





107th ANNUAL REPORT / JULY 1975, THROUGH JUNE 1976
**AMERICAN
MUSEUM OF
NATURAL
HISTORY**

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**ONE-HUNDRED-AND-SEVENTH 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**

This first year of my service as President of the Museum has been one of constant interest and fascination. While I did come to the position with a fair background of experience and a considerable awareness of the Museum and its role, earned in part as a Trustee, I have spent much of this inaugural year increasing my familiarity with its organization, its personnel, its programs and its administration, fiscal and otherwise. The results have been most rewarding in preparing me to meet my responsibilities.

It has been especially gratifying to preside over the opening of two new permanent exhibition areas, the Hall of Mollusks and Mankind and the three halls that comprise the Section of Meteorites, Minerals and Gems: namely, the Arthur Ross Hall of Meteorites, the Harry Frank Guggenheim Hall of Minerals and the Morgan Memorial Hall of Gems. These exhibition areas, covered more extensively in other parts of this report, are truly beautiful and remarkable products of the Museum's scientific, educational, design and artistic talents. All were planned for and constructed during the seven-year tenure of my predecessor, President Gardner D. Stout. Everyone associated with the Museum—Trustees, staff, members and visitors—owes him a tremendous debt of gratitude for his unremitting labors during his Presidency. They owe likewise their thanks to Clare Stout for the grace and charm she added to her husband's office. The achievements of Gardner Stout on behalf of the Museum are many, and they comprise a lasting tribute to his abilities and contributions. The very substantial addition to the endowment that resulted from the Centennial drive he directed is a monument in itself.

One of the Museum's most unusual and popular temporary exhibitions, the imaginatively-named "This Exhibit in Preparation," opened in October with live demonstrations of how the Museum creates such marvels as a leaf, a dinosaur bone, a diorama, a hall. Everyone likes to be taken "behind the scenes," and this beautifully conceived exhibition does just that. The Arthur Ross Foundation supported several interesting Exhibits of the Month, notably "It Only Takes One," exploring the subject of parthenogenesis (reproduction without males) in lizards and other animals; "Trout Flies," saluting the centuries-old anglers' art of artificial fly-tying, and "Return to the Kuikuru: an Ethnologist in the Field," showing how a trained anthropologist does fieldwork. "The World in a Hat" was a delightful multi-media exhibit fancifully relating how hats are used by people the world over to reflect their positions in life.

Despite the significant accomplishments of recent years, there remains much to be done in the Museum, and I am pleased to say that we are making important progress in several major directions. The Hall of the Sun in the Perkin Wing of the Planetarium is nearing completion, and will open in November, 1976; its construction was financed generously by the Billy

Rose Foundation. And progress is accelerating toward the completion of the Hall of Reptiles and Amphibians and the Hall of Peoples of Asia. Both halls represent extremely difficult and complex problems of design, exhibit preparation and installation, because of the near-monumental scope of knowledge and teaching that they cover. Openings in 1978 and 1979 respectively are anticipated.

We began this year to realize our plans for major redirection of the Department of Mineral Sciences, capitalizing in part on the amazing success of the exhibit section in that field which was opened in May. Much of the credit for our accomplishments in this objective we owe to Trustee Plato Malozemoff, who gave his wholehearted support to the concept and who influenced several corporations, notably those in the nonferrous mineral industry, to commit support for the new department for the next four years.

In the Department of Anthropology, we recognize a responsibility to plan for and provide more adequate conditions and facilities for the preservation and storage of its collections, rare and scientifically valuable archeological and ethnological material. It is imperative that these tens of thousands of objects, many irreplaceable at any cost, be housed in circumstances which will afford them maximum security while providing ready access to them for study and research. Funds for this purpose, for the renovation and air-conditioning of the Auditorium, for renovating the floor of the Hall of Ocean Life and for other much-needed improvements, are being sought actively.

