

Right of Existence Examined In Special MNH Exhibition

In this century—in this decade—the quest for 'basic' human rights has become a dominant force throughout the world: the right of equal opportunity, the right of free choice, the right to live one's life as one sees fit, even the right to live! It is becoming increasingly apparent that one of the basic rights recognized by man for man will be essential for the preservation of the natural world.

Should not the right to exist, to be alive, transcend our own species?

The extinction of species has occurred many times in the geologic past, and of course it will surely occur in the geologic future. But never has the problem been of such magnitude as it is now. Man is responsible for this. He has contributed more than any other factor to the plight of today's living world, disrupting the natural balance that has survived for millennia. Man alone has the ability (if he chooses to exercise it) to insure the preservation of his own kind.

In other words, species existence is now, as never before, in the hands of man.

This urgent message, expressed above in the words of Joseph Britton, special assistant to the MNH Director of Richard Cowan, will be brought to the public over the next few months in a major and dramatic special exhibition, "The Right of Existence: An Exhibit Essay on Endangered Life," opening December 13 on the ground floor of MNH.

So important is the message considered that plans are being considered to have the display circulated by SITES after its appearance here.

The show tells its story in 20 units that include a

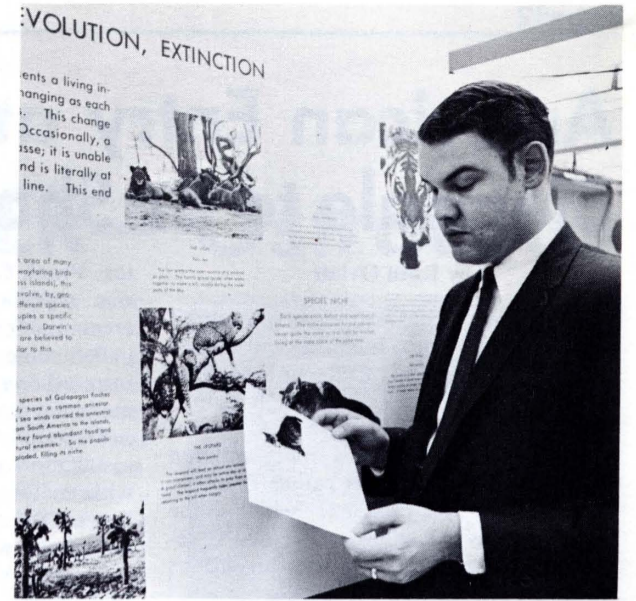
total of 50 exhibit panels. Among the subjects covered are a basic introduction on "Species, Evolution, and Extinction;" "Gone Forever", the record of recent extinction; "Achievement or Exploit? A Matter of Opinion," a photo essay illustrating how some of man's greatest achievements could be viewed as exploitation of the natural world; "Why Bother?" and "Man: An Endangered Species?"

Since 1600, more than 125 distinct species of birds and mammals have disappeared, plus nearly 100 more subspecies, races or varieties. In "Gone Forever" a large wall map pinpoints the approximate geographical area of each. In addition, such artifacts as a reconstructed skeleton of a giant moa of New Zealand and the skull of Steller's sea cow are shown.

The exhibit will include some unusual display touches. For instance, one of the currently endangered species, the Asiatic lion, is represented not by a specimen but by an Assyrian relief, dating from 600 A.D., of a wounded Asiatic lioness. "This work of art," says Britton, "is a dramatic example of man's prejudice toward predatory species around the world."

Two movies are used in the show. One Britton describes as "sort of a history of the earth in three minutes and 40 seconds—from the formation of the earth to what man is doing to it." The other, "Environmental Awareness," is a colorful and imaginative work provided by the National Park Service.

Sound pollution is directly illustrated by a recorded "symphony of sounds" that starts out with pleasant noises such as a babbling brook and climaxes with a cacophony of the noises of civilization.



Joseph Britton works on an introductory panel for "The Right of Existence."

Britton was the principal planner and coordinator of the display, which is the result of collaboration of the entire MNH professional staff. Design coordinator was Rolland Hower, with designs produced by James Speight, Morris Pearson, and James Piper, and audio-visual effects by James C. Nyce.

The final section of the exhibit confronts the viewer with his own endangered status, challenging him with a series of questions and photographs pertinent to the present quality of man's environment and quotations from such persons as Secretary of the Interior Stewart L. Udall, who notes:

"The earth and our fellow creatures, in far too many instances, lie subdued and exhausted under our conquering assault. We have not asked for a truce and co-existence; we have demanded unconditional surrender, and suddenly we find that mankind may well have won a battle, only to lose the war."

