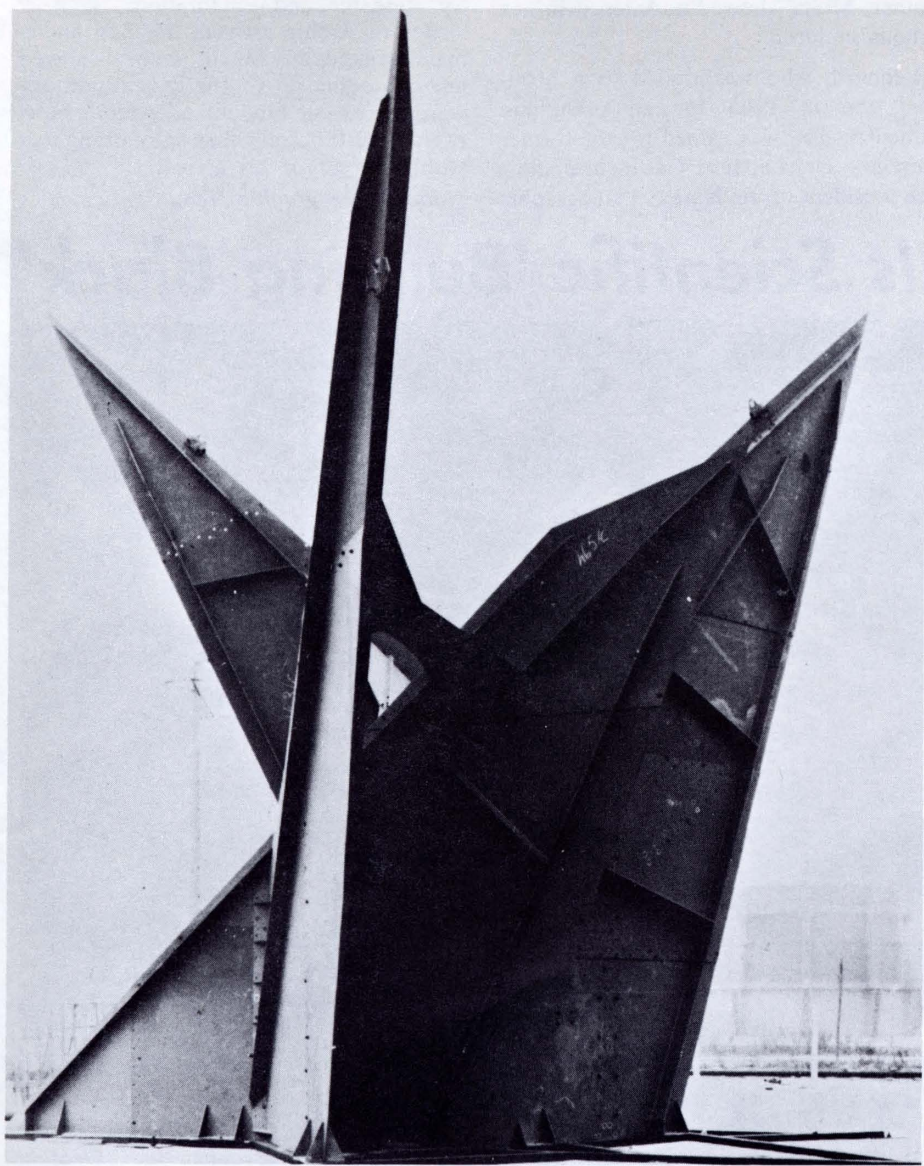
c/o Mrs. Elizabeth Long

2707 Adams Mill Road,

apartment 301

Washington, D.C. 20009

Checks should be made payable to: Potomac Craftsmen, Inc.



This striking 40-foot-high stabile by Alexander Calder, the gift of Mrs. Gwendolyn Cafritz on behalf of the Morris and Gwendolyn Cafritz Foundation, will soon rise on the west side of MHT. The jet black sculpture will stand on a concrete platform in a 108-by-60 foot pool being designed by architect O. Walker Cain. Mrs. Cafritz donated not only the stabile but \$250,000 toward construction of the pool and its landscaped setting adjacent to the MHT cafeteria patio. Calder created the stabile in his studio in France. The 35-ton work is now stored in some 40 boxes at the Silver Hill, Md., restoration facility.



Wyoming Cave Yields Evidence Of Man 7280 BC

A prehistoric cave in Wyoming has yielded a 1,300-year-old mummy, plus evidence that Indians were smoking pipes 4,000 years ago. An array of stone weapon points found there reach back more than 9,000 years.