This year again the Museum has derived substantial benefits from the unstinting labors of its many volunteers. Some staff the information desks, others help in the scientific departments and others participate in the work of the Department of Education. The Men's Committee, chaired by Daniel Ward Seitz, and the Women's Committee, chaired by Mrs. Carl C. Ulstrup and co-chaired by Mrs. John V. Lindsay and Mrs. Frederic G. Cammann, have been exceptionally active. They staged two special events which were effective in publicizing the Museum and in raising sorely-needed funds. The Treasure Hunt in March was a delightful way to introduce the Museum and its treasures to the many "first-timers" who attended. The "Twenty-four Carat Evening" benefit held on May 20 to mark the opening of the Section of Meteorites, Minerals and Gems was a great success both socially and financially. Over 700 persons attended the black-tie affair.

The unflagging efforts of this year's Corporate Campaign Committee again brought many rewards to the Museum. Contributions were increased by more than 50 percent compared to the previous year. Perhaps more importantly for our future, we extended our hospitality and demonstrated our work and accomplishments to hundreds of leaders in the industrial and commercial world. The value of such

To mark the retirement of Museum President Gardner D. Stout in November, the Trustees presented him with his portrait by artist Julian Barrow. The presentation was made by Mrs. Francis H. Low, Trustee, left, and Mrs. Constantine Sidamon-Eristoff, Museum Vice-President, at the gala dinner honoring Mr. and Mrs. Stout.



exposure of the Museum to this audience is apparent: we added 80 new corporate donors to our support base, and 30 percent of our past contributors generously increased the level of their annual support in response to our presentation. Major credit for this encouraging response must be given to Trustee Joseph F. Cullman 3rd, Chairman of the corporate campaign, and to his 50 vice-chairmen. We are honored that William F. May, Chairman of American Can Company has accepted the chairmanship of next year's campaign, and has set an even higher goal for his committee.

During the year two new Trustees were elected to the Board: Plato Malozemoff, President of Newmont Mining Corporation, and Frederick Seitz, President of Rockefeller University. Sylvan C. Coleman was elected an honorary Trustee. Gardner D. Stout was elected President Emeritus and an honorary Trustee.

Friends and colleagues were deeply saddened by the death on August 1, 1976, of Richard Archbold, President of Archbold Expeditions and founder and Resident Director of the Archbold Biological Station, a Museum field station in Lake Placid, Florida. In Mr. Archbold, the Museum has lost a devoted and generous friend and benefactor. His legacy to the hundreds of scientists and students who will pursue their

research at the Station in the coming years is a lasting tribute to his lifelong interest in encouraging the study of the natural world. We are pleased that Mr. Archbold's sister, Mrs. Frances A. Hufty, was elected President of Archbold Expeditions by its Board of Directors, to succeed her brother. Museum Director Thomas D. Nicholson and the Resident Director of the Station, James N. Layne, continue to serve as Directors.

My long-held conviction that The American Museum is forward-looking and creative has certainly been upheld during my first year as President. I have learned much, and I know my instruction is not yet complete. The complexities and variations in the subject matter with which a museum president must deal every working day I have long since accepted as limitless. The job is composed of equal parts of elation and frustration. But it is one which I accepted with great anticipation, and one which, with the continued support of the Board of Trustees and the staff, I know can be carried out effectively.

Robert G Goelet

Robert G. Goelet, *President*

REPORT OF THE DIRECTOR

A recently-completed study conducted at the Museum gives us, for the first time in our history, a detailed profile of visitors to our institution, their demographic characteristics, their attitudes toward the Museum and their opinions of our facilities and practices. The study tells us, for example, that a majority of our visitors come from outside New York City, visit us on weekends and holidays, are under 30 years of age, have household incomes in excess of \$15,000 annually, spend more than \$2.66 on admission and other expenses in the Museum, remain in the Museum longer than two hours and visit more than six exhibition halls. It also tells us that 90 percent of our school-class visitors come from sixth grade or lower classes of the public schools, three-fourths from New York City and two-thirds arriving by school or chartered buses.

We also find that, although blacks and Spanish-Americans are under-represented among adult visitors, we reach a significantly greater proportion of the black and Spanish-American population in our community through their school children.