SW Traffic Problem May Require 'Drastic' Solution

by Mary M. Krug

By the time construction is completed, the Southwest area alone, which runs from the Independence Avenue side of the Mall to the river, will employ as many persons as all of downtown Baltimore or Pittsburgh.

More than just an interesting statistic, this means that, for SI's employees in the Southwest, when it comes to work, getting there is not going to be half the fun. An inter-agency committee, on which engineering assistant Robert Engle represents Secretary Ripley, has been established to try to find solutions to the anticipated traffic and parking problems that will come with full employment.

Like the problem itself, some of the proposed solutions may be termed "drastic."

When construction was begun on the Southwest business area, it was anticipated that, by the time it was completed, rapid transit would have begun. With L'Enfant Plaza and the Housing and Urban Development Building already open, and the Forrestal Building almost complete, rapid transit is still about ten years away. Add to this a million-square-foot private office building under construction next to HUD and you have the makings of a traffic jam worthy of D.C. Stadium after a Redskins game.

There are now some 38,000 employees in the area. Ultimate employment is projected at 100,000. There will be some 16,000 parking places for these 100,000, an increase of about 6,000 over the present total. Within five years, the 140 peak hour buses that serve the area will have to be upped to 510.

As Mr. Engle points out, the problem is finding space for all those buses, let alone accommodating private vehicles.

Some of the proposed solutions are very long range, while the problem is nearly at hand. Among the ideas:

- Defer all building construction until after rapid transit is completed. With projects already underway or virtually finished, it is already too late for this to be an effective solution.

- Build parking garages under the Mall for employees until the subway is constructed, then use them for visitors.

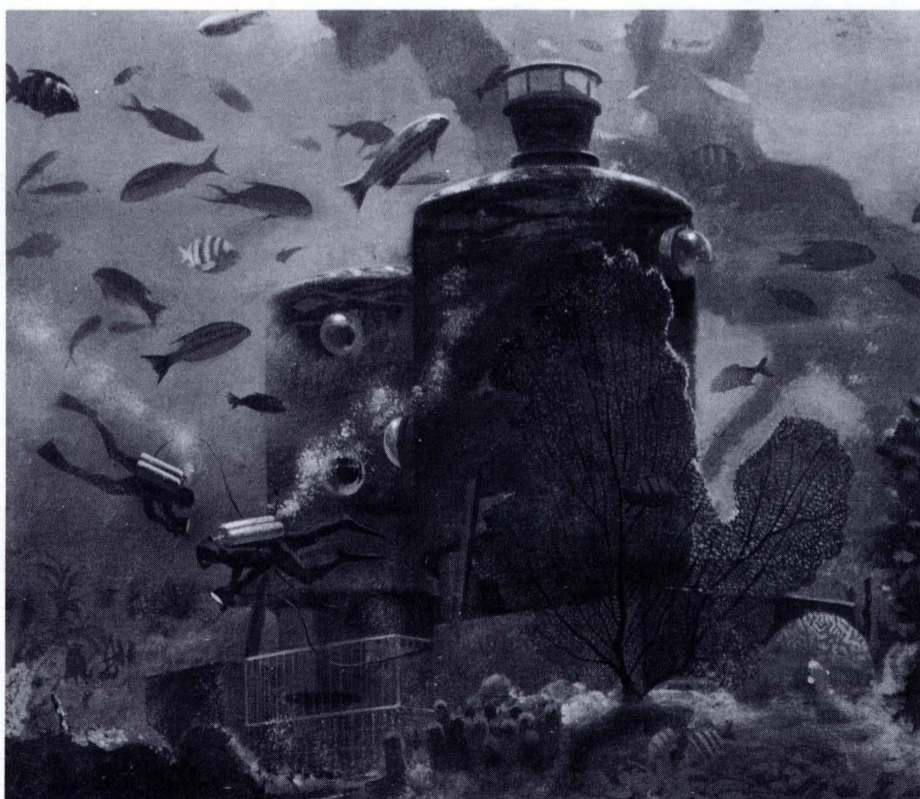
- Consider turning all of Independence Avenue into a bus park in order to accommodate the 510 buses necessary.

- Establish a Federal parking policy requiring allocation of parking spaces to car pools of no fewer than three riders.

Another, more radical, possibility is the staggering of various agencies' workdays over 18 hours instead of the present nine—having some begin work at mid-day, for example. This would, Engle notes with understatement, "involve a re-orientation of present life habits and patterns."

