





American Museum of Natural History

COVER . . . The exhibition, "Ice Age Art," opened in the Museum's Gallery 3 in May and closes January 15, 1979. Prepared under the scientific direction of Alexander Marshack, the exhibition illustrates the conditions of life and the human outlook in the period from 35,000 to 10,000 B.C. The works of these Cro-Magnon painters and sculptors of prehistoric Europe depicted life-like animal images and portraits of the people themselves that reveal detailed facial features, hair styles and ornamentation. The exhibition is a major attraction at the Museum and was widely promoted throughout cultural, art and scientific circles.

109th ANNUAL REPORT
JULY 1977 THROUGH JUNE 1978

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American Museum of Natural History
Central Park West at 79th Street
New York, N.Y. 10024

**ONE HUNDRED AND NINTH
ANNUAL REPORT OF THE
PRESIDENT**

**To the Trustees of the American
Museum of Natural History and to
the Municipal Authorities of the
City of New York.**

It is gratifying to report that the American Museum of Natural History continued to build its reputation for excellence through a year of significant accomplishments in the fostering of scientific research, education, and exhibition and the care and curation of the collections.

The opening of the fine new Hall of Reptiles and Amphibians was a highlight of the year. There were also two very successful special exhibitions, "Ice Age Art" and "Peru's Golden Treasures," which were responsible for a marked increase in visitor attendance. It is good to know that our special exhibitions not only offer an attraction and enjoyment, but also serve to introduce large numbers of people to the diversity and breadth of the Museum's permanent exhibition halls.

As the nation's "largest classroom," the Museum continues to serve as a prime source of scientific education in our city and country. The dividends of inspiration, motivation and learning will be carried through our current generations of visitors into the future by knowledgeable citizens and scientists.

Major progress was made this year in an ambitious and crucial program in anthropology. Margaret

Mead, a long-time curator of anthropology here, has often expressed her concern that the legacy of the founders of modern anthropology be preserved and made more accessible to succeeding generations of scholars and the public. She is also concerned that anthropologists, while performing detailed research and advanced teaching, be granted support and the opportunity to enlist the public in their work to further illuminate the human condition.

The Museum, sharing these sentiments with Dr. Mead, in 1976 established the Margaret Mead Fund for the Advancement of Anthropology. While the objectives are several, I will mention one phase of the program, that which seeks to modernize the management and storage of the Museum's irreplaceable collection of cultural artifacts in order to make them more readily available for scholarship, education and exhibition.

Handling of the anthropological collections has been foremost in our thoughts for a number of years. These priceless artifacts (numbering approximately two million) were collected and acquired over a period of 100 years from around the world. Such collections can never be made again; the cultures from which they came have largely disappeared. They are our link with traditional societies and will for future generations provide the sole record of many pre-industrial civilizations. Our obligation to keep these records in the best possible condition and to make them available to scholars is being met with the support of funds collected in Margaret Mead's name. This national program has raised more than \$1.5 million to date. The campaign is being led by Thomas J. Watson, Jr., with the assistance of a distinguished committee of national sponsors.

The special funds for the Department of Anthropology, coupled with major improvements in the Department of Mineral Sciences, will bring those departments into line with others in the Museum that have been modernized and now possess the capabilities for the latest methods of curation and storage of valuable specimens and artifacts.

The Museum continues to depend upon the generosity of individual contributors for an essential portion of its annual funding. This, amplified by important contributions from corporations and foundations, the National Endowment for the Hu-

manities, the National Endowment for the Arts and the New York State Council on the Arts, have helped greatly in carrying out the programs of the highest quality, described elsewhere in this report.

Among the many who have been generous to the Museum are the visiting public, whose discretionary contributions continue to



be an important source of support. The relationship between excellent special exhibitions and higher attendance provides a clear indicator for future plans. We look forward to "Pompeii AD79" and "Volcanoes," coming next April. There is good reason to believe they will bring many new visitors to the Museum.

I am pleased to welcome

several new Trustees to our board; they are Mrs. Page Hufty, Charles J. Hedlund, Lansing Lamont and William F. May. And I want to express our thanks and appreciation to Mrs. Alfred Lee Loomis, Jr., and Alan V. Tishman, who went off the board this year.

We note with regret the deaths of Mrs. Richard E. Derby on Decem-

memorial than the fund in his name which continues to support promising students in marine biology throughout the country.

The excellent achievements of the past year only emphasize the quality of this Museum. It is a magnet for visitors to New York and is an intrinsic part of the learning experience of nearly every child in the

A rendering of a bison, fashioned during the Upper Paleolithic, appeared as a part of the temporary exhibit, "Ice Age Art: The Beginning of Human Creativity," which was the inaugural exhibition in the newly completed Gallery 3.



ber 10, 1977 and Michael Lerner on April 16, 1978. Mrs. Derby, the daughter of President Theodore Roosevelt and granddaughter of one of the founders and early Trustees of the Museum, served as a wise and dedicated Trustee for many years. Those who know of Mr. Lerner's service to the Museum will agree there could be no more fitting

metropolitan region. I thank all those who have made this possible: an outstanding and dedicated professional staff, and the Trustees and other volunteers who contribute their time and effort to this truly public service.

Robert G. Goelet
Robert G. Goelet, President

REPORT OF THE DIRECTOR

The American Museum of Natural History has been an innovator in the development and presentation of educational programs since its founding, and it continually seeks and offers inventiveness and improvement in its programs. Within a decade of its founding, even before it had its own buildings, it sponsored lectures, lantern-slide presentations and guided tours for school classes, teachers and others. It pioneered in the 1920's and 1930's the concept of branch museums such as the Trailside Museum of Harriman State Park, circulating exhibits for schools, motion picture lending libraries, outreach programs for the hospitalized and a planetarium. In more recent times its urban-oriented Natural Science Center, People Center, Discovery Room and volunteer-guided Highlight and History Tours have been in the forefront of thinking and development in museum educational service.

There are certainly many similarities between the educational goals and methods of natural history museums and of other types of museums. But the differences among them are enormous. Some institutions consider it only incidental to

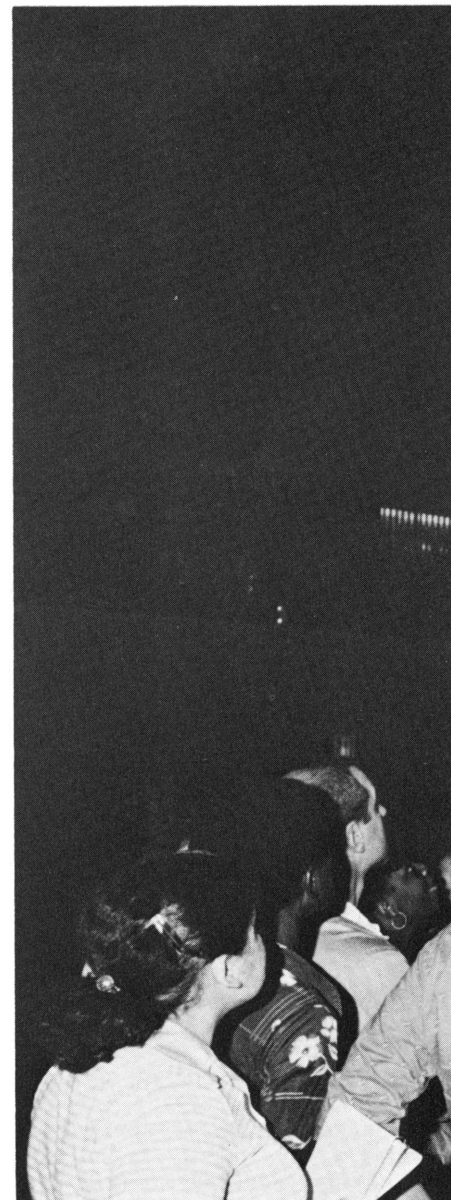
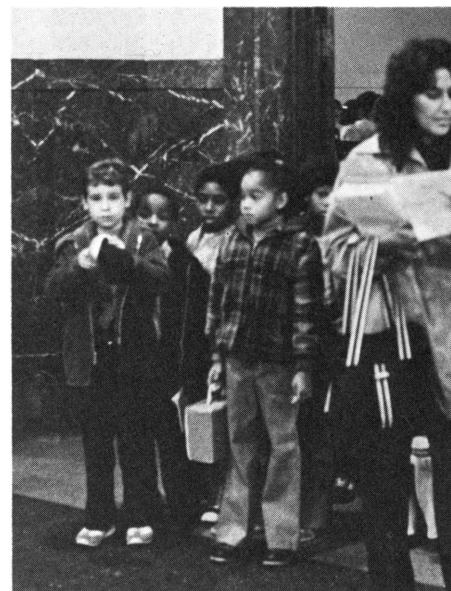
their educational function to collect and exhibit their treasures, but quite the opposite is true at the American Museum of Natural History. The collections and exhibitions here exist almost exclusively for scientific and educational purposes. They were gathered and created solely for their value or potential in imparting knowledge.

The American Museum is specifically identified as an educational institution in its New York State legislative charter. Its purpose in collecting and exhibiting specimens of the natural world (including human artifacts) is to learn from them and to teach or communicate what is learned through them. It is in the very nature of our institution to collect objects primarily for the knowledge we can derive from them, rather than for their esthetic values. Similarly, we use them in exhibition principally to transmit knowledge and understanding. While our exhibits may exploit the esthetic and emotional appeal in objects to attract audience interest, our primary purpose is to explain, illustrate and teach.

In carrying out what we perceive to be our educational mission and direction, the Museum has developed what may be described as a pyramidal approach. We recognize that we can serve only certain numbers of persons in certain kinds of ways, while at the same time not all of our visitors expect or want the same level of educational experience from the Museum. There are great differences among the two to three million persons who visit us yearly, in the time they will spend with us, in their educational objectives, in their interest in the Museum and its programs. Our goal is to offer a balanced program to these different constituencies.

The base of our pyramid is the educational service we offer through our extensive exhibits, some 38 major halls covering nearly 400,000 square feet of exhibition space. This is the Museum that is seen by and serves the educational interests of the vast majority of visitors.

Above the base we offer opportunities and programs of enormous diversity to those whose interest is deeper. Our membership journal, *Natural History*, speaks to the intellectual curiosity of over 450,000 persons. The program for some 10,000 Participating Members offers a higher level of activity to those who seek





School groups enter the Museum each day and gain a view of the magnitude and diversity of the world around them. Students, such as those standing under the model of the giant blue whale, learn about nature in a way that is unavailable in any other setting.

greater involvement.

Specialized learning activities are offered for the adults whose interests go beyond our exhibits, memberships and publications. These include in-service courses for teachers, evening adult lecture series, weekend programs of film and performing arts and festivals for the Manhattan community, extension services for community agencies and special-interest groups. In these and similar activities, we continually adjust our resources and programs to meet the demand and interest of the community.

The opportunities offered to young persons also follow a pyramidal structure. More than half a million students in grade and high schools come to the Museum each year in group visits organized and conducted by their teachers. A limited number of school classes participate in more directed programs during their visits under the guidance of trained Museum instructors. Certain classes are invited to participate in a continuing program involving a structured series of group visits.

Children who seek to delve deeper into study of the natural world as individuals are offered the learning opportunities of the Natural Science Center, People Center, Discovery Room, Calder Laboratory and the Saturday courses, lectures and film programs. And near the apex of the pyramid is a select group of interested pupils from nearby schools who take part in a program of individually-oriented instruction.

Also well up on the pyramid are the learning and training opportunities we offer to college and university students through our study collections, our library, our field research stations, our laboratories, and through lectures, field experiences and research support. We assist several hundred undergraduate science students yearly. At the graduate level several dozen students are in residence at any one time, taking advantage of the numerous teaching and research facilities available to them. Teaching and training of doctoral candidates takes place at the Museum in three formal programs in collaboration with the City University of New York and Columbia University, and less formal arrangements exist with universities throughout the nation. In addition, through the Chapman

Fund, Theodore Roosevelt Memorial Fund and the Lerner Fund for Marine Research, we assist annually in the research training of over 150 young graduate students, and we usually have in residence two or three postdoctoral scholars supported by these and other funding sources.

Most of the formal educational services—that is, those that aim at the interpretation of our collections, exhibitions and sciences—are offered by specially trained teachers in our Department of Education. The department employs in its work about eighteen persons with qualifications equivalent to or exceeding those of secondary school teachers. They are supplemented by fifty or more full or part-time lecturers, teachers and technical assistants, plus several hundred volunteers. On the other hand, most of the teaching and training of undergraduate, graduate and fellowship scholars is done by the Museum staff of some 45 doctoral level curators.

Such division of educational responsibility is not followed at all museums. Many subscribe to the belief that all educational services should be reserved to their staff of curators, who are also their subject specialists. We employ separate curatorial and educational staffs at the American Museum of Natural History because of the scope and diversity of our educational services, the large numbers of persons reached, the size, significance and diversity of our collections and our scientific responsibilities. But there is continuing communication and interchange between educators and curators.

It is our continuing ambition to broaden the apex of our educational pyramid to the limits that our resources will allow. We recognize that the quality of educational service we provide can be further improved, for example, by assigning a trained Museum teacher to all visiting school classes. But this could be done only at the prohibitive cost of increasing our staff of educators ten-fold or more.

The training and use of volunteer assistants has proved to be an effective and practical way to improve the quality of service near the base of our educational pyramid. This program has grown substantially over the past ten years, and will continue to draw continuing support in the future. The volunteer

program has provided the opportunity to assign trained Museum representatives to more school classes than we have been able to assist in the past. With adult visitors as well, volunteer teaching assistants have allowed the Museum to broaden the pyramid significantly through the afternoon, evening and Saturday program of Highlight and History Tours. Similarly, the volunteer assistants who help staff the information desks materially enhance the value of the experience for many of our visitors.