The study, *A Profile of Consumer Use and Evaluation of The American Museum of Natural History*, was

funded by the New York State Council on the Arts to assist the Museum in better identifying its audience and its effectiveness. The Museum commissioned the National Research Center on the Arts, Inc., an affiliate of Louis Harris and Associates, Inc., to plan the study and to assist in conducting it and in evaluating its results. The survey of visitors on which the study is based was carried out in a twelve-month period ending in July, 1975, and involved the participation of a visitor sample sufficiently large (15,628 individuals and 636 school groups) to be representative not only of our constituency but of variations that might occur among subsets of visitors. Data were taken on a carefully selected 103 days during the year, with every effort to avoid a bias among the visitors of age 16 and up chosen to participate. The survey was administered in the Museum by volunteers who were chosen, trained and supervised by our professional consultants.

Among the more significant findings of the study are those confirming that The American Museum of Natural History serves a very diverse audience indeed. Through its doors in one year pass significant numbers of young and old people from every state and all



The world-renowned psychiatrist, author and humanist, Karl A. Menninger, left, paid a visit to the Museum with Mrs. Menninger in November. Museum Director Thomas D. Nicholson was on hand to greet them.

parts of the world, of varied racial and ethnic backgrounds, whose views, educational levels and occupations also vary widely. A majority do not live in New York City. Three in five visitors come from outside the City, two in five from outside New York State and one in five from outside the New York commuting area. The image of the Museum as an important attraction for City visitors is particularly enhanced by other facts emerging from the study. On weekdays, when visitors might have more freedom than working residents, 50 percent of our audience comes from outside the state and one in three comes from outside the commuting radius; among first-time visitors, two-thirds are from outside New York State and half live beyond the commuting radius, and visitors from distant areas increase to one in four during summer months compared to one in eight during the winter. During the year ending July, 1975, very nearly one million persons traveled from the suburbs to visit The American Museum; another half million tourists and visitors from other states and foreign nations included a trip to the Museum as part of their activities while in New York.

With respect to school groups served by the Museum a similar picture of broad distribution emerges, especially within the City of New York. As might be expected, most school groups (99 percent) come to the Museum from within our commuting area. Three-fourths come from schools in New York City, but widely distributed throughout its boroughs, roughly in proportion to borough populations. Queens, Brooklyn and the Bronx each send twice as many school classes to the Museum as does Manhattan! While classes from New York City are predominantly from public elementary schools and are broadly representative of the City's population, a somewhat different picture emerges from school classes coming from our suburbs. Although they comprise only 25 percent of our school visitors, they represent almost half of our classes from private schools and from schools with predominantly white populations; they visit us mostly in spring months.

The survey shows that the Museum is not reaching black and Spanish-American adult residents of the City in proportion to their population, but this is not true of school groups. On the average, 33 percent of those visiting us in school-class groups are black and 23 percent are Spanish-American, even though the total profile is influenced by the 76 percent white population coming to us in suburban school classes. On the other hand, Spanish-American children make up nearly half (46 percent) of the classes visiting from the Bronx and Manhattan, while black students are a clear plurality (45 percent) of classes from Brooklyn and Staten Island. This relatively high proportion of Spanish-American and black children in our visiting school groups should strongly influence the proportion of adult visitors with such ethnic or racial backgrounds in the future, if early cultural experiences have an influence on later participation. It should also suggest

to school authorities the potentially serious consequences on cultural patterns in our community of school administrative changes that reduce the opportunities for school classes to visit museums and other culturally enriching agencies.

The detailed picture that emerged from this survey contains an enormous amount of information that will be of great value in future planning. We learned, for example, that Monday appears to be the most important visiting day for out-of-town tourists, if we can judge by the proportion of their attendance on different days. We learned also that one in ten of our visitors is a Museum member, but of those adults classified as frequent visitors, one in three is a member. The study tells us that our visitors are significantly younger than the population average in the New York area and in the United States as a whole, younger also than those who visit art museums; that a majority of our visitors are married, do not have children under sixteen years of age, are college graduates, and come to the Museum in the company of one or more other persons (only thirteen percent come alone!). Survey results confirm that our parking facility is inadequate for our visitors' needs, but that it is an important service for visiting school groups. We learned that the Museum visit is relatively inexpensive for groups that come from City schools, which pay a median of less than \$4 for group transportation, but surprisingly expensive for school groups from the suburbs, for whom the median group transportation cost exceeds \$75. The survey confirmed our judgment that we needed a new and larger sales shop to serve visiting school groups; a majority of the groups rated our then-existing shop as less than good. Fortunately, another one was already in planning. And we found clear evidence that group leaders consider the school class visit to be a rewarding educational experience for their children, but that we may not be conveying this fact effectively to schools and teachers not already familiar with our programs and opportunities.