Evidence shows that Indians lived in Mummy Cave from 7280 B.C.—well before the world's first great civilization flourished in Mesopotamia—until A.D. 1580. Under the floor lie 38 distinct layers containing relics of human occupancy.

"I don't know of a more complete stratigraphic record," reports Dr. Waldo R. Wedel of the Smithsonian's Office of Anthropology, who served as general consultant on the excavation project. "It's a textbook case."

He said no other human remains were found in the cave. Diggers, however, recovered bone pipes smoked by Indians 40 centuries ago. Dr. Wedel said he knew of no earlier smoking devices in the American Plains area.

"All the discoveries in Mummy Cave emphasize the potential importance of mountain areas in the prehistory of the American West," Dr. Wedel said. "Dry caves in the Rocky Mountains may preserve many items that would have long disappeared from campsites on the Plains proper."

In the span of 9,000 years, the cave was occupied, abandoned, and reoccupied many times, Mr. Wedel said. People probably came into the locality from different directions, but they tended to adapt to a hunting and food-gathering economy shaped by their environment.

Mummy Cave was excavated by the Whitney Gallery of Western Art in Cody, Wyoming. The project was supported by the National Geographic Society, the National Science Foundation, and private groups.



Courtesy Sidney Janis Gallery, N.Y.

Jean Arp's bronze sculpture "Evocation Humaine, Lunaire Spectrale" will be among the works of fine art displayed in a show entitled "The Art of Organic Forms."

Ritterbush Book, Exhibition Relate Art to Living Form

by Benjamin Ruhe

A book-length essay on "The Art of Organic Forms" has won high praise for Philip C. Ritterbush, Director of the Office of Academic Programs.

Mr. Ritterbush wrote the text for the catalogue being published in conjunction with an art exhibition bearing the same title. The show, conceived and organized by Mr. Ritterbush, opens June 15 in the Art Hall of the Museum of Natural History. It runs through July 31.

"Philip Ritterbush demonstrates impressively the historical and imaginative unities linking science to the fine arts," said Stephen Toulmin, professor of philosophy and history of ideas at Brandeis University, in a comment being

reproduced on the dustjacket of the 140-page catalogue.

"... an invaluable contribution," wrote Gyorgy Kepes, director of the Center for Advanced Visual Studies at Massachusetts Institute of Technology. "His disciplined and eloquent confrontation of the roots of our scientific knowledge of organic forms, and contemporary artistic expressions, will no doubt become important for all of us interested in the complementary vision of artistic and scientific vision."

"Philip Ritterbush, in the brilliant essay... has shown how... the idea of form, always with aesthetic overtones, gradually took control of biological thinking," said G. Evelyn Hutchinson, professor of zoology at Yale University. "This unique volume will remain... an inspiration to students in a variety of seemingly disparate fields."

"Richly instructive," said William K. Wimsatt, professor of literature at Yale University. "(The essay is) a deep exploration of the tropical rain-forest of romantic nature philosophy and early 'representations' of living form, the biological world of Kant, Goethe, Schelling, Coleridge, and Keats, in which some of our most cherished modern notions about both science and poetry had their seedbed and first growth... A tour de force of literary, pictorial and scientific learning."

The exhibition will attempt to show how artists and scientists are drawn to certain essential organic forms because of their inherent beauty. As a consequence of this awareness, the artist paints pictures while the scientist is guided in his experiments and analysis by the same creative intuitions.

Miss Diana Hamilton served as research assistant to Mr. Ritterbush for the project. Since last July, she has been assembling the 75 works of art and the scientific illustrations and texts to be displayed.

Society and Chairman of its Committee for Research and Exploration.

Before Archie arrived, the Zoo had a male orangutan, Butch, who displayed an unproductive brotherly attitude toward the female orangutans. Archie, however, sired the Zoo's first baby orangutan within a year of his arrival.

National Geographic News Service

— Redbeard's Revenge — Archivist Declares War on White

To the Editor:

Shades of earlier barbaric invasions from the North! The sacking of Paris and Rome had nothing on the recent sacking of our sandstone fortress in the "Paris of the West." Is nothing sacred? Even the personal files containing a man's innermost dreams and schemes were rifled to fill the yellowing pages of a lurid Cambridge tabloid.

Should one "John White" (obviously a pseudonym) appear in Washington in any of his many disguises (yes, even in drag), he will be caught by my bodyguard of Amazons, put aboard the *Phykos* and keel hauled, stepped on by the

"worlds largest elephant," and finally sacrificed in the lap of George Washington. This means war, Cambridge! And our missiles are bigger than yours!