In the meantime, a beginning has been made for coping with present commuter problems. A Transportation Information Center is in operation on the first floor of the HUD Building, 7th and D Streets, S.W., to serve all area employees who desire help in organizing car pools, obtaining bus schedules and the like.

"Gruesome as the situation appears, there is not much we can do about it," Engle observes. "The die has been cast, the buildings are built, and the situation, distasteful as it may be, has been thrust upon us. Now we must find some way to live with it."



Divers work around the underwater habitat in this artist's conception of "Project Tektite". The facility has been made available for Smithsonian research projects.

THE SMITHSONIAN TORCH

Smithsonian Institution, Washington, D.C.

No. 12, December 1968

SI Given Use of Underwater Habitat for Research Project

An underwater habitat that will house four people and is equipped with three laboratories, has been made available to the Smithsonian for research projects.

The habitat was constructed by General Electric for a NASA program that will be completed around April 15. The facility will then be available for Smithsonian use for as long as the Institution can meet its operating costs, according to I. E. Wallen, head of the SI Office of Oceanography and Limnology.

A \$20,000 grant to the Smithsonian

from the TaiPing Foundation will finance the planning for utilization of the facility. Dr. Robert Higgins has been hired to work with Dr. Wallen on the plans and to help develop means of funding. If funds were available, Dr. Wallen would like to maintain the facility for about five years of research.

The habitat, known as Project Tektite, has been completed by GE and will be anchored in place off St. Johns, Virgin Islands, shortly after Christmas. It is equipped with a wet laboratory with running sea water, two dry laboratories and a deep freeze. It also features color television, transistor radio and tape recorder, and a GE kitchen.

The facility, about 25 feet tall, will be placed in about fifty feet of water and will be entered from hatches at the bottom. Each scientist to use the facility will be accompanied by at least one professional diver acting as his assistant, Dr. Wallen anticipates.

Research conducted in the facility is expected to cover such subjects as the behavior of marine organisms and their growth rates, life history, physiology and culture. Dr. Wallen also expects cooperative programs to develop in such fields as geology and instrumentation.

Wailing the Blues...

The Smithsonian has been out-whaled. As of last month the famous MNH blue whale, 92 feet long, is not the biggest museum hang-up around. New York's American Museum of Natural History has traded in its 1908, 76-footer on a new blue, 94 feet long. It was constructed over the last 2½ years at a cost of \$200,000 and is believed to be the largest museum whale in existence.

American Entry at Venice Biennale to Be Shown Here

by Ruth Oviatt

The controversial American art exhibit at the 34th Venice Biennial will be on view at the National Collection of Fine Arts from December 20 through February 2.

Because the American representation focused on figurative art rather than the avant-garde abstractions which the United States has shown in Venice at recent biennales, some European critics considered the show "reactionary." Others wrote of its "brilliant qualities" and its "technical excellence." Did it represent a returning trend to the use of the body as a vital motif for artistic creation? That was a question often asked.

Probably the two artists whose work attracted the most attention were sculp-

tors Frank Gallo and Red Grooms. Gallo was represented by four large figures created out of epoxy resins, which appalled some viewers, amused others, and inspired one critic to call Gallo "the only authentic revelation at the Biennale."

Grooms' "City of Chicago"—a large installation of painted wood and paper, with motorized parts—was described as "part theater, part department-store Christmas window."

In all, 10 American artists showed their works at Venice. The other sculptors are Reuben Nakian, Leonard Baskin, and Robert Creman. The painters are Edwin Dickinson, Fairfield Porter, James McGarrell, Byron Burford, and Richard Diebenkorn.

This was the 29th time that the United States has participated in the Venice event, the largest and oldest international art show. The National Collection through its International Art Program sponsored the exhibition jointly with the University of Nebraska's Art Galleries. Norman A. Geske, director of the Galleries, acted as commission-at-large of the exhibition and selected the artists and the works to be shown.

Films related to the Biennial will be shown the day before the opening in NCFA's lecture hall. They will be screened every half hour from 11 to 4. At 4:30, Geske will lecture on the exhibition.



Frank Gallo's epoxy sculpture of a "Girl on Couch" is one of the American entries in the Venice Biennale to be shown here this month.

Fifth Heritage Volume Coming Out This Month

America's First Civilization, fifth volume in the American Heritage Smithsonian Library series, will be published December 8.

Written by Yale anthropology professor Michael D. Coe, the book is an account of the Olmec civilization of Mexico, creators of the earliest culture of the New World. Smithsonian consultant for the volume was Richard Woodbury, curator of the Division of North American Anthropology.