Equally important to our decisions regarding services, facilities and programs is the information we obtained on the attitudes, opinions and visiting habits of our constituents. One of the more important questions that had disturbed us in recent years was the effect of our new visitor admissions policy. Some five years ago, we changed our practice of allowing free and unrestricted admission to the Museum in favor of requiring a mandatory admission contribution, although discretionary in amount. The survey gave us our first opportunity to sample visitor reactions to the introduction of an admission fee and to the manner that we chose for administering it. According to the study, four in five visitors do not object to being asked for an admission payment, four in five indicate the payment of an admission fee is not a deterrent to the frequency of their visiting the Museum, and three in four prefer the Museum's discretionary contribution policy to a fixed admission fee. Even among foreign

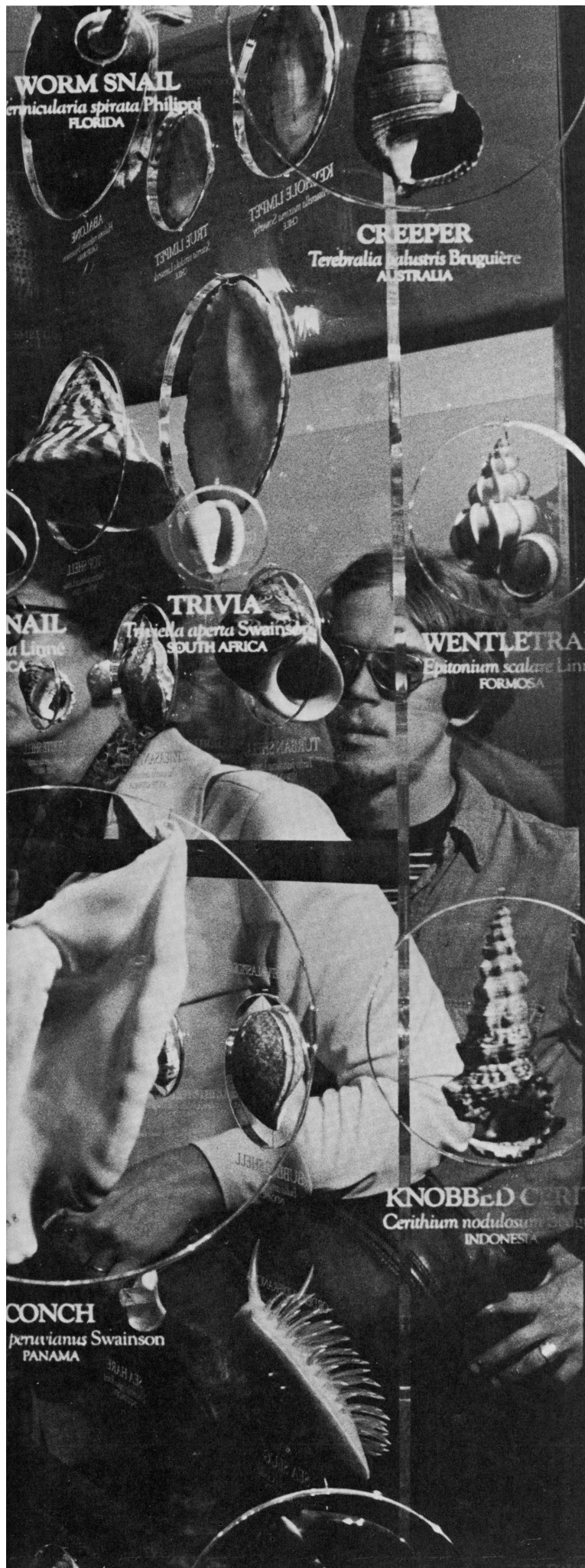
visitors, more accustomed to