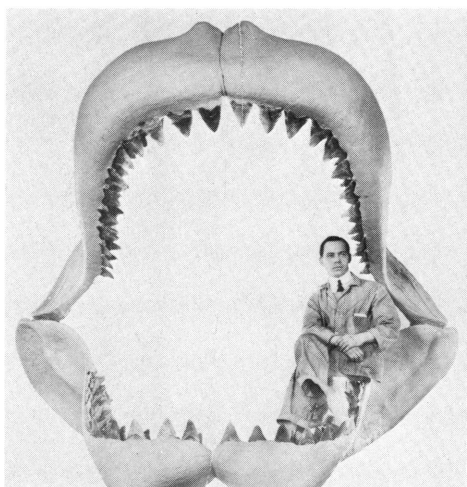
The use of volunteer service in the museums is not really a new phenomenon, of course, though its extensive application to educational services has developed principally during the last decade. Volunteer amateur science enthusiasts have always been found working side-by-side with professionals in the preservation, restoration and cataloging of collections. Some of the most significant scientific accomplishments realized in the name of the Museum have been produced by our Research Associates: honorary, uncompensated scholars and scientists—volunteers, if you will—who perform their research on our premises, with our collections and in collaboration with our curators. Among them is the volunteer with the longest record of service to the Museum, Horace W. Stunkard, a Research Associate who began his scientific career at the Museum, while employed on the faculty of a local university, in the year that I was born! To him and to all his volunteer colleagues, we owe our thanks and congratulations.



Thomas D. Nicholson, *Director*

The Museum's recently renovated auditorium is used regularly for school programs; one was for dancers from New York City's High School for the Performing Arts.





REPORT OF THE SCIENCE AND EDUCATION DEPARTMENTS

The distinguishing features of a natural history museum are its collections. While this is true for museums around the world, it is especially so for the American Museum of Natural History. Understandably, collections provide the substance for the exhibition halls and the source of themes and demonstrations for the educational programs of this institution. However, more than anything else, they are the heart of this Museum's research program. It is from these collections that the Museum's distinguished scientists, as well as those of other institutions, derive information about the physical processes that have affected the solar system during the last 4.5 billion years, about the shifting of massive continents over the surface of the globe for more than 200 million years, about the evolution of animal lineages from the beginning of life, and about the mode of existence of now-extinct cultures of mankind.

The American Museum's collections are rich in specimens, artifacts and the inanimate objects of the solar system such as minerals, rocks and meteorites. All material currently on display probably accounts



Photographs of Natural History subjects taken during the past 100 years that cover the broad range of activities associated with the Museum are now available for commercial purchase and use. There are more than 500,000 black

and white negatives and over 50,000 color transparencies cataloged in the Library's files. These photographs illustrate the record of human cultural variation and preserve moments in time that can in no other way be recreated.



for only five percent of these collections. The remaining 95 percent are cataloged, labeled, prepared and maintained in vast storage areas in various parts of the Museum complex. These are the materials that are studied and interpreted by scientists for the benefit of all mankind.

The Museum's collections behind the scenes are replete with fossil mammals and dinosaurs, specimens of minerals and rocks, and an almost endless assemblage of mollusks, worms, arthropods and various groups of living vertebrates from all corners of the world. These are the sorts of things one would expect to find in a museum. But few realize the full range and vastness of our collections. For example, the Museum has an incomparable collection of more than 450,000 ethnographic and archeological black-and-white photographs taken over the last 100 years of cultures from around the globe; is the custodian of 7.5 million specimens of gall wasps and the plant galls they made, collected by Alfred C. Kinsey before he began his studies of human sexual behavior; possesses one of the earliest major collections of meteorites; and is actively increasing its collections of tape recordings of the distinctive species—specific sounds and calls of birds and amphibians.

While these collections are a source of pride, they also are a responsibility. For while they are the property of the Museum, in a larger sense they belong to all of science and society. The Museum has an ethical and legal responsibility to catalog, conserve and manage these collections and bears the attending financial burden. Many of the zoology departments at the Museum have received substantial funding in the past seven years from the National Science Foundation to improve storage facilities. Recently, support has come from NASA for some of our collections in the Mineral Sciences Department. In the move of this department to new quarters, the Museum has contributed major funding toward the proper care and storage of its gems, minerals and meteorites.

The anthropology holdings, the largest collections in terms of space required, have been one of the Museum's gravest curatorial problems because of their size. Over the last several years the Museum has improved the handling and storage of these collections. Efforts have been directed toward making them more

accessible through modern methods of organization and curation, while maintaining the highest standards of security. Support for this program has come from general funds, withdrawals from the endowment, grants from the Andrew W. Mellon Foundation and the National Endowment for the Arts and contributions from Trustees.

The past year has been an important one for the work in all of the Museum's scientific departments. Significant advances have been made in the areas of exhibition, improvement of collections, and in both field and laboratory research. In summary form, here are some of the highlights during the twelve months ending June 30, 1978, of the scientific staff of the Museum:

Animal Behavior

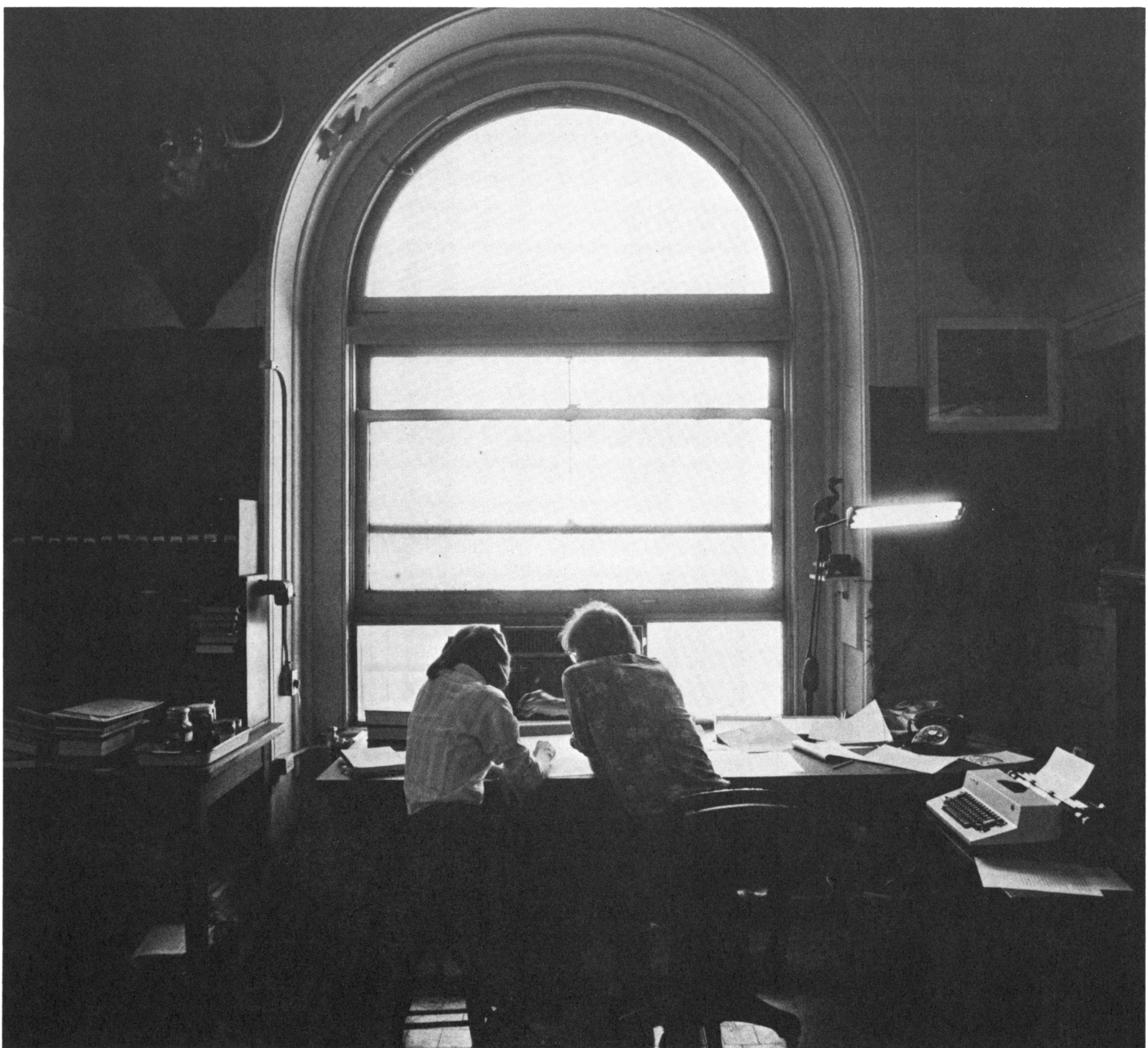
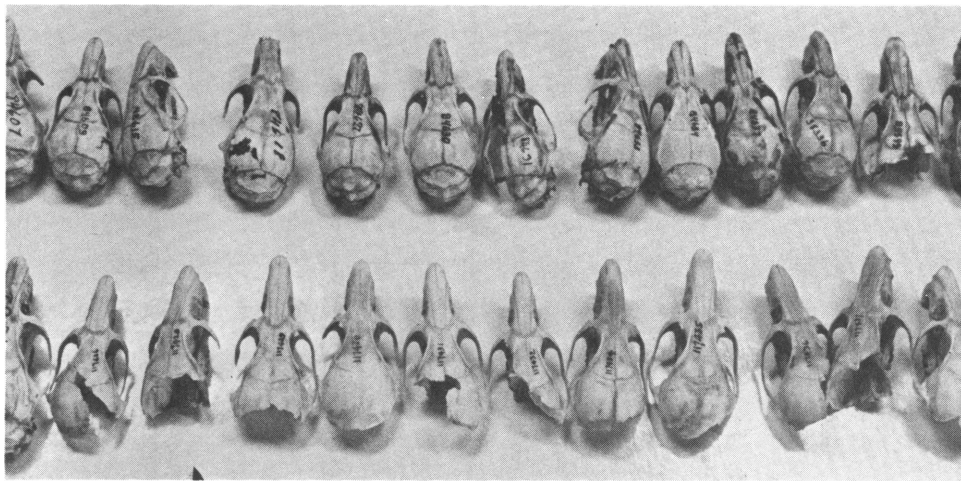
☐ Immature sea hares, non-self-fertilizing marine mollusks, have been found to be capable of being both sperm donors and sperm recipients as soon as they are reproductively mature.

☐ A study of laboratory-reared spiny mice found that those which have been confined from birth to a stable cave-like habitat spent more time with non-experimental, reproductively active members of the opposite sex than those which had been reared in a changeable environment.

☐ Field studies of the sympatric relationship between the common and golden spiny mice of the Israeli desert were checked through study of social interactions between the two species in the laboratory; differences in social fighting patterns were confirmed between laboratory-bred and newly-captured specimens.

☐ A study of three strains of laboratory rats with significantly different neurochemical characteristics found that they differed in their responses to innocuous and noxious stimuli as well.

☐ The thermal adjustment to species mates as well as to changes in the environment are very important in the neonatal rat, especially during the litter period when the nursing female leaves and returns to the nest. A study of the thermal responsiveness of rat pups to cold, warm





For a study of the taxonomy of rats from Sulawesi, as part of a research project dealing with small mammals of the Indo-Australian archipelago, a scientist from the Department of Mammalogy uses a ratio diagram to graphically trace proportional differences found in observing features of preserved skulls from the Department's collection. This is one method of determining relationships among the several species of rats and mice found on that Indonesian island formerly known as Celebes. These findings are then set down in manuscript form, which is accompanied by the drawings of a scientific illustrator.

and hot flooring found that appropriate adjustments were made in the first day of life, with the rat pup moving off a cold substrate to a warm or hot one very quickly. This response has not previously been demonstrated at this age.

Anthropology

☐ Field research projects led curators of the Department of Anthropology to the far reaches of the globe, ranging from Amazonia to India, Nigeria, Egypt, the Comoro Islands, Peru, Panama, Finland, Alaska and central Nevada.

☐ A two-month archeological expedition was conducted at Pleistocene Lake Tonopah in central Nevada for the purpose of defining prehistoric settlement patterns during the Paleo-Indian period, which was roughly 12,000 to 8000 years ago. The study recovered thousands of *in situ* Paleo-Indian artifacts.

☐ During an expedition to St. Catharines Island, Georgia, an attempt was made to reconstruct the prehistoric settlement patterns and cultural ecology of the Island, which was first occupied some 4000 years ago.

☐ The adaptation to the tropical rain forest among the Indians of Amazonia was studied among the Yanomamo of Venezuela and the Kuikuru of Brazil.

☐ A study of the changes in life at Shanti Nagar, a village in north India first studied in 1958-1959, was designed to examine the impact of urbanism upon traditional village life, with particular emphasis on change since 1958.

☐ In the city of Kano, northern Nigeria, 100 children and their families were studied over the past two years in order to ascertain the significance of child labor, the effects of western education and the changing position of women in Hausa society.

☐ In Mayotte, Comoro Islands, a field study on the behavior and ecology of the Mayotte lemur involved the first systematic nocturnal observations undertaken on this species. One completed manuscript described activity patterns of the Mayotte lemurs during the wet and dry seasons.