The Smithsonian Library is a bi-monthly series of science books for the layman published by American Heritage. The series makes wide use of Smithsonian collections and professional staff, including consultants for each volume.

The books sell for \$4.95 each and are available in the Museum Bookshops at a 10 percent employee discount. Published thus far are:

The Evolution of the Machine, by Ritchie Calder. Consultant was Eugene S. Ferguson, professor of mechanical engineering at Iowa State University and curator of Civil and Mechanical Engineering at SI from 1958-1961.

The Forging of Our Continent, by Charlton Ogburn, Jr. Consultant was Dr. William G. Melson, SI associate curator of Mineral Science.

The Evidence of Evolution, by Nicholas Hotton III, associate curator of Vertebrate Paleontology, SI. The book's three consultants were Francis Hueber, curator in charge, Paleobotany; Richard Benson, associate curator, Invertebrate Paleontology; and Clayton Ray, associate curator, Fossil Mammals.

Bridges, Canals, and Tunnels, by David Jacobs. Robert M. Vogel, curator, Division of Mechanical and Civil Engineering, was consultant.

SI December Travelers Few

It seems to be "home for the holidays" for Smithsonites this month. Only four SI staffers are out of the country on official projects.

Velma E. Rudd, Botany, is in Mexico until January 14, studying legumes of northwestern Mexico and collecting specimens for the herbarium.

Kenneth D. Whitehead, International Activities, and *Ernest A. Berger*, Fiscal, are visiting Tunisia, UAR, and Morocco to examine progress of foreign currency projects and to explore opportunities for new research in Morocco.

Dan H. Nicolson, Botany, is initiating a research project, "A Flora of Hannan District, Mysore State, India," and studying botanical collections in the USSR.

Zoo's Reed Seeks Shy Bongo

by Benjamin Ruhe

The animal that zoos around the world covet most these days is the Africa bongo, a forest antelope so rare only 12 have ever been placed in captivity.

"The bongo is the Hope diamond of the zoo world," says Theodore H. Reed, Director of the National Zoo.

If things go well, the Zoo should have one or more of these beautiful, shy creatures by next summer. Dr. Reed recently returned from Kenya where he organized a campaign to trap three bongos in the high bamboo rain forest they frequent.

Although the small expedition he led into the Aberdare Mountains 100 miles from Nairobi scared these animals out of the area temporarily, Dr. Reed is certain they will be back soon and that some will end up in the walk-in traps he and his group constructed along trails. Following capture, the gentling process can be expected to take some months, then after acclimatization at Nairobi the animals would be flown here and placed on display.

The scientific study of these little known animals from observation in the wild through capture and subsequent breeding over a period of generations is a major aspect of the project. Dr. Reed's five-week safari in Kenya for the Smithsonian was aided by a grant from the National Geographic Society.

Because so little is known about the bongo, it is an animal warranting special research efforts. The project is part of the Smithsonian's continuing worldwide effort to study and help preserve rare and endangered species of wildlife.

Roughly four feet high at the withers, the bongo is reddish-brown in color, has white stripes on the body, large, mobile ears, white cheek patches, quarter-spiral horns and large eyes. It has pronounced hindquarters and a stocky body. Although living in dense vegetation, it is fast and quiet. "Trophy hunters consider it hard to shoot," says Dr. Reed, "although why anyone would want to shoot such a beautiful animal I don't know."

"I'm positive we will catch them," he says. He awaits word from the English trapper and his partner who are continuing the operation in his absence before making his return, he hopes in February.

How will the animals be tamed? "I can better tell you that after it's done," says Dr. Reed. Mainly, it is a process of feeding and of getting man and animal acquainted. "You have to get friendly with an animal that's basically scared to death of you."

Only three bongos have ever been brought to the United States. One lived for 17 years in a New York Zoo, the other two are now prize exhibits at Cleveland.

How would they rate here? "From a zoological standpoint, they should be one of our most attractive exhibits," says Dr. Reed, "but they'll never outpull the monkeys."

Besides walking up and down a lot of steep mountains at altitudes between 7,000 and 10,000 feet in his quest for the bongo, Dr. Reed managed on his trip to do a great deal of other work—meeting with zoo peo-

ple and conservationists, and making several side trips.

One was to birdwatch at Lake Naibasha. Another took him to the Serengeti Plains in Tanzania where he spent "four glorious days watching the glorious animals of the great plains doing what they say they do in the book. Glorious! There is absolutely nothing to replace seeing a genuine elephant eating genuine thorn trees in the genuine African plain. Why? Because you are seeing an elephant in his perspective, in his home. He relates."