Just for the information of "Mr. White," the game of "Smithsonian Institution" exists, and has been played many times. Every time it has been played the Smithsonian turns out to be a well-balanced, dynamic educational institution, with one exception: instead of an astrophysical observatory there is always a department of astrology. Get thee back to Stonehenge, S.A.O.

Vengefully,

×

Barbarossa

Zoo Experiences Baby Boom

by Jerry Kline

The Zoo is experiencing its regular springtime population explosion.

Births since mid-March include bighorn sheep, an owl monkey, a Barbary ape, a zebra, and scores of smaller animals. About 800 mammals, birds, reptiles, and invertebrates are born annually at the Zoo.

The Zoo's 1,300 birds are the most prolific parents, but the lions also do well. Princess and Caesar, at age 18 the zoo's oldest leonine couple, have produced 25 cubs since 1953.

Amphibians, on the other hand, move into parenthood slowly. They tend to give members of the opposite sex a wet, cold shoulder. Says Theodore H. Reed, park director: "They're like humans; they've got to like each other."

The 175-acre Zoo park is fertile ground. Many animals don't wait for springtime to appear.

Donna, a pensive 125-pound giraffe, was born in February, 1968. She was named for Mrs. Donna K. Grosvenor, the wife of Gilbert M. Grosvenor, vice president and associate editor of *National Geographic*.

September saw the birth of Dillon, the Zoo's first home-bred black rhinoceros—named in honor of Secretary Ripley.

Some recent births made major news in the animal world. Chief among these was the arrival of Rajkumar, the first white tiger born in the Western Hemisphere.

Rajkumar was one of triplets born on Jan. 6, 1964, to Mohini, the Enchantress of Rewa, and Samson, a Bengal. Unfortunately, Rajkumar died of distemper at the age of 20 months; the other siblings had normal orange-and-black coloring.

The big event of spring, 1968, was the birth of the Western Hemisphere's first snow leopard. Like other newly born valuable animals, he was kept in an incubator in a Zoo employee's home.

The foster-parent record among Zoo personnel probably belongs to the head

keeper of the great apes, Bernard Gallagher, and his wife, Louise. Their specialties are chimpanzees and gorillas.

Tomoka, Leonard, and Inaki—the fourth, fifth, and tenth gorillas born in captivity anywhere—roomed at the Gallagher's suburban Maryland home during the early, critical months. The babies'

mother, Moka, showed no interest in her famous children.

Leonard, who was traded to a Montreal zoo in 1965 for an orangutan named Archie, was named for the former Secretary Dr. Leonard Carmichael, now vice president of the National Geographic

Ga. Fossil Find Is Scientific 'Building Block'

The Smithsonian has a long history of cooperation with the nation's universities and colleges. This relationship has served well both the Institution and academe.

Dr. Emma Lewis Lipps (right) of Shorter College in Rome, Georgia, for example, has a close working relationship with Dr. Clayton Ray (left) an MNH paleontologist. It has resulted in scientific expertise and acclaim for Shorter and has contributed considerably to the SI's collections and knowledge.

Dr. Lipps, professor of biology and earth sciences, only recently was selected by the Smithsonian as one of 25 outstanding biologists in the nation to attend a summer institute here in systematics.

She is no stranger to the Mall. In the photo Dr. Lipps, with one of two Shorter students she brought to MNH seen peering from the rear, discusses with Dr. Ray a mammal fossil found at Ladds Quarry in Georgia a few years ago. Since 1963, Dr. Lipps has, along with her students, collected, washed, picked, preliminarily sorted, packed, and shipped at irregular intervals, Ladd fossils to Dr. Ray for his collection.

More recently, the small Shorter campus was itself the site of a major find. During excavation of a foundation for a student library, workmen hooked into a four-inch coral, which was turned over to the construction company's boss, Jess Bradfield. Mr. Bradfield, deciding against putting the unknown fauna on his mantel, turned it over to Shorter officials. It was identified by Dr. Lipps



and her colleagues as a Devonian fossil.

Later, they learned it was 350,000,000 years old and the largest Devonian fauna ever found in Georgia. Specimens from the deposit have been brought to MNH for further identification.

The importance of the find—and of this working relationship—Dr. Ray pointed out, is "that it extends scientific

knowledge of Devonian into Georgia and also helps the Smithsonian to tie in stratigraphically the Georgia deposits with others throughout Appalachia.

"It is, in effect, a building block of our knowledge—and it proves that it is possible for a school with a small program, funds, and facilities to do something scientifically significant."