☐ In Peru, an archeological survey researched artifacts excavated from the Inca administrative capital of Huanuco Pampa. Work on the architectural and topographic base map of Huanuco Pampa continued while a lengthy study of Inca storage technology was concluded.

Astronomy

☐ The American Museum-Hayden Planetarium's best-attended activity is the Sky Show; several different productions are presented each year. From July 1, 1977, through June 30, 1978, paid admissions to Sky Show performances totaled 397,129, as compared with 404,756 for the same period in the previous year.

☐ Special programs introduced new audiences to the Planetarium. In August, 1977, a "precreation" of the October, 1977, solar eclipse was attended by 750 people. In December, the New York Academy of Sciences held its annual dinner at the Planetarium with a special program. Throughout the year, Laserium, the laser light concert, was presented on weekend evenings. Attendance at Laserium shows totaled 156,388.

☐ The Planetarium offers an extensive series of courses in astronomy, navigation, meteorology, aviation ground school and science fiction. In the past year, 801 persons enrolled in classes, an increase of 41 over the previous year.

☐ The Richard S. Perkin Library, an 8000-volume reference facility for the staff and public, registered two major accomplishments in the past year. They were the completion of binding of all back issues of periodicals and the acquisition of a microfilm-microfiche reader-printer.

Entomology

☐ A review of the 110 species of triatomine bugs completed this year will allow world-wide identifications of these insects, important in Latin American countries as transmitters of the micro-organisms which cause the frequently fatal symptoms of Chagas' disease.

☐ A six-week trip to Mexico and the southwestern United States cov-



A volunteer with an extensive background in Chinese art restores an ancient Chinese rice-paper print for possible exhibit in the new Hall of the Peoples of Asia. A textile conservator threads a sewing needle with a human hair in order to secure embroidered motifs from a Paracas mantle that was brought to the Museum from the southern coast of Peru. The base fabric of this ceremonial dress had decomposed while the embroidered motifs, which are some 2000 years old, remained intact.



ered 10,000 miles of terrain and netted over 8600 specimens of plant bugs belonging to at least 150 different species, many of which were previously unrepresented in our collections.

□ An analysis of the methods conventionally applied by biogeographers studying the history of faunas and floras indicated that these methods involve serious theoretical oversights and may therefore frequently lead to erroneous conclusions.

□ The dolicaonine rove beetles, which as recently as a decade ago were thought to be largely or entirely absent from the New World, have been found to include at least 60 species occurring from southern Chile to northern Mexico; a few of these species were previously misplaced in various groups, while most have been newly discovered.

Herpetology

□ Long-term research by the Department of Herpetology included studies of the population ecology of snakes and turtles at the Kalbfleisch Field Station on Long Island, New York, and a general herpetofaunal survey of St. Catherines Island, Georgia, emphasizing comparisons with faunas of the mainland and other islands.

□ A mark-recapture study of more than 300 lizards on St. Catherines Island, Georgia, provided data on the growth, movements and survival of two closely-related species living together in the same habitats.

□ All-female species of whiptail lizards, breeding in a laboratory colony, demonstrated that parthenogenetic offspring possessed the same chromosomes as their mothers and siblings, and showed also that parthenogenetic lizards could mate with males and produce viable hybrid offspring.

□ Studies of poison-dart frogs included a trip to an isolated table mountain that rises abruptly from the hot lowlands of the upper Orinoco River in Venezuela, where a species known previously from only one specimen was successfully sought; and a trip to the rain forest of the northern Andes of Colombia to collect one of the few species of frogs

used by Chocó Indians for poisoning blowgun darts.

Ichthyology

□ The Department of Ichthyology formally cataloged some 11,000 specimens during the course of the year, further expanding its inventory of species and providing documentation of changing natural ranges as environments change.

□ The department has undertaken a monographic study of the inland fishes of New York State to produce a handbook of its rich piscine fauna and elucidate the biogeography of New York State, which is noted for its complex glacial history.

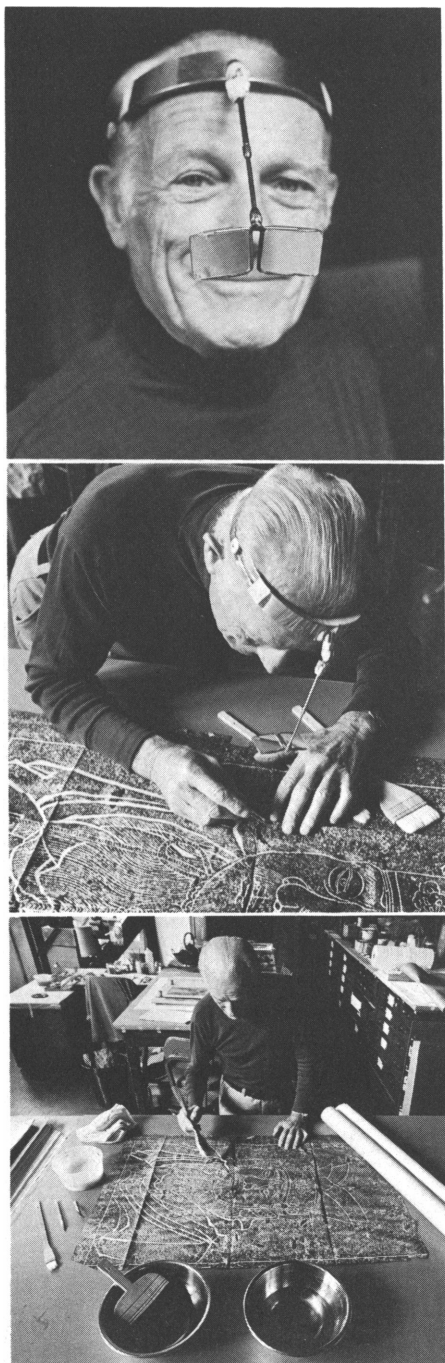
□ At the National Underwater Laboratory off St. Croix, scientists spent a week living at a depth of 50 feet to study the interaction of fish living in the coral reef. They tested the hypothesis that the infaunal fishes living together in the coral reef interact to limit each other's growth and that this in turn determines each individual's role in the community.

Invertebrates

□ Studies by the Department of Invertebrates were completed of the ultrastructure in shells of primitive mollusks, using an electron microscope. They indicated that all basic shell ultrastructure types appeared very early in the phylogeny of mollusks and are all derived from a single type.

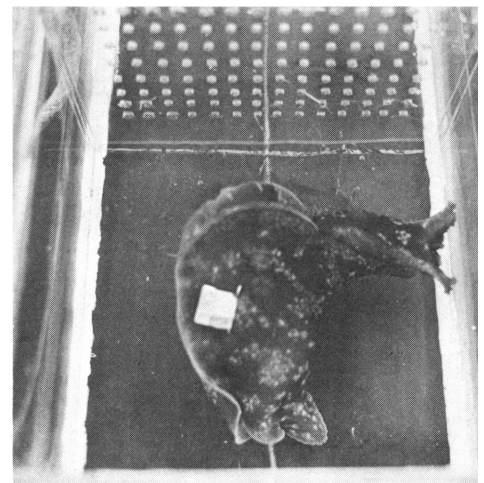
□ The curation of fossil invertebrates, supported by a grant from the National Science Foundation, is now in its fourth year. To date, 95 percent of the type collection and several smaller reference collections have been re-curated with the pertinent data captured and entered into the SELGEM computer system.

□ Micropaleontology Press completed volume 24 of "Micropaleontology" and also issued monthly numbers of the "Bibliography and Index of Micropaleontology." It brought out volume 3 of the "Catalogue of Planktonic Foraminifera" and a supplement to the "Catalogue of Ostracoda," totaling approximately 750 pages.





As part of a study of Aplysia, commonly known as Sea Hares, being conducted by the Department of Animal Behavior, two Aplysia are placed at the opposite ends of an observation tank after having been isolated. Their behavior is closely observed and noted by a student. Sea Hares are hermaphroditic animals, containing both female and male reproductive organs. However, a fertile egg mass, such as that being studied under a microscope by another student assisting in the project, is usually produced through cross fertilization.



Mammalogy

□ A continuing study of the life-style of raccoons on St. Catherines Island, Georgia, has thus far involved the capture, mark and release of more than 800 animals. Some of the raccoons were tracked by radio telemetry while other studies attempted to relate population density to different forest types.

□ Based upon the thesis that species of one genus should not be capable of breeding with species of another genus, a controversial proposal has been made to reduce the number of recognized genera, chiefly among primates, carnivores and artiodactyles.

Mineral Sciences

□ A program of the Department of Mineral Sciences involving the meteorite collection attempts to gain a better understanding of the achondritic meteorites (those that formed inside a planetary body) with the main concentration on the mesosiderite group. This group of meteorites is composed of roughly half metallic iron and half achondritic material.

□ During this year the mesosiderite group was reclassified and all members of the group were studied. It was discovered that three of these mesosiderites—Simondium, Hainholz and Pinnaroo—were formed as impact melt breccias. They resulted from the impact melting of a silicate and metallic soil on a small asteroid.

□ Study of the Emery mesosiderite found that this complex meteorite

was formed on a small asteroidal parent body nearly four and one-half billion years ago and consists of early clasts (broken fragments) composed mainly of achondritic silicate material mixed with a small amount of high nickel metal. These clasts were then hurled onto another part of the planetary surface which consisted of similar achondritic silicate material and more abundant metal, which was not nickel-enriched. All of this was heated, probably by the impact process, for a long enough time that its chemical elements moved from one place to another, in a process called metamorphism, to the extent that its earlier history was obscured. Finally, after it had reached temperatures of about 400-500°C, it cooled so slowly, at a rate of 0.1°C each million years, that it is the most slowly cooled meteorite known.

□ The meteorite Lodran is so unusual that it forms a separate entity. It consists of half metal and half silicate, but the silicates are not achondritic. They may have been formed by condensation in the solar nebula but modified by later processes which took place inside a planet. The silicates experienced such a remarkably oxygen-depleted (reducing) environment that some of the iron in the mineral olivine was taken out of the mineral and made into metallic iron. The source and nature of this unusual oxygen-depleted environment is not known. The possible connection between this meteorite and others is being explored.

Ornithology

□ In the past year, scientists from

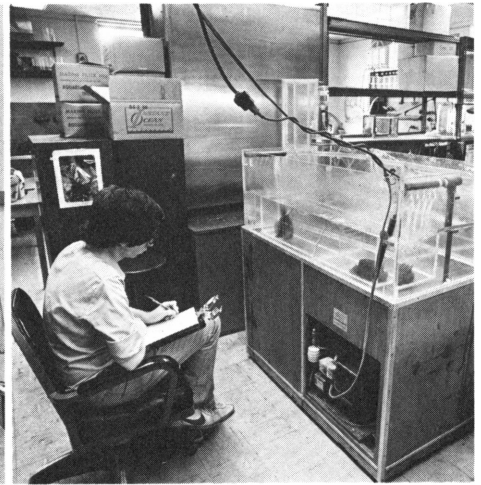
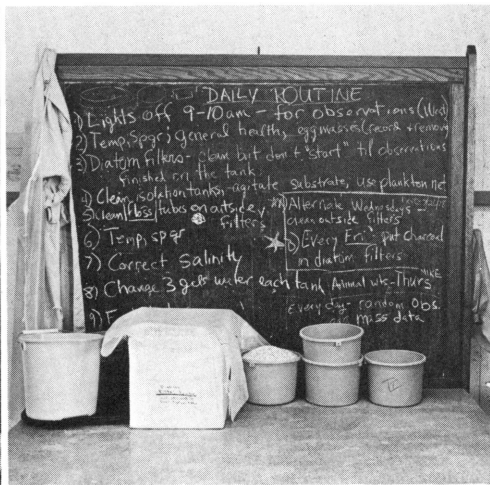
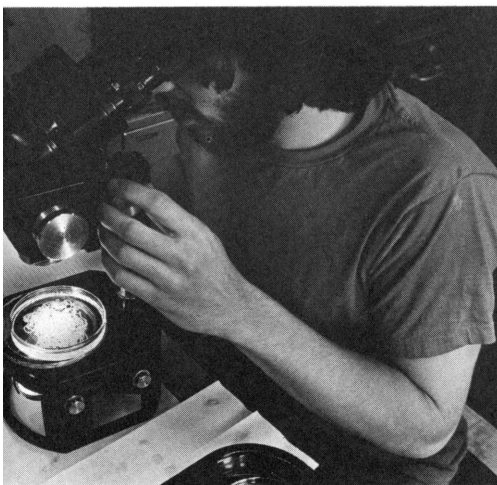
the Department of Ornithology completed a ten-year research project analyzing a group of South America flycatchers. Because vocalizations function as a primary basis for species discrimination in these birds, the vocal characters were considered in conjunction with more conventional morphological characters in the successful solution to the delimitation of eleven species.

□ A major study, concluded after seventeen years of research, dealt with "Woodpeckers of the World." A major treatise of accoustical communication in pied woodpeckers detailed the functional and evolutionary aspects of all known vocalizations and instrumental signals of all the species of the largest genus of woodpeckers.

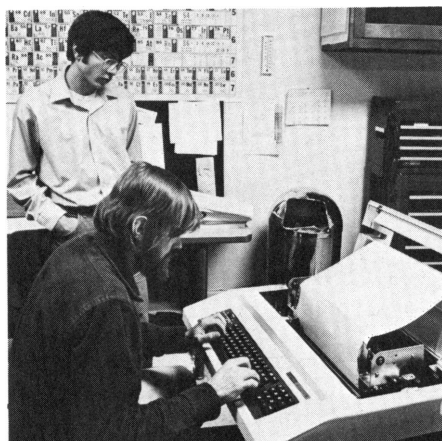
Vertebrate Paleontology

□ The Department of Vertebrate Paleontology expanded its collections during the year with the addition of a collection of several thousand fossil fishes; 300 Eocene vertebrate specimens; 28 late Miocene mammal specimens from Cherry and Brown counties, Nebraska; 57 Plio-Pleistocene mammal specimens from the Dry Mountain area near Stafford, Arizona; and eight specimens from the Hay Springs area of Nebraska.