Dr. Reed also went to Treetops, where he saw a herd of 36 elephants come below to lick the salt. Rhinos, big Cape buffalo and a variety of small animals came too, although "they all kept their various and sundry distances from each other."

For Dr. Reed, "It was a concentrated dose of animal behavior unbeatable for a student of animal behavior."

Dr. Reed's observations will have some direct impact at the Zoo here. He has ordered the amount of bulk feed given the elephants greatly increased after seeing wild elephants eating more than he imagined they could. And he plans to feed his Colobus monkeys high up in the cages instead of on the ground as formerly, to duplicate their feeding in the wild. After having experienced the drastic temperature changes of the plains and mountains of Kenya, he has also decided that some of his animals are much tougher than he thought they were.

The intangibles are more important. "I'm thoroughly convinced every bureau chief and senior department head should get out every two years into their respective areas. I feel I'm a better zoo director for having spent five weeks in Africa involving myself in the acquisition of animals. How do you involve yourself for the feeling of animals? You just don't measure this."

Did he see primitive Africa? "Not really," he says, citing the case of lions in one park who actually use slowly moving tourist vehicles to stalk game at waterholes, knowing that while the animals are terrified of them they no longer fear cars or people. "I saw Africa as it was in October of 1968—and I was glad I saw it."

Dr. Reed was accompanied by photographer Nelson Brown of the National Geographic, who shot 100 rolls of film and was happy to accept 80 more rolls left over from Dr. Reed's stock. "I learned a lot about photography," says Dr. Reed. "I also learned he was a better chess player than I am."

The English trapper, Tony Parkinson, and his partner particularly impressed Dr. Reed, moving as they did like shadows through the forest. "Reminds you of the days of the Indians and Daniel Boone to watch them," says Dr. Reed. Parkinson's knowledge was so great that the safari was more routine hard work than peril and glamour. "Was there danger—dicey situations, as they like to say over there? This is foolishness. Everything is pre-planned."

Dr. Reed in fact never even saw a bongo during the five weeks. "Everyone else did. It isn't important, but I would have liked to have seen one. It was just because I have spent 12 years behind a desk and I wasn't as fast as the rest."

SMITHSONIAN TORCH

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SPECIAL REPORT

SEEING SMALL THINGS BETTER—Ostracods

Dr. Benson, associate curator of MNH's Division of Invertebrate Paleontology, is an ostracod hunter. His investigations over the past 18 years of these micro-small "critters" which dwell deep in the sea is leading to important understanding and discovery of past environments.

These living fossils dwelling on the ocean floor have changed very little over the past one-half billion years. Their organic architecture is such that each ostracod features about 150 attributes, requiring micro analysis. Since past environments can be inferred by the architecture of ostracods, Dr. Benson believes that a special instrument—the scanning electron microscope—provides the best, if not the only, source of analysis. His special report tells why, and incidentally makes his own subtle plea for one here at the Smithsonian.

by Richard H. Benson

Almost half the surface of the earth is covered by a thick deposit composed largely of the remains of a microscopic organism of which only the grossest aspects have been observed. A few decades ago this was the obvious consequence of inaccessibility of that part of the earth which generally lies beneath 12,000 feet of water. Also, the organism called the Foraminifera was of scientific interest but not of any practical utility. Continued geologic and oceanographic research has altered both of these conditions as well as the need for more precise observation.

However remote this subject to those not directly concerned, the need for its understanding is considerable. It is a part of a rapidly developing field of micropaleontology which is chiefly responsible for relative age determination in exploration geology. Collecting the fossil remains can be difficult and very expensive, but the technological difficulties of observation and study are also considerable.

The "foram" as it is known among geologists is one of the key index fossil types used to identify and trace strata bearing various natural resources. The layering of the sea floor is dated in geologic time by the record of evolution of these animals. More than 30,000 kinds of "forams" have been identified from strata dated back more than 500 million years.

Upon the precision of their recognition depends the accuracy of mapping the deposits containing most of the world's organically derived "fossil" fuels and building resources. The pyramids of Egypt are faced with "foram" limestones.