□ A monograph of the eared seals and walruses of the East Pacific Neogene treated all the available fossil remains of this group in order to examine their phylogeny, zoogeography and biochronology. Walruses were recognized as a more diverse group in the past, having appeared in the subtropical and



An optical microscope within the Department of Mineral Sciences' electron microprobe is being used to position a mineral in a thin section of a meteorite for complete chemical analysis. The X-ray peaks characteristic for the elements present in the mineral are recorded by detectors so that the exact amounts of each element can be determined simultaneously. The information is fed to a minicomputer which positions the detectors, calculates the analysis and prints it out.



temperate waters of the Pacific and Atlantic in the Pliocene. They were finally restricted to arctic waters only in the Pleistocene. Sealions, according to the studies, appeared only after the formation of the Panamanian isthmus and thus never reached the North Atlantic.

Interest in the evolution of turtles has developed a number of research projects intended to solve problems of chelonian relationships. Turtles from the Jurassic of Britain, Switzerland and Germany that are related to the living sea turtles were extensively studied. The common presence of specialized or advanced characters in the skulls of these Jurassic turtles and the living sea turtles was used to test this idea about their relationships.

Work was finished on North American Jurassic turtles. The most Common North American Jurassic turtle, *Glyptops*, appears to be much more primitive and has an ancestor in common with all the cryptodires, the most prominent of living turtles. The best North American Jurassic turtle skeleton is a specimen collected by the American Museum in 1898 from Bone Cabin Quarry in southern Wyoming. This and other Jurassic localities in Wyoming and Utah have more recently been worked in an effort to find new specimens. Fossil turtles were found by a Museum field party in 1968-70 at Como Bluff, a famous dinosaur site only a few miles from Bone Cabin Quarry. Future fieldwork will be concentrated on Jurassic rocks in Colorado.

Education

The Education Department is comprised of thirty full-time professional members whose combined administration and teaching are responsible for programs in which more than 300,000 persons participated during 1977-1978.

The Discovery Room completed its first full year of operation as a weekend facility for visitors, with youngsters intent on exploring the contents of Discovery Boxes and touching specimens and artifacts exhibited there. It also served on weekdays as the focus of a new program for the visually handicapped, taught by Education volunteers under staff supervision.

The Alexander M. White Natural Science Center is designed to introduce young people to the natural world that abounds even in an urban environment through exhibits and activities.

The People Center played host to nearly 100,000 visitors who shared in its multi-cultural weekend presentations of films, dancers, musicians, craftspersons and lecturers. The Center presents anthropologically-oriented activities reflecting cultures worldwide, including the United States.

The Education Department made extensive use of the renovated Auditorium, capacity audiences of more than a thousand attended a distinguished series of lectures on the archeology of ancient Egypt; and more than six hundred enrolled for an anthropology film series.

The Library

The Library circulated over 48,000 items, answered 6000 reference questions, received 3712 interlibrary loan requests from other libraries and borrowed 327 items for the use of the Museum staff.

Nearly 8000 patrons used the Museum's library for research during the past year.

The Museum's photographic archives were placed under the management of the Library in order to reorganize and integrate this Collection with that of the Library.

Archbold Biological Station

The Archbold Biological Station has been proposed as an experimental Ecological Reserve for a prospective network of such reserves by the Institute of Ecology in a report to the National Science Foundation.

During the past year, 66 visiting investigators and associates, representing 23 organizations and institutions, worked at the station.

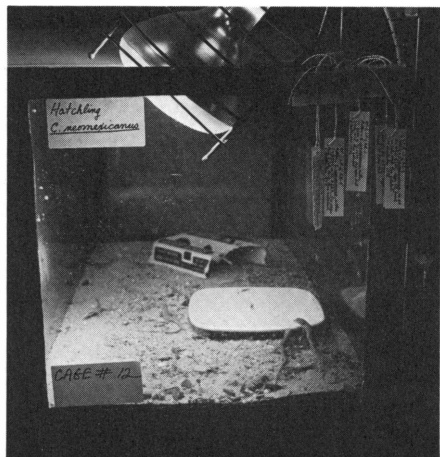
Staff members presented 26 lectures at colleges, universities, scientific meetings and gatherings of environmental, civic and natural history organizations.

025

SCALE COUNTS: ROWS AROUND MIDBODY... 32.....
 TAIL BASE TO PARIETALS... 69.....
 LAMELLAE UNDER 4th TOE... 30.../.....
 LAMELLAE UNDER 3rd FINGER... /.....
 LABIALS: UPPER... /..... r i
 LOWER... /.....
 right left

COLOR
 DORSAL.....
 VENTRAL.....
 REPRODUCTIVE CONDITION.....

DISP. OF SPECIMEN.....



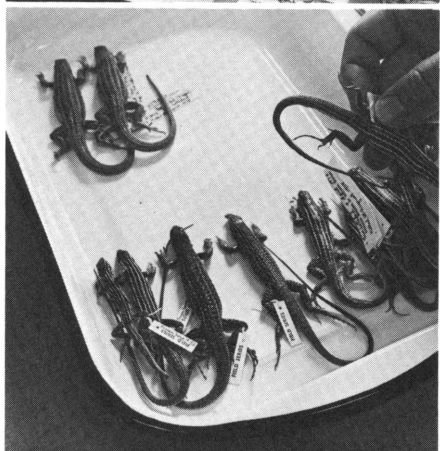
A selection of preserved whiptail lizards—of all female parthenogenetic species capable of reproducing from an unfertilized egg—are chosen for x-ray. The bone structure of these animals, which were raised from eggs hatched in the Museum's laboratory, is studied in comparison with other whiptail specimens that had been collected in the field. A typical data sheet of one of the many scientists who visit the Museum to use its collections, shows plotting of measurements of lizard specimens from several South Pacific islands.



Great Gull Island

At Great Gull Island in Long Island Sound, a record 1200 pairs of Common Terns were trapped. Adult trapping has been so successful in the last three years that counts taken in the spring of 1978 indicate that 80 percent of the adults returning to the colony are banded.

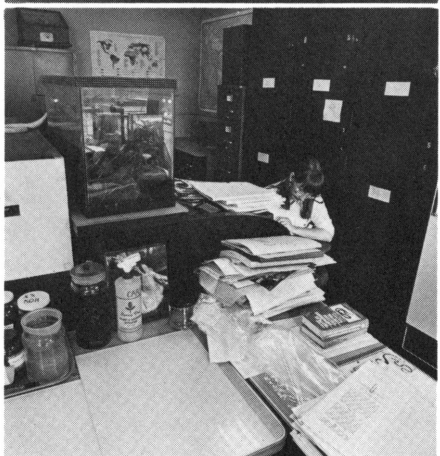
In the fall of 1977, seventeen observation towers were built which overlook all the nesting concentrations of Common Terns on the island. From these towers scientists will map the nests of the terns in each area for the next three years. They are particularly interested in seeing where young hatched on the island nest when they return to breed.



Kalbfleisch Station

The Kalbfleisch Field Research Station at Huntington, L.I., completed its twentieth year of operation. Studies of hybridization in a captive population of Black-capped and Carolina Chickadees continued. Should hybrids be produced, attention will be devoted to documenting the inheritance of plumage and vocal characters and to the viability and fertility of the hybrids.

Research on the growth patterns, reproductive biology and movements between ponds of the painted turtle progressed with the marking and release of more than 150 turtles since 1963. Studies of a similar nature on the growth movements and survival of garter snakes and milk snakes are in their fourteenth year, with more than 700 snakes having been marked.



Southwestern Research Station

A 35-acre tract adjacent to the 53-acre Southwestern Research Station has been donated to the Museum by Frank W. Preston of Butler, Pennsylvania. The gift is to be known as the Anderson addition, in honor of John "Scotty" Anderson, the Southwestern Research Station's first foreman.

The station provided a center for 109 researchers and their assistants from 51 institutions. The center also hosted eighteen science classes including 236 students. Natural history and birding tours arrived in large numbers from all parts of the country, with 404 guests on 29 tours. The total number of guests staying at the station reached 1104.

Honors and Recognition

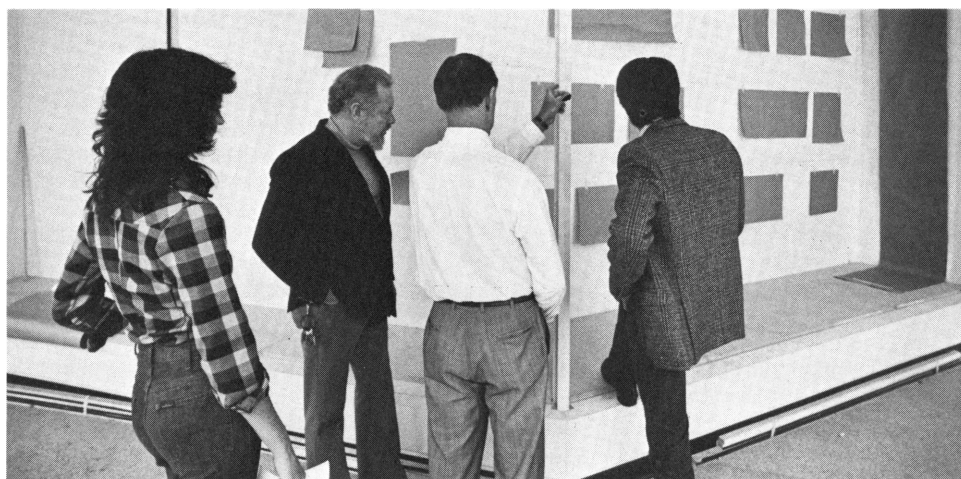
Thomas D. Nicholson, Director, assumed the presidency of the Association of Systematics Collections, an organization designed to solve some of the problems involved in adequately maintaining zoological specimens. The American Museum of Natural History houses over 24 million artifacts and specimens, of which 22 million are zoological specimens. Dr. Nicholson also received the 1977 Superior Achievement (Continuing Contribution) Award from the Institute of Navigation.

The hall of Asian ethnography, scheduled to be opened in late 1979, will be known as the Gardner D. Stout Hall of the Peoples of Asia, in honor of the Museum's past president.

Research grants awarded to young scientists by the American Museum of Natural History include: 24 grants totaling \$14,000 under the Lerner Fund for Marine Biology; 39 grants totaling \$26,000 under the Theodore Roosevelt Memorial Fund; and 91 grants totaling \$51,000 under the Chapman Fund.

Museum Attendance

During the year 1,981,570 persons visited the Museum and 593,454 (including 397,129 paid admissions) visited the Planetarium, making a total attendance of 2,575,024.



DEPARTMENT OF EXHIBITION AND GRAPHICS

The department has responsibility for the presentation to the public of all exhibitions and most of the literature prepared by the staff of the Museum. Three major events highlighted the year. They were the opening of the Hall of Reptiles and Amphibians and the staging of two special exhibitions: "Peru's Golden Treasures" in Gallery 77, and "Ice Age Art" in newly-opened Gallery 3.

The Hall of Reptiles and Amphibians opened to the public in November, 1977, after seven years of design, planning, construction and installation. Eugene B. Bergmann, Exhibit Designer, utilized a wide variety of exhibit and graphic techniques to fill ten large glass cases in a most effective way. Working with the curators in the Department of Herpetology, he created exhibits that graphically tell such stories as diversity and distribution, locomotion, anatomy and physiology, reproduction, growth and longevity. Over five hundred mounted specimens were fabricated by skilled preparators in the department for display in approximately one hundred habitat groups.

A fabulous collection of Peruvian gold and other artifacts was the feature of a three-month special exhibition, "Peru's Golden Treasures," that ran from October, 1977, through January, 1978. On loan from Señor Mujica el Gallo, the collection included beautiful examples of Nazca, Chimu and Inca gold ornaments and ceremonial objects. The exhibition was extremely popular and drew a total of over 180,000 visitors. Designed by this Museum, the exhibition was scheduled for display in

museums in Chicago, San Francisco, Detroit and New Orleans.

The opening show in the new Gallery 3 on the third floor was "Ice Age Art." With specimens and replicas from the Museum's own collections, as well as with replicas from many other museums around the world, this exhibition tells the story of Cro-Magnon man's early attempts at creativity. Beautiful examples of cave paintings and rock art are shown in the form of color prints and enlarged wall murals. "Ice Age Art" opened in May, 1978, and runs through January, 1979. Both the "Peru's Golden Treasures" and "Ice Age Art" were designed by Henry Gardiner, Exhibit Design Chief.

Exhibits of the Month, partially funded by the Arthur Ross Foundation, included: "Gold and Azurite," the Holiday Tree, the Triceratops reproduction, "We've Been Here A Hundred Years" and "Rails of the World." Akeley Gallery was the location for an ambitious temporary exhibition, "The Sport of Birding," designed by Joseph M. Sedacca, Manager of Graphics. It incorporated several dynamic exhibit techniques, including color videotape loops, recorded birdcalls and a continuous-run color slide show.

A new, contemporary-designed visitors' lounge was installed in the Hall of Ocean Life, directly under the great blue whale. Built from designs by Ralph J. T. Bauer, Manager of Exhibition, the lounge is on a raised, carpeted platform and currently has screenings of continuous-run videotape segments from Robin Lehman's film, "Sea Creatures," in addition to a series of three-dimensional exhibits in glass showcases. The cost of this lounge and a new tiled and carpeted floor in the hall

was supported by the Bieber Foundation.

The department continues to support the Department of Education in staging special exhibits in Education Hall and in the People Center. Another ongoing activity is the design of the attractive banners displayed over the Central Park West entrance, drawing the public's attention to special exhibitions.

Work continues on the Museum's graphic redesign program, both for interior and exterior museum signs and for printed pieces. The Hall of the Peoples of Asia occupies the time and talents of a large segment of the preparator staff, and is scheduled to open in late 1979.

PUBLICATIONS

Curator

Four issues of CURATOR were published during the year. Volume 20, Number 4, was a cumulative index of all twenty years of CURATOR, each article categorized by title, author, and subjects. The index should be of value to all people interested in the museum profession. Members of the Editorial Board were appointed from the Adler Planetarium and the New York Historical Society, joining the institutions already represented: the Metropolitan Museum of Art, the New York Botanical Garden, and the New York Zoological Society. These Editorial Board members, along with their nine colleagues from the American Museum, are active in reviewing manuscripts and suggesting further sources of articles. The quality of submissions continues to grow, as does the subscription and renewal rate.



Preparing the new Hall of the Peoples of Asia requires the broad spectrum of talents shared by artists in the Department of Exhibition and Graphics. Lifelike manikens illustrate the features and costumes of peoples with varied cultural backgrounds. They are displayed, along with artifacts, in settings which suggest the typical surroundings and conditions of life.



Scientific Publications

During the past year the Office of Scientific Publications brought to press 27 articles in *American Museum Novitates*, totaling 551 pages; nine articles in the *Bulletin American Museum Natural History*, totaling 629 pages; five parts in *Anthropological Papers*, 787 pages; and a paper for the James Arthur Lecture on the Evolution of the Human Brain entitled "An Evolutionary Interpretation of the Phenomenon of Neurosecretion," by Berta Scharrer, 17 pages long. As of the present date there are sixteen articles for the three scientific serials of the Museum in preparation.

The majority of articles were written and illustrated by Museum scientists and artists and subject matter for them range from Anthropology to Vertebrate Paleontology; a few of the articles, however, were the products of researchers from other institutions.

ADMINISTRATION

Building Services

The anticipated installation of the fire detection and alarm system, under the direction of Charles L. Miles, Manager of Building Services, underscored the need for expanding the space allocated to the Building Services offices and control center.

An imaginative approach developed by Walter F. Koenig, Manager of Construction and Maintenance, called for the construction of a mezzanine level which virtually doubled the usable floor space available within the existing building services area.

Because of the need to continue operations including the control center during the day, it was determined that the construction and renovation work would be accomplished principally by our own work crews on an overtime basis during the evening.

The construction work has been completed and the Museum now has a control room, which is completely secure and isolated from the other personnel and functions of the building services department. It contains the closed circuit TV surveillance equipment, the base station for the radio communications system, the base station for the public address system, security and intrusion alarm

controls and existing fire detection and alarm system. It will house further installation of such equipment which will extend fire detection systems to all areas of the museum complex.

That installation is expected to be completed during the coming year. The mezzanine also provides convenient office space for personnel.

Office of the Controller

During the current year, the Controller's office under the direction of Pauline G. Meisler, computerized accounting records on a trial basis to ascertain whether the reports issued provide all the necessary financial information as well as supplying the details necessary for budgetary control of operations. The staff has been trained in computerized operations to enable a smooth transition to the new systems effective July 1, 1978.

In addition, considerable progress has been made in classifying the fixed assets of the Museum so that the new Audit Guide Requirements of the Accounting Principles Board can be met.

General Services

Joseph R. Saulina, former manager of the Museum's Department of Photography, succeeded John J. Hackett who retired in March as Manager of General Services. Mr. Saulina will continue to oversee the photography studio as part of the General Services operation. Responsibility for the photo and slide collections of the Museum (which were part of the Photography Department) has been transferred to the Museum Library.

During the year, the General Services Department continued to cope with the ever-growing workload of the Museum in areas of mail processing, printing, duplicating, shipping and receiving and telephone services.

Museum Shops

The Museum Shops, managed by Martin Tekulsky, have again this year set a new record for the volume of sales to the visiting public. In an effort to improve the efficiency of sales personnel, new electronic

registers were installed in the main shop. It is expected that they will speed up the sales and give increased and more accurate data for use by the shop manager. The shops took advantage of the great interest in Egyptology that has resulted from the showing of the Treasures of Tutankhamun in various museums throughout the country and which increased the demand for artifacts, jewelry and books on Egypt.

In connection with the temporary exhibit, "Ice Age Art," the shop developed a good selection of postcards, graphics and books which have met with enthusiastic response from visitors. Planning ahead, shop management is already preparing for the "POMPEII AD79" exhibit which is expected to attract very large audiences to the Museum. There will be a sales area adjacent to the exhibit hall and the large selection of merchandise will include books, postcards, artifacts and jewelry. Additional storage space is also being planned to accommodate quantities of merchandise which must be ordered well in advance.

Personnel

A modern system of flexible working hours was introduced in three departments of the Museum on an experimental basis under the guidance of Geraldine M. Smith, Personnel Manager. This new concept in time and work management gives each employee the opportunity and responsibility for organizing working hours in order to accommodate personal needs with certain established limits. Departments define a "core time" that best suits their services to the public and other needs.

All employees must be present during "core time," but the program provides flexible periods at the beginning and end of each work day during which employees may organize their own hours to meet the total number of required work hours for the pay period. Individual electronic time accumulators count the hours worked providing each employee with the input for planning flexibility. This program will be expanded to additional departments for further testing and evaluation during the coming year.

In addition to providing guidance to departments in implementing all aspects of the Museum's

Affirmative Action Program, the personnel office has significantly expanded and developed resources for recruiting minorities and women.

Procedures for reporting safety hazards have been revised and forms have been developed to expedite corrective action by appropriate Museum departments. The procedures stress swift investigation of hazards and provide a method of checking to see that corrective action is taken in a timely manner.

Plant Operation

Three major construction projects were completed this year under the supervision of Walter F. Koenig, Manager of Construction and Maintenance, using a combination of in-house personnel and outside contractors. The first takes advantage of the high ceiling on the fourth floor in the area where the Mineral Hall was previously located. The new mezzanine areas, along the north and south walls, add needed space for storage of the mineral collections, and provide additional stack space for expanding collections of the library and office. The new space also accommodates a laboratory for the Department of Mineral Sciences and a safe storage vault for many of the more valuable items in our mineral, gem and anthropology collections. Partial funding for the safe storage vault was provided in a grant from the National Endowment for the Arts.

The second major renovation involved the creation of a new temporary exhibit area called Gallery 3, which is presently being used for the "Ice Age Art" exhibit and which will be used next year for "POMPEII AD79." Work in this area included installation of a central air conditioning system, acoustical ceilings, bronze and glass entrance doors, carpeting and a specially designed suspended ceiling grid system of structural channels and electrical power jacks. That system provides for support of partitions and lighting fixtures in varying configurations to accommodate temporary exhibitions.

The third major project was the renovation of the security offices, mentioned earlier under the Building Services Department.

Considerable progress has been made in the development of storage spaces for the anthropology collections. Substantial demolition and installation of plaster board par-

titions, electrical work, erection of storage racks and lighting have been carried out on the second, third and fourth levels of Section 6.

The department has been cooperating with engineers and architects from the Department of Public Works for preparation of contract documents on four New York City capital budget projects, including Phase II of the fire detection and public address system, restoration of the Roosevelt Memorial Hall murals and Phases II and III of the repair and restoration of the exterior surfaces of the entire Museum complex.

A good number of smaller renovations were planned and carried out during the year resulting in improvements in the offices and laboratories of several scientific departments and in the office and service spaces of several of the business departments of the Museum. The staff also continued to provide a significant amount of its manpower to the support of our exhibition program in two major halls, Amphibians and Reptiles and the Hall of the Peoples of Asia, and several temporary exhibits.

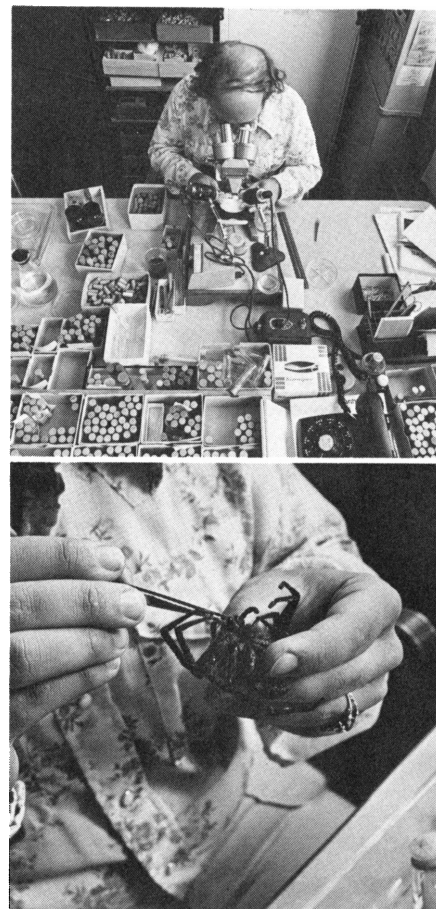
Projection Department

Preparation, use of the projection and audio services required in connection with the Margaret Mead Film Festival were coordinated by Arthur L. Grenham, Manager of the Museum's projection department. This task involved approximately 200 hours of film programming using the entire projection crew of three plus ten extra projectionists hired from outside the Museum for the occasion. Films were shown at eleven sites within the Museum complex utilizing thirteen projection and sound systems, including a video monitor and video tape decks. The latter was used to project continuous showings of some of the rare films in our collection. The use of videotape, in lieu of the actual film, makes this possible without adverse affect on these old and valuable films.

The department participated in the installation of a closed circuit television exhibit in the Hall of Ocean Life. Closed circuit TV was also used in several temporary exhibits during the year. Television sets were also installed in the Roosevelt Rotunda for the purpose of projecting closed circuit public announcements of lectures, special events, the opening of

any new exhibits and announcing registration for Museum courses. These television monitors also are used to advertise for the Museum shop, cafeteria and membership programs.

A character generator, which is used to create messages for the closed circuit system is located in the Building Services Office. It can also be used to make announcements to the public in regard to emergency situations which may develop including closing of sections or of the entire Museum should conditions require such action.



Sorting species, in this case heteropodid spiders, constitutes a major task in the care and curation of collections. Scientists in the Department of Entomology determine the species of this group of spiders by studying its eye arrangement. The Department maintains and preserves a collection of over 15 million insects and arachnids for scientific investigation.

DEVELOPMENT AND COMMUNICATIONS

While the primary objective of Development and Communications is the generation of funds, a corollary objective is to heighten public awareness of the Museum. Various methods, ever changing, are devised to reach new audiences and to explain the diverse, yet interconnected, activities which make this unique institution far more than the sum of its three major parts: research, education, and exhibition. Although we tell the story in many ways, it is especially gratifying to have someone else say it—as a *New York Times* editorial recently said:

"The Museum represents not just a century of pleasure but a century of scholarship that has expanded our knowledge of the natural world. For all of us, it has been a place of instruction, enchantment, and awe."

This is essentially the recurring theme that has been used by the integrated efforts of the Departments of Development and Public Affairs, and *Natural History*/Membership during recent years. The result has been a steady increase in Museum support. Again this year, new highs were reached in annual operating income received from individuals, foundations, corporations, museum tour participants, committee benefits and the *Natural History*/Membership program. The total, including the surplus contributed by *Natural History*/Membership, was \$2,327,000, or 37 percent above the previous year's total of \$1,700,000. This gain is a measure of a determined and crucial effort to counter ever-higher operating costs by exploring new sources of support.

The growth of private support reflects, in large part, the cumulative effect of communicating with larger audiences and encouraging personal involvement with the Museum's activities. In the past year, our reputation as one of the country's foremost cultural institutions has been enhanced by programs appealing to new, diverse and sophisticated audiences interested in art, film, music and dance, as well as anthropology, archeology and the natural sciences. It has been a year of expanded scope, new directions and experimentation.

Outstanding among the year's many temporary exhibits and events

was the October opening of "Peru's Golden Treasures," the largest collection of Peruvian gold to appear in America. The exhibit stressed the relationship between archeology, anthropology and fine arts—a relationship this Museum is uniquely equipped to explore. Its scope, beauty and unusually fine installation drew hundreds of thousands of museum-goers, many of them newcomers, in the few months it was here.

The Margaret Mead Film Festival, held in September, was another event of great significance, reaching out to diverse audiences at many interest levels. A three-evening retrospective of the works of acclaimed French film ethnographer Jean Rouch, plus a weekend festival of continuous film screenings throughout the Museum, brought in 25,000 people of all ages.

Development

Last year, the American Museum was awarded a Challenge Grant from the National Endowment for the Humanities, by which new and increased contributions to the Museum would be matched on a one-for-three dollar basis by the National Endowment. Contributions generated by discretionary admissions as well as new and increased gifts, resulting from the efforts of the Men's and Women's Committees, Corporate Campaign and the Discovery Tour Program, were eligible for such matching grants, thereby giving added impetus to all fund-raising activity. The figures appearing in this report do not include \$300,000 earned under the NEH grant.