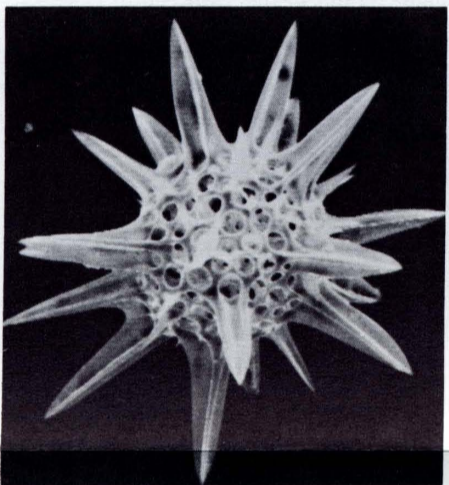
The problem. The "foram" is but one of several dozen general kinds of microfossils studied by paleontologists and used by geologists. It is only one of several thousand kinds of organic life identified, classified, and used with the aid of microscopy. Yet, in spite of an impressive amount of accumulated data, most of the life forms have never been seen either in their entire form or in detail.

Because of the limitations of optical light microscopy—the simple laws of light physics, determining chromatic aberrations, astigmatism, and spherical distortion, most of the physical attributes of shape and form of organisms smaller than the head of a pin can be "seen through" but seldom "looked at." There is no way with standard optics that the whole surface of an eye of a fly or a cancer cell can be seen or photographed in detail.

The present ability of most scientists to inspect visibly whole particles, microstructure or fabric, undissected organisms, and other phenomena of the size range below about 2 millimeters can be imagined to be analogous to attending a dog show in which your depth of focus would permit you to see distinctly only in a precise and narrow zone a few feet away or a progressively wider zone from many yards distant. At close range you could see the head of the German shepherd but not its tail or feet.

For the purposes of this report, micropaleontology has been chosen to demon-

strate both the interest and the need for one area of microscopy. One could take similar examples from cancer research, the study of smaller insect pests, marine microplankton food resource studies, limestone fabric, petrology, metallurgy, etc.



VIVE LA DIFFERENCE—The ostracod as seen from two points of view. Top, through an optical microscope and below, through a scanning electron microscope.

The importance of seeing the world below 2 millimeters with the same fidelity and resolution to which we are accustomed in the larger world should not need a defense. However, because the apparatus which allows such comparable observation is unfamiliar and expensive, a special effort may be required to see the limitation of the present system, and the need for, and potential of, a new system.

The solution. The new system is called the scanning electron microscope, the SEM. Its energy source is not visible light but electrons directed to the surface of an object or specimen. The specimen in turn reflects very localized radiation that is monitored and whose signal is sent to a receiver through various amplifiers, and controls to a cathode ray tube.

In part the SEM is similar to the standard transmission electron microscope which magnifies an exceedingly small area thousands of times. In comparison the SEM projects its electron beam in a tracing pattern over a very much larger region by an automated "sawtooth" scanner. A beam of about 200 angstrom width scans the surface with as many as 2,000 parallel lines of search per inch relayed to the television screen-like receiver for viewing and photography.

The object for study, which is coated with gold or aluminum to improve conductivity and lies in a vacuum chamber, may be as large as one inch in width. The SEM has a range of magnification from about 20 to 20,000 times with almost infinite depth of field.

The SEM's greatest utility, however, lies in the intermediate range of magnification that bridges the gap between optical and conventional electron microscopes. Moreover, preparation of specimens for the SEM is comparatively simple, so that the instrument can be used

for routine studies in which large numbers of specimens are examined.

In this way many fine structural features of organisms are being discovered for the first time which were never seen with the light microscope. Many of these features are proving to be of utmost importance in elucidating the manner in which organisms grow or in assessing the taxonomic significance of grosser morphologic features. The more accurate the recognition, the more precise the utility.

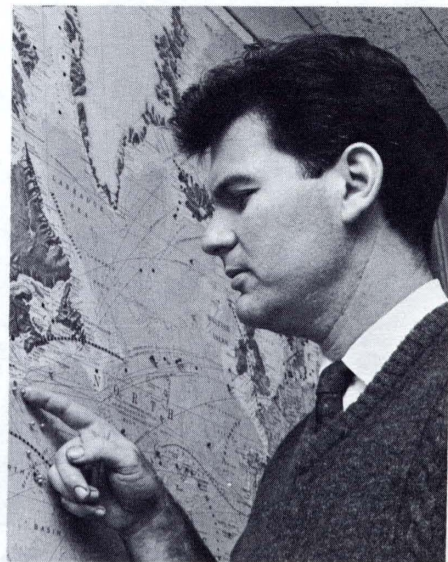
The results of the SEM have been impressive, even spectacular. Features of the surface of ostracods, a microscopic crustacean with a 500-million-year-old fossil history, have been discovered in deep-sea species of an order which were not known to exist. Even smaller individual organisms were found to be living within these features. The instrument allowed the observer to peruse the surface of the animal, whose total length was less than one millimeter, to make observations like one would expect to see on a lunar landscape.

During the past few years there has developed an ever increasing awareness of the potential applicability of the scanning electron microscope to problem solving in biology. Paleontologists, no less than zoologists and botanists, are energetically exploring the potentialities of this new instrument.

The experience of the British Museum has been total subscription of the usage of its instrument and demand for a second. Demand is so great that an individual scientist may only have one week's use every six months. It is being used in most of the divisions of the British Museum (Natural History) for routine research. We at the Smithsonian would be well advised, were we to obtain an SEM, to consider putting it on a 16 to 24 hour schedule as have the British.

One of the scientists of the Smithsonian Institution spent a year working, when the instrument schedule permitted, with Professor Sylvester-Bradley in England and is greatly impressed with the results obtainable from the SEM. He, together with a skilled photographer from the U.S. Geological Survey, worked on SEM techniques in order to anticipate the possible acquisition of an instrument at the Smithsonian.

Availability. The SEM is expensive. Installed it costs about \$100,000. Presently about half a dozen instruments are known to exist in the United States: two commercial, two in universities, and two in military research laboratories. (More may exist, but are unknown to the writer.) Of these, three are presently em-



Richard Benson points out spots where ostracods have been sought.

ployed in micropaleontology and biological fields. Very limited use of one of these, at the Goddard Space Center, has permitted only meager productivity but it has been helpful in learning how to use the instrument. In England there are known to be three used for scientific studies; at Leicester University, at the British Museum of Natural History, and at Liverpool University. At least one exists in Pau, France, at the French Institute of Petroleum and one in the geological laboratories in Bonn, Germany. Several are operating in Japan.

The Importance to the Smithsonian. The need in the Smithsonian seems, at present, to be greatest in the area of paleontological research. Researchers in other areas, such as crustaceology and entomology, and malacology, have expressed a need. In micropaleontology it is felt that within five years researchers will be reluctant to publish without the use of such an instrument for identification and research. We are already behind in the area of discovery because of the lack of the SEM.

It is obvious that as more instruments become available more paleontologists will turn to them for aid, and as soon as their descriptions and discussions are based on observations made using such a sophisticated apparatus, our paleontologists will be at a great disadvantage without SEM. We would be unable to either evaluate, verify, or extend the findings of our fellow paleontologists. Fundamentally, our work may be out of date before it is published. If such equipment does not become available soon, Smithsonian paleontology will lag far behind the field.



GETTING ORIENTED—Dr. Gordon Somerfield, of the United Kingdom's Office of Scientific and Technical Information, visited the U.S. and the Smithsonian last month to observe uses of data processing. Object of his attention at SI were two botany programs, Flora North America and the Index Nominum Genericorum. Above, Dr. Mason Hale, chairman of the Botany Department, explains a project to computerize a Register of Type Specimens to, from left, Dr. Ernest R. Sohns, National Science Foundation, Dr. Somerfield, and Stanwyn Shetler, SI botanist serving as secretary of the Flora North America project.



CHRISTMAS TREATS—Museum Shops designer Mike Carrigan gathers toys, decorations and other holiday items from around the world for the Shops' annual Christmas exhibition and sale opening December 4 in MHT. Among the stocking stuffers on sale—silver pesos from the sunken treasure of Corregidor.

Evans Helps Date Arenal's Last Eruption

How does a geologist determine when a volcano last erupted? In the recent case of one Smithsonian geologist, he merely asked an anthropologist.

Dr. William G. Melson, Petrology Division, has been investigating the eruption of the Arenal volcano in Costa Rica for the Center for the Study of Short-Lived Phenomena. Surface digging near the area turned up such artifacts as fragments of pottery bowls and stone tools buried by the previous eruption.

Dr. Melson turned the artifacts over to anthropologist Clifford Evans during a recent MNH staff briefing on the volcano study, and Evans was able to report, before the briefing was over, that they were no older than 1200 A.D.

Arenal began erupting on July 29, and Melson was on the site August 3-24 and November 13 and 14. He was accompanied on the first trip by Dr. Thomas Simkin of the Oceanographic Sorting Center and last month by Robert Citron of the Phenomena Center.

The volcano has developed the first lava flow in Costa Rican history, 65 feet thick and now 1½ miles long.

In March Melson will return to look into the archeology of the area in cooperation with Dr. Evans and George Metcalf and to check on revegetation of the devastated zone.