Our annual Corporate Campaign for general support generated \$382,671 from 326 donors, up 12% over last year. Under the leadership of Trustee William F. May, Chairman of American Can Company and general chairman of the Campaign, over 30 vice-chairmen helped to persuade increasing numbers of corporate executives that the work and concerns of the Museum parallel the public concerns of their companies. The geographical distribution of corporate donors has expanded through the special efforts of two Pittsburgh-based Vice Chairmen, Edgar B. Speer of U.S. Steel and W. Krome George of Alcoa, who have underscored the Museum's importance as a national cultural resource.

In addition to general support, corporations were especially generous in providing special funds with over \$86,000 contributed to support Department of Mineral Sciences research.

Contributions from individual donors, increased by \$400,000 over last year due chiefly to generous gifts from three individuals, to whom the Museum has expressed its deep appreciation.

Additional income of over \$55,000 was generated by three successful Committee benefit evenings: a "Treasure Hunt" in October 1977; a Winter Men's and Women's Committee dinner; and a "Rough Riders" party in April. These successes are a fitting testimonial to the dedicated efforts of the Women's Committee leadership and its retiring Chairperson, Mrs. Carl C. Ulstrup. She will be succeeded by Mrs. Robert V. Lindsay. Chairman of the Men's Committee, Daniel Ward Seitz, also stepped down and has been succeeded by Frank G. Lyon.

A growing source of annual contribution income, the Museum's scientific study "Discovery" Tours were expanded in number and attracted more than 570 participants, whose total donations to the Museum came to \$256,900. In the new fiscal year, with the addition of a trip to the People's Republic of China, the tour program will span four continents.

While Development staff energies are largely focused on campaigns to obtain operating funds, a continuing effort is made to enlarge the Museum's endowment. The most important current project is a five year Margaret Mead Fund campaign to raise five million dollars. Under Thomas J. Watson, Jr., National Chairman, the campaign has already reached \$1,300,000 and is now entering a national fund-raising phase, with the formation of a National Committee of Sponsors and a major public solicitation throughout the country. Supported by funds already raised, proceeds from the campaign will be used for the reorganization of anthropological collections that is already underway, and for the new Hall of the Peoples of the Pacific.

Public Affairs

The efforts of the Public Affairs staff contributed vitally to the increased attendance at the Museum and to the success of Museum fund-

raising efforts.

Because of the unusual variety of Museum events, concentration was placed on aggressive use of publicity and promotion in outside media. The result was an unprecedented range of print and broadcast coverage.

The Margaret Mead Film Festival received national and local television and radio coverage; the new Hall of Reptiles and Amphibians was covered by the local media; "Peru's Golden Treasures" was featured in *Smithsonian* and received extensive national coverage by UPI, AP, *Christian Science Monitor* and *The Wall Street Journal*. "Ice Age Art" drew the broadest print media coverage since the Museum centennial celebration, including articles in *Time*, *The New York Times Magazine*, *Archaeology* and *Human Nature*. News previews and notices appeared in national publications such as *Horizon*, *Travel* and *American Way* along with reviews in *The Washington Post*, the *Baltimore Sun* and the *Philadelphia Inquirer*. Foreign media responded to the exhibit with great interest, and the Canadian Broadcasting Corporation has produced a television feature on "Ice Age Art" for an internationally distributed series, "The Nature of Things."

Again this year, creative services donated by the advertising agency Ogilvy & Mather contributed to the Museum's public exposure. Special media campaigns (for which Ogilvy & Mather was awarded a gold medal) were developed for the Hall of Reptiles and Amphibians, "Peru's Golden Treasures," and the Margaret Mead Film Festival. In addition, for the first time, the Museum produced two television newsfilms on an experimental basis and distributed them to television stations across the country.

Guest Services

The Guest Services division planned and coordinated 870 special events sponsored by both the Museum and outside organizations, including formal dinners, luncheons, receptions, press conferences, musical programs, lectures, filmings, fund-raising events, exhibition previews and special tours.

Volunteers

A guided tour program for visitors, "Highlights and History," has been an outstanding success since

its inauguration last summer. Conceived, staffed and conducted by the Museum's Volunteer Corps, almost 11,000 visitors from 53 countries have been escorted through the Museum.

As a result of an enterprising recruitment and training program in the offices of several midtown and downtown corporations, more than fifty new volunteers have joined the Museum to lead tours on Wednesday evenings and weekends. In total, 301 volunteers are participating, including several linguists who conduct tours in German and French.

A new idea—Museum birthday parties for young people—was successfully launched by Guest Services and Volunteers.

Natural History Magazine

In conjunction with the Associate Membership program, *Natural History* magazine continued its steady growth in circulation and advertising revenue during the year. Its audited circulation for the June-July issue was 434,000, a 4½ percent increase over the previous year. Advertising revenue was near \$1.75 million, an increase of 31 percent over the previous fiscal year. Paid advertising increased from 346 to 409 pages in the same period.

The magazine has become an important advertising vehicle for other activities of the Museum, such as the tour program, the Education Department's course offerings, the Museum Shop and a growing direct-response merchandising program.

Three years ago the Museum contracted with Harper-Atlantic Sales Co. for the sale of advertising in *Natural History* magazine. At the time, three magazines represented by the firm were nearly the same size and had similar rates. However, *Natural History* grew by nearly 100,000 in circulation and its importance as a national magazine grew.

To take greater advantage of these advances, the Museum has engaged another firm, Travel Communications, Inc., where a separate division and sales force will sell advertising space only for *Natural History* magazine. This allows sales personnel to focus on the distinctive qualities of *Natural History's* readers and its special editorial content.

During the fiscal year, *Natural History* magazine initiated several steps to ensure its long-term growth. A wide range of promotional efforts

to expand membership was tested, and factors which may affect future operating costs were examined. Most important, all the complex elements of the publishing operation were computerized, which will help in day to day operations as well as long-range planning.

Participating and Donor Members

Last year's rapid growth in the category of Participating and Donor Memberships continued as we increased from 5600 to a total of 9300. A good many of these were "upgrading" Associate Members, who responded to our suggestion to become more involved. In return for their increased membership dues, the Museum offered an impressive array of programs ranging from natural history lectures and films, to Saturday workshops for children.

The year just finished has shown encouraging progress in all aspects of Development and Communications. There is little magic in milestones, but it is worth noting that the generation of annual unrestricted income has increased fourfold in the five-year span since integrating the operations of Development, Public Affairs, and *Natural History*/Membership. Most important, this period has been a learning experience from which we must create new concepts, mount new campaigns, and strive toward new goals if the Museum is to maintain its role as a great national resource of learning and research and if it is to remain "a place of instruction, enchantment, and awe."

TREASURER'S REPORT

The Museum's financial statements have been audited by Coopers and Lybrand and appear on the following pages.

In reviewing the Balance Sheets, it should be noted that investments in marketable securities of \$53,449,240 are recorded at cost. These investments include Endowment Funds, Special Funds and General Funds. The Endowment Fund investments of \$45,051,433 represent the balance of funds donated to the Museum since its inception; the General Fund investments of \$4,093,552 generally represent amounts reserved for member benefits in future years; the Special Funds investments of \$4,304,255 generally represent amounts reserved for the completion of special programs and projects funded by private and government grants, together with other Museum funds set aside for such purposes. The market value of securities held as of June 30, 1978, amounts to \$55,258,744, which is \$1,809,504 greater than cost (as detailed in Note 1 of the financial statements).

The Statements of Revenue and Expenses of Current Funds on page 30 consist of the General Fund and Special Funds. The total revenue of these funds for fiscal 1977-1978 was \$18,210,570, an increase of \$1,557,122 over 1976-1977; the total expenses of these funds for fiscal 1977-1978 were \$18,028,769, an increase of \$1,602,991 over 1976-1977. The revenue and expenses by source and activity for fiscal 1977-1978, and the percentages that each bear to the total for the year, appears on this page.

Since Special Funds are used for donor-designated programs and projects which may take one or more years to complete, a more meaningful comparison is provided by analyzing the operations of the General Fund, which supports the permanent Museum programs.

In fiscal 1977-1978, the operating deficit of the General Fund was \$819,129, compared to \$760,339 in the prior year. The net General Fund deficit amounted to \$309,129 in 1977-1978 and \$210,339 in 1976-1977, after giving effect to the New York State Council on the Arts' grant of \$510,000 and \$550,000 respectively.

A comparison between General Fund revenue for 1977-1978 and

1976-1977 reveals an increase in revenue of \$1,903,140. In reviewing the various sources of this increase, it should be noted that while the appropriation from the City of New York increased, \$191,696 of this increase represented reimbursement for social benefits expenses (which, in previous years, were paid directly by the City) and over \$111,000 represented cost of living wage adjustments authorized under existing labor contracts. Thus, the effective level of support to the General Fund from the City actually decreased about four percent in fiscal 1978 as compared to fiscal 1977 and resulted in a significant reduction in personnel.

To help us overcome this reduction in City support, the Museum participated in the Federal program covered by the Comprehensive Education Training Act (CETA) and received an allocation of \$404,017 for wages and social benefits. Personnel employed under this program were used to support the staff in the scientific, educational and plant operating and maintenance departments to offset personnel losses incurred by the reduction in the level of City support in recent years.

Significant increases were realized in several income sources. Income from gifts, bequests and grants increased by \$315,178; interest and dividends increased by \$177,073; Museum membership increased by \$273,051; and other sources increased by \$593,008. These increases assisted in providing funds necessary to absorb increases in operating expenses.

General Fund expenses increased \$1,961,930 during the current year; approximately \$595,713 of this increase is offset by funds

provided by the City and Federal government to pay employees' salaries and social benefits, as noted in the previous paragraph. The remaining \$1,366,217 covered costs incurred to increase Museum membership, expand fund raising programs, provide for physical plant maintenance, cover the cost of living increases in salaries (as required under existing labor contracts) and absorb price increases in the services and products the Museum purchases.

A review of the economic forecasts for the next fiscal year indicates that inflation will undoubtedly continue to be a troublesome cost factor. This problem, coupled with the facts that the level of City support will be further decreased by approximately two percent and that there may be a reduction in CETA support, means that the Museum must not only develop new sources of revenue through effective membership, fund raising and special-event programs, but also must strictly monitor the costs of services and products purchased.

We look to the public for continued support so that we may maintain the level of our scientific research and educational programs and continue to offer the programs and special events which have become vital to the residents of New York as well as to our many visitors from across the United States and around the world.

Frederick A. Klingenstein, *Treasurer*

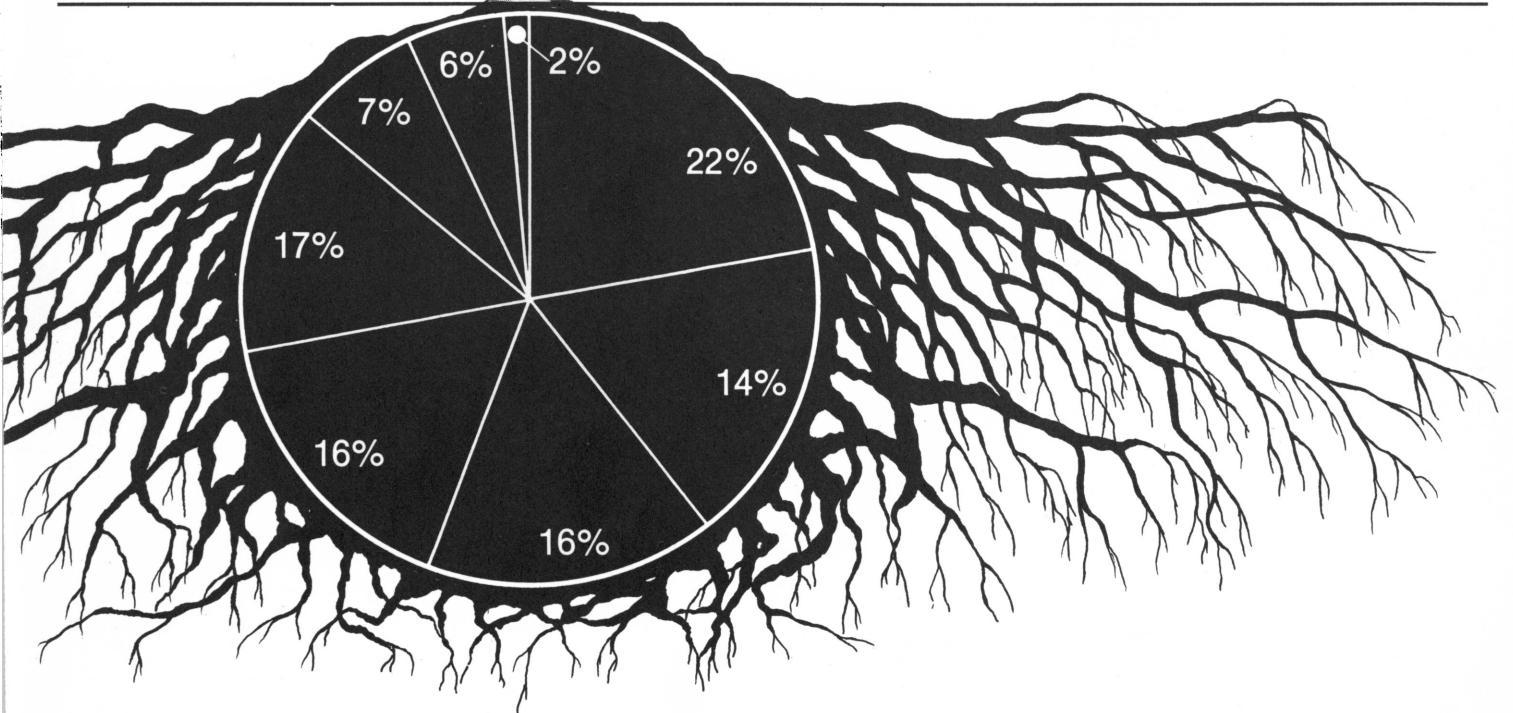
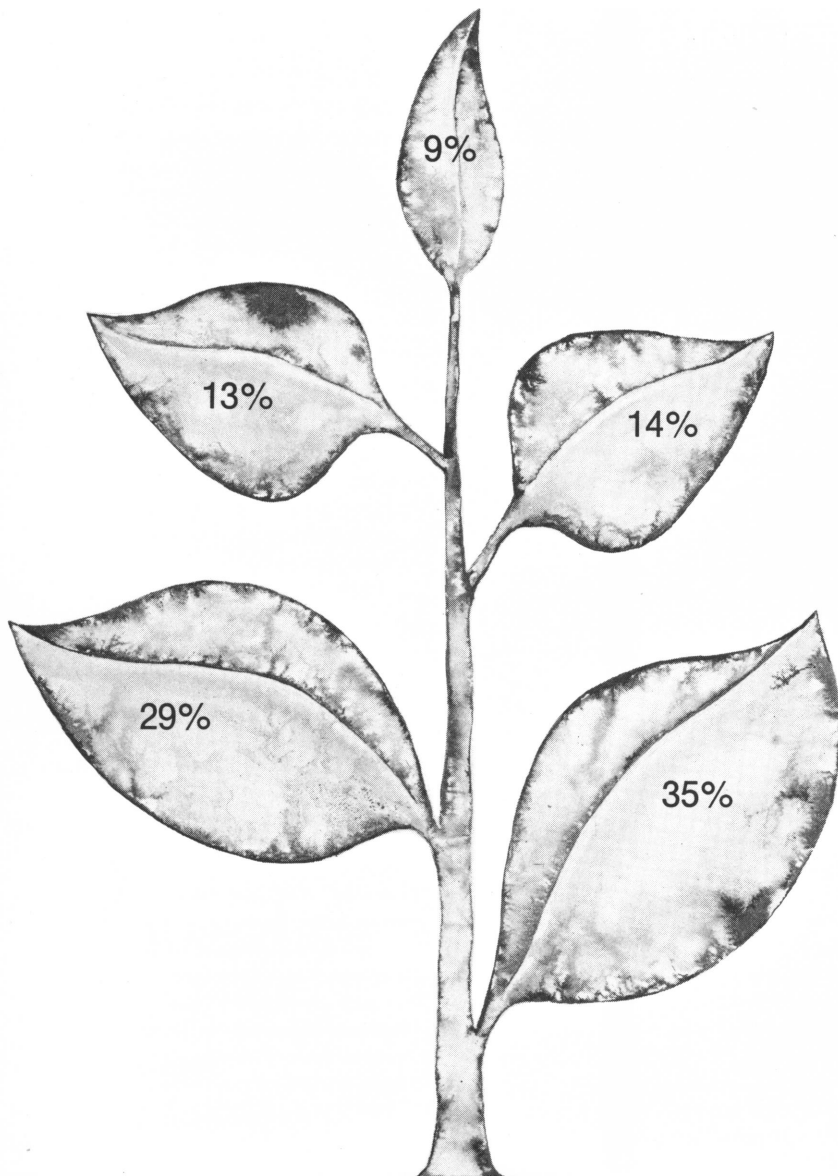
Total Revenue: \$18,210,570
(Year Ending June 30, 1978)

22% Museum Membership
17% Sales, Services & Other Revenue
16% City of New York
16% Endowment & Related Funds
14% Grants & Other Restricted Funds
7% Visitor Contributions (Admissions)
6% Corp. & Individual Contributions
2% Comprehensive Employees Training Act (CETA)



Total Expenses: \$18,028,769
(Year Ending June 30, 1978)

9% Pension & Social Benefits
13% Administrative, Business,
Service Offices
& General Expenses
14% Operation & Maintenance
29% Natural History Magazine
& Membership Services
35% Scientific, Research,
Education & Exhibition



AUDITORS' REPORT

The Board of Trustees of
the American Museum of
Natural History,
New York, N.Y.:

We have examined the balance sheets of the AMERICAN MUSEUM of NATURAL HISTORY as of June 30, 1978 and 1977 and the related statements of revenue and expenses of current funds and changes in fund balances for the years then ended. Our examinations were made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the aforementioned financial statements present fairly the financial position of the American Museum of Natural History as of June 30, 1978 and 1977 and the results of its operations for the years then ended, in conformity with generally accepted accounting principles applied on a consistent basis.

Coopers & Lybrand

1251 Avenue of the Americas
New York, New York 10020
September 21, 1978.

AMERICAN MUSEUM of NATURAL HISTORY BALANCE SHEETS, June 30, 1978 and 1977

ASSETS:

Cash
Receivable from sale of securities
Accrued interest and dividends
receivable
Accounts receivable, less allowance for
doubtful accounts of \$80,465 in 1978
and \$94,941 in 1977
Due from City of New York
Due from other funds
Investments in marketable securities
(Note 1)
Planetarium Authority bonds (Note 2)
Museum Shop inventory
Prepaid expenses

LIABILITIES and FUNDS:

Accounts payable and accrued
liabilities
Accrued employee benefit costs
Payable for securities purchased
Due to other funds
Unearned membership income
Funds:
General Fund (deficit)
Special Funds (Notes 3 and 4)
Endowment Funds (Note 5)

The accompanying statement of
significant accounting policies and
notes are an integral part of these
financial statements.

1978				1977			
Current Funds				Current Funds			
General Fund	Special Funds	Endowment Funds	Total	General Fund	Special Funds	Endowment Funds	Total
\$ 54,029	\$ 13,419	\$ 107,361	\$ 174,809	\$ 60,042	\$ 8,438	\$ 507,129	\$ 575,609
						3,231,709	3,231,709
410,183	110,298		520,481	393,694	124,540		518,234
358,312	696,642		1,054,954	372,119	450,329		822,448
152,214			152,214	287,726			287,726
	125,661		125,661	547,710	66,910		614,620
4,093,552	4,304,255	45,051,433	53,449,240	3,523,075	3,456,251	45,444,255	52,423,581
	425,000		425,000		425,000		425,000
139,273			139,273	119,419			119,419
899,058	5,500		904,558	489,906			489,906
<u>\$6,106,621</u>	<u>\$5,680,775</u>	<u>\$45,158,794</u>	<u>\$56,946,190</u>	<u>\$5,793,691</u>	<u>\$4,531,468</u>	<u>\$49,183,093</u>	<u>\$59,508,252</u>
\$1,666,654	\$ 98,250		\$ 1,764,904	\$1,436,937	\$ 77,471		\$ 1,514,408
1,206,830			1,206,830	1,130,890			1,130,890
		\$ 125,661	125,661			\$ 2,713,292	2,713,292
3,543,649			3,543,649	3,406,287		614,620	614,620
(310,512)			(310,512)	(180,423)			(180,423)
	5,582,525		5,582,525		4,453,997		4,453,997
		45,033,133	45,033,133			45,855,181	45,855,181
<u>\$6,106,621</u>	<u>\$5,680,775</u>	<u>\$45,158,794</u>	<u>\$56,946,190</u>	<u>\$5,793,691</u>	<u>\$4,531,468</u>	<u>\$49,183,093</u>	<u>\$59,508,252</u>

**STATEMENTS of REVENUE and
EXPENSES of CURRENT FUNDS
for the years ended
June 30, 1978 and 1977**

	General Fund		Special Funds		Total	
	1978	1977	1978	1977	1978	1977
Revenue:						
Appropriation from the City of New York	\$ 2,971,041	\$ 2,779,345			\$ 2,971,041	\$ 2,779,345
Comprehensive Employees Training Act (CETA)	404,017	50,883			404,017	50,883
Gifts, bequests and grants	1,120,771	805,593	\$2,513,457	\$3,072,485	3,634,228	3,878,078
Interest and dividend income	2,269,233	2,092,160	610,369	551,138	2,879,602	2,643,298
Visitors' contributions			1,206,660	967,888	1,206,660	967,888
Museum membership	3,936,585	3,663,534			3,936,585	3,663,534
Other revenue	2,686,187	2,093,179	492,250	577,243	3,178,437	2,670,422
Total revenue	<u>13,387,834</u>	<u>11,484,694</u>	<u>4,822,736</u>	<u>5,168,754</u>	<u>18,210,570</u>	<u>16,653,448</u>
Expenses:						
Scientific and educational activities	2,920,306	2,744,904			2,920,306	2,744,904
Exhibition halls and exhibits			1,512,742	1,035,675	1,512,742	1,035,675
Natural History Magazine	5,211,100	4,447,915			5,211,100	4,447,915
Other special purpose programs and projects			1,973,441	2,746,615	1,973,441	2,746,615
Administrative and general	2,173,291	1,708,891	144,175	177,885	2,317,466	1,886,776
Plant operating and maintenance	2,636,009	2,323,137			2,636,009	2,323,137
Pension and other social benefits (Note 6)	1,266,257	1,020,186	191,448	220,570	1,457,705	1,240,756
Total expenses	<u>14,206,963</u>	<u>12,245,033</u>	<u>3,821,806</u>	<u>4,180,745</u>	<u>18,028,769</u>	<u>16,425,778</u>
Excess of revenue over expenses (expenses over revenue) before support grant	(819,129)	(760,339)	1,000,930	988,009	181,801	227,670
Support grant (Note 7)	<u>510,000</u>	<u>550,000</u>			<u>510,000</u>	<u>550,000</u>
Excess of revenue over expenses (expenses over revenue)	<u>(\$ 309,129)</u>	<u>(\$ 210,339)</u>	<u>\$1,000,930</u>	<u>\$ 988,009</u>	<u>\$ 691,801</u>	<u>\$ 777,670</u>

The accompanying statement of significant accounting policies and notes are an integral part of these financial statements.

**STATEMENTS of CHANGES in
FUND BALANCES for the years
ended June 30, 1978 and 1977**

	Current Funds				Endowment Funds	
	General Fund		Special Funds		1978	1977
	1978	1977	1978	1977	1978	1977
Balance (deficit), beginning of year	(\$180,423)	(\$547,710)	\$4,453,997	\$2,943,625	\$45,855,181	\$45,034,880
Additions:						
Gifts, bequests and grants					34,349	755,488
Interest and dividend income					101,002	101,264
Net gain (loss) on sale of investments					(443,970)	1,278,007
Excess of revenue over expenses, as annexed			1,000,930	988,009		
Total additions			1,000,930	988,009	(308,619)	2,134,759
Deductions:						
Excess of expenses over revenue, as annexed	309,129	210,339				
General administrative expenses					85,137	92,554
Past service contributions to CIRS (Note 6)					121,654	121,915
Total deductions	309,129	210,339			206,791	214,469
Transfer between funds:						
Financing of:						
1977 and 1976 General Fund deficits	180,423	547,710			(180,423)	(547,710)
Special Funds activities	(1,383)		143,510	552,279	(142,127)	(552,279)
Other		29,916	(15,912)	(29,916)	15,912	
Total transfers	179,040	577,626	127,598	522,363	(306,638)	(1,099,989)
Balance (deficit), end of year	(\$310,512)	(\$180,423)	\$5,582,525	\$4,453,997	\$45,033,133	\$45,855,181

The accompanying statement of significant accounting policies and notes are an integral part of these financial statements.

STATEMENT of SIGNIFICANT ACCOUNTING POLICIES

The Museum maintains its accounts principally on the accrual basis.

The land and buildings utilized by the Museum (most of which are owned by the City of New York), fixed assets (which are charged off at time of purchase), exhibits, collections and the Library are not reflected in the balance sheet.

To ensure observance of limitations and restrictions placed on the use of the resources available to the Museum, the accounts of the Museum are maintained in accordance with the principles of "fund accounting." This is the procedure by which resources for various purposes are classified for accounting and financial reporting purposes into funds that are in accordance with activities and objectives specified. Separate accounts are maintained for each fund; however, in the accompanying financial statements, funds that have similar characteristics have been combined into fund groups. Accordingly, all financial transactions have been recorded and reported by fund group.

Within current funds, fund balances restricted by outside sources or by the Board of Trustees are so indicated (Special Funds) and are segregated from the General Fund. These Special Funds may be utilized only in accordance with the purposes established for them as contrasted with the General Fund over which the Trustees retain full control to use in the general operation of the Museum.

Endowment Funds include (a) funds subject to restrictions established by the donor requiring that the original principal be invested in perpetuity, and (b) funds established by donors or Trustees (funds functioning as endowments) where the principal may be expended with the approval of the donor or the Trustees.

Income derived from investments of Endowment Funds is distributed to the current funds on a unit basis which reflects the ratio of the related funds invested in the pooled port-

folio at market value.

Investments are stated at cost or, if acquired by gift, at fair value at date of acquisition.

Museum Shop inventory is stated at the lower of cost (first-in, first-out method) or market.

Membership income is recognized as income ratably over the membership term and a portion of that income is allocated to the Natural History Magazine.

The Museum accrues and funds annually the normal cost of eligible employees participating in Cultural Institutions Retirement System ("CIRS") Pension Plan. The unfunded prior service cost, with interest, is being funded over 30 years ending in fiscal 2004.