Retire Smokey?

Has Smokey the Bear outlived his usefulness? Eldron Bowman, an associate professor of political science at Northern Arizona university, asks the question in the current issue of American Forests magazine.

Bowman suggests that the beloved symbol of forest protection might be fostering what he calls the "Bambi view," that wild animals are not dangerous. He says this compounds the national park service's job of people-animal relations and works against public acceptance of controlled burning, a necessary forestry practice. It's the nastiest thing said about Smokey since someone charged that he had eaten a Boy Scout and stolen his hat.

"Hot air," responds Mel Hardy, director of the Smokey the Bear program for the forestry service. Perhaps the park service shouldn't allow feeding of wild animals and should educate its public on why burning is used by the experts, he suggests.

If Smokey, now 18 and living at the National Zoo, hears about this argument, he is sure to join in—with a growl of boredom.

Reprinted from the Milwaukee Journal

Loening to Give Lunchbox Talk December 18

Grover Loening, pioneer in the development of aviation, will speak on his experiences with the Wright Brothers at NASM's weekly Lunchbox Forum Wednesday, December 18, at noon in A&I. Interested staff members are invited to bring their lunch and listen to this or any of the other talks on tap.

George P. Bates, Jr., director, Aircraft Development Service, FAA, will speak December 11 on "Safety Research."

There will be no forum December 25.

Invitation to a 'Sit-In'—A&I Opening Chair Display

"Please Be Seated," a major exhibition tracing the evolution of the chair from its earliest beginnings in ancient Egypt to a U.S. astronaut's training couch, will open in the Arts and Industries Building December 20.

The 4000-year survey, organized by the American Federation of Arts (AFA) and sponsored by the Resources Council, will run until mid-March 1969. It will then circulate to leading museums across the country for two years.

A luncheon preview of the show was held in New York City last month by the New York Chapter of the National Home Fashions League Foundation, Inc., for the benefit of the Cooper-Hewitt Museum of Design.

Seventy-four chairs form the nucleus of the exhibition, ranging from a replica (made in Cairo at the time of the excavations) of a gold encrusted chair from the tomb of Princess Sitamon to examples designed by Mies van der Rohe, Frank Lloyd Wright, and Charles Eames.

Among the group of historical pieces, lent largely by the Metropolitan Museum, are the famed "Savonarola" chair, a 17th century American turned post and back armchair, a Boston rocker, a 16th century French "Caquetteuse," and a Gothic chair dating to the 15th century.

In the exhibition's modern category along with pieces by van der Rohe, Wright, and Eames, will be chairs designed by Corbusier, Eero Saarinen, and Harry Bertoia.

The latest example, however, will be a training chair, from the Smithsonian's aviation and astronautical collections, used by astronaut John Glenn during a simulated space flight. The Institution also will complement the traveling display with 20 additional chairs from its cultural and ethnological collections.

The 50 chairs represented in the modern section are being lent by manufac-

turers as examples of both reproductions of period pieces and contemporary designs. These chairs were selected by a jury of curators, headed by Marvin D. Schwartz, formerly curator of decorative arts at the Brooklyn Museum, to insure museum standards. The Smithsonian presentation was designed by Robert Widder.

Anacostia Shows Jazz History

"This Thing Called Jazz", a special exhibition featuring movies, recordings, and live demonstrations, is on display at the Anacostia Neighborhood Museum this month.

Conceived by the museum's Youth Advisory Council, the show features both the history and present state of jazz.

The display's highlight is an "environmental room," an exhibits technique to make the visitor feel like an actual participant in a New Orleans jazz parade by surrounding him with films, slides, and recordings of a band marching through the city's famous French Quarter. The film was made recently in New Orleans by the Smithsonian Exhibits Film Laboratory.

A jazz history section includes photographs, memorabilia, and actual instruments of such great performers as Louis Armstrong, Dizzie Gillespie, and Bix Beiderbecke.

A juke box, with room for dancing, will feature the top music of today. Instruments will be available for young visitors to try out themselves, and there will be live performances.

The Office of Exhibits and Division of Musical Instruments worked closely with the youth of Anacostia in preparing the display.

Cooper-Hewitt Presents 1st Show

The Cooper-Hewitt Museum is currently staging its first exhibition under the aegis of SI. The display of recent acquisitions includes, from left, a French faience Bourdaloue (a small chamber pot), bronze and porcelain candelabra, 12th-century Japanese Bodhisattva head, and a section from a painted and dyed cotton hanging made in India in the 18th century, below.