NOTES to FINANCIAL STATEMENTS

1. Cost and market quotations of investments at June 30 are as follows:

General Fund
Special Funds
Endowment Funds

The Museum's investments consist of the following:

Short-term obligations
Bonds
Preferred stocks
Common stocks

2. The investment in bonds (\$570,000 principal amount) of the American Museum of Natural History Planetarium Authority is carried at cost. The financial statements of the Planetarium, which is operated under the supervision of the Museum, are annexed. Interest income of \$25,650 received from the Planetarium in the years ended June 30, 1978 and 1977 is included in interest income of the General Fund.
3. Included at June 30, 1978 in Special Funds (funds which are received or appropriated for specific purposes) are approximately \$2,400,000 in funds restricted by the donor as to use.
4. The balances at June 30, 1978 and 1977 of Special Funds are net of overdrafts of certain of these funds of approximately \$173,000 and \$188,000, respectively. These overdrafts represent expenditures in anticipation of transfers from Endowment and/or General Funds, receipt of gifts and grants, or the sale of property and equipment utilized by the Special Funds.

1978		1977	
Cost	Market	Cost	Market
\$ 4,093,552	\$ 4,007,939	\$ 3,523,075	\$ 3,544,566
4,304,255	4,213,474	3,456,251	3,477,335
45,051,433	47,037,331	45,444,255	48,411,929
<u>\$53,449,240</u>	<u>\$55,258,744</u>	<u>\$52,423,581</u>	<u>\$55,433,830</u>
\$ 8,462,750	\$ 8,462,665	\$ 6,127,209	\$ 6,122,929
16,668,357	16,175,457	16,608,242	17,161,543
		1,000,000	1,000,000
28,318,133	30,620,622	28,688,130	31,149,358
<u>\$53,449,240</u>	<u>\$55,258,744</u>	<u>\$52,423,581</u>	<u>\$55,433,830</u>

5. Endowment Funds (including funds functioning as Endowment Funds) are summarized as follows:

	June 30	
	1978	1977
Endowment Funds, income available for:		
Restricted purposes	\$20,566,232	\$20,984,990
Unrestricted purposes	7,595,628	7,796,952
Funds functioning as endowment, principal and income available for:		
Restricted purposes	5,000,992	5,131,293
Unrestricted purposes	11,870,281	11,941,946
	<u>\$45,033,133</u>	<u>\$45,855,181</u>

6. All eligible employees of the Museum are members of the CIRS Pension Plan. The costs of the CIRS plan charged to the current funds (including normal service cost and amortization of unfunded prior service cost over a twenty-year period) were \$528,000 in fiscal 1978 and \$618,000 in fiscal 1977. Pension costs for 1978 were reduced primarily due to a change in the actuarial interest rate assumption to better reflect actual experience of the invested assets of the CIRS plan.

7. In fiscal 1978 and 1977, grants

were received from the New York State Council on the Arts towards the support of the General Fund's Operations.

8. The Museum provides certain services, including accounting and maintenance services, for which the Planetarium was charged an aggregate amount of \$86,176 in fiscal 1978 and \$72,820 in fiscal 1977.

9. Certain amounts in the fiscal 1977 financial statements have been reclassified to conform with the fiscal 1978 presentation.

AUDITORS' REPORT

The Members of the American Museum of Natural History Planetarium Authority, New York, N.Y.:

We have examined the balance sheets of the AMERICAN MUSEUM of NATURAL HISTORY PLANETARIUM AUTHORITY as of June 30, 1978 and 1977 and the related statements of income and expenses and of changes in restricted funds and deficit for the years then ended. Our examinations were made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the aforementioned financial statements present fairly the financial position of the American Museum of Natural History Planetarium Authority at June 30, 1978 and 1977 and the results of its operations for the years then ended in conformity with generally accepted accounting principles applied on a consistent basis.

Coopers & Lybrand

1251 Avenue of the Americas
New York, New York 10020
September 21, 1978.

AMERICAN MUSEUM of NATURAL HISTORY PLANETARIUM AUTHORITY BALANCE SHEETS, June 30, 1978 and 1977

	1978	1977
ASSETS:		
Cash	\$ 8,985	\$ 7,185
Short-term investments	350,000	400,000
Accounts receivable	8,401	13,693
Inventory (publications and souvenirs)	30,555	27,608
	<u>397,941</u>	<u>448,486</u>
Equipment, fixtures, etc.:		
Zeiss planetarium instrument, at cost	221,928	221,928
Building improvements, at cost	235,617	109,800
	<u>457,545</u>	<u>331,728</u>
Less, Allowance for depreciation (Note 7)	<u>(128,924)</u>	<u>(99,744)</u>
	328,621	231,984
Furniture, fixtures and equipment	<u>1</u>	<u>1</u>
	328,622	231,985
Buildings, at cost	1,019,210	1,019,210
	<u>\$1,745,773</u>	<u>\$1,699,681</u>
LIABILITIES:		
Accounts payable	111,561	94,640
Accrued employee benefit costs	75,295	65,217
4½ % Refunding Serial Revenue bonds, past due (Note 1)	570,000	570,000
Accrued interest, past due	315,450	315,450
	<u>\$1,072,306</u>	<u>\$1,045,307</u>
CONTRIBUTED CAPITAL, RESTRICTED FUNDS and DEFICIT:		
Contributed capital:		
Charles Hayden	156,869	156,869
Charles Hayden Foundation	429,455	429,455
The Perkin Fund	400,000	400,000
	<u>986,324</u>	<u>986,324</u>
Restricted funds:		
Trust Agreement Fund	2,500	2,500
Billy Rose Foundation Fund		1,471
Guggenheim Foundation Fund (Note 2)	(9,621)	15,066
Other (Note 3)	448,477	409,553
Deficit, as annexed	<u>(754,213)</u>	<u>(760,540)</u>
	673,467	654,374
	<u>\$1,745,773</u>	<u>\$1,699,681</u>

The accompanying statement of significant accounting policies and notes are an integral part of these financial statements.

**STATEMENTS of INCOME
and EXPENSES for the years
ended June 30, 1978 and 1977**

	1978	1977
Income:		
Admission fees, less allowances and commissions	\$556,962	\$573,619
Auxiliary activity, sales booth	123,022	109,559
Special lectures and courses	40,992	40,794
Other income and grants	26,790	23,584
Total income	<u>747,766</u>	<u>747,556</u>
Expenses:		
Preparation, presentation and promotional	345,873	354,454
Operation and maintenance	162,677	176,580
Auxiliary activity, sales booth	93,957	88,545
Administrative and general	48,859	40,428
Pension and other social benefits (Note 4)	77,044	58,348
Total expenses	<u>728,410</u>	<u>718,355</u>
Income before interest and depreciation	19,356	29,201
Interest on past due 4½ % Refunding Serial Revenue bonds	(25,650)	(25,650)
Provision for depreciation	<u>(29,176)</u>	<u>(16,594)</u>
Loss from operations before support grant	(35,470)	(13,043)
Support grant (Note 6)	10,000	
Net loss	<u>(\$25,470)</u>	<u>(\$13,043)</u>

The accompanying statement of
significant accounting policies and
notes are an integral part of these
financial statements.

**STATEMENTS of CHANGES in
RESTRICTED FUNDS and DEFICIT
for the years ended
June 30, 1978 and 1977**

	Billy Rose Foundation Fund	Guggenheim Foundation Fund (Note 2)	Other (Note 3)	Deficit
Balance, June 30, 1976	\$ 98,570	\$19,624	\$241,650	(\$747,497)
Additions:				
Contributions	100,000	6,500	23,700	
Proceeds from special presentations			262,514	
Income from investments			17,679	
Expenditures:				
Special purpose programs and projects	(197,099)	(11,058)	(51,975)	
Special presentation expenses			(84,015)	
Net loss, as annexed				(13,043)
Balance, June 30, 1977	<u>1,471</u>	<u>15,066</u>	<u>409,553</u>	<u>(760,540)</u>
Additions:				
Contributions		6,500	50,250	
Proceeds from special presentations			210,584	
Income from investments			24,563	
Expenditures:				
Special purpose programs and projects	(1,471)	(31,187)	(104,631)	
Special presentation expenses			(110,045)	
Transfers between funds (Note 7)			(31,797)	31,797
Net loss, as annexed				(25,470)
Balance, June 30, 1978	<u><u>—</u></u>	<u><u>(\$ 9,621)</u></u>	<u><u>\$448,477</u></u>	<u><u>(\$754,213)</u></u>

STATEMENT of SIGNIFICANT ACCOUNTING POLICIES

The Planetarium's corporate charter terminates when all its liabilities, including bonds, have been paid in full or otherwise discharged. At that time, its personal property passes to the American Museum of Natural History and real property to the City of New York to be maintained and operated in the same manner as other city property occupied by the Museum. The land utilized by the Planetarium was donated by the City of New York.

The policy of the Planetarium is to capitalize only major plant additions and replacements of equipment, machinery and other items and to depreciate such items on the straight-line method over their useful lives. Fully depreciated assets are carried at nominal value. Because of the nature of the ownership of the property, provision for depreciation of the buildings is considered unnecessary.

Short-term investments are stated at cost, which approximates market value.

Inventories are stated at the lower of cost (first-in, first-out method) or market.

Fund balances restricted by outside sources or by the Management Board are so indicated (restricted funds). These restricted funds may only be utilized in accordance with the purposes established by the source of such funds.

The Planetarium and its employees participate in Cultural Institutions Retirement System (CIRS) Pension Plan. The Planetarium's policy is to fund pension expense accrued.

NOTES to FINANCIAL STATEMENTS

1. The Planetarium Authority bonds were purchased by the American Museum of Natural History ("Museum") in 1948. The Charles Hayden Foundation contributed \$200,000 to the Museum toward the purchase of such bonds.
2. In fiscal 1972 the Daniel and Florence Guggenheim Foundation contributed \$188,000 to establish and maintain a Space Theater at the Planetarium. In fiscal 1976 the Foundation pledged a contribution of \$51,350 to be paid over the next five years. Through June 30, 1978, \$34,350 has been received on this pledge.
3. The Management Board of the Planetarium has designated that the net income from special presentations be set aside in a board designated restricted fund to finance current and future improvements and renovations.
4. Pension expense for fiscal 1978 and 1977 was \$28,721 and \$30,805, respectively.
5. The Planetarium receives certain services, including accounting and maintenance services, from the Museum. The aggregate charges for such services in fiscal 1978 and 1977 aggregated \$86,176 and \$72,820, respectively.
6. In fiscal 1978, a grant was received from the New York State Council on the Arts for the purpose of funding the operating deficit.
7. Depreciation on major plant additions and replacements which have been financed from cash generated by restricted funds is being funded by transfers from restricted funds.

AMERICAN MUSEUM OF NATURAL HISTORY

1977-1978

OFFICERS

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Robert G. Goelet

PRESIDENT EMERITUS

Gardner D. Stout

VICE PRESIDENTS

William T. Golden
Mrs. Constantine Sidamon-Eristoff
David D. Ryus

TREASURER

Frederick A. Klingenstein

SECRETARY

L. F. Boker Doyle



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Department of Parks and Recreation
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(GIFTS OF \$500 AND OVER) CASH AND SECURITIES.**

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CORPORATE FOUNDATIONS**

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Ogilvy & Mather, Inc.
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BANKING

American Bank Note Company
Astoria Federal Savings & Loan
Association
Bankers Trust Company
The Bank of New York
The Bowers Savings Bank
The Chase Manhattan Bank of North
America
Chemical Bank
Citibank
Dime Savings Bank of New York
East River Savings Bank
Franklin Savings Bank of New York
Greenwich Savings Bank
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Irving One Wall Street Foundation
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Morgan Guaranty Trust Company of New
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The Continental Group, Inc.
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Sterling Drug Inc.
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Marathon Oil Foundation, Inc.
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primitive art
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of rare marine shells
Estate of Henrietta Bohler—A rock crystal
box set with diamonds and sapphires
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Joseph Dollinger—6 faceted Jermejevites
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of color slides photographed in many
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Richard Goodwin, executor of estate of
Mrs. Carl Akeley—Notebooks, pictures
and other memorabilia of the late
Carl Akeley
Leila B. Grauert—One 221-carat,
emerald-cut topaz of deep blue color
William H. Howe—1203 specimens of
assorted Lepidoptera
Leon Juster—Several thousand plastic
boxes
Fred C. Kennedy—7 esthetic display
mineral specimens
N.L.H. Krauss—6091 specimens of
miscellaneous insects and spiders
Carl Krotki—A specimen of almandine
garnets on matrix
Frederick E. Landmann—33 archeological
items, including 22 ceramic vessels,
silver goblets, ear spoons and
miscellaneous objects of wood, gourd
and basketry
Michael Lerner—A set of reprints of the
Lerner Marine Laboratory and twelve
Adamson manuscripts
Mrs. George Lindsay—17 volumes of
DeKay's "Natural History of New York"
Estate of Mrs. Paul Manship—A bronze
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Paul Manship
Gertrude Marks—One carved skull rack
from the Papuan Gulf
Bryant Mather—7418 specimens of
assorted Lepidoptera
Gabriel Mayorga—An ATC-510B Flight
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Mr. & Mrs. Henry M. Minton—One
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journals
Frank W. Preston—35 acres of land in
Portal, Arizona, to be known as the
Anderson Addition
Frederick H. Rindge—3237 specimens of
assorted Lepidoptera
Joe Schuh—4051 specimens of
Hymenoptera and Odonata and 4200
specimens of American Hemiptera
Stephen L. Singer—A collection of 92
snuff bottles
Leo F. Stornelli—12 assorted gemstones
Saul Tuttmann—One fragmentary and 43
complete rings of silver and copper
alloy and the cloth pouch in which they
were found, from Batón Grande, Peru
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1920's and 1930's, taken by de Ganahl
in the Near East, Far East and
Antarctica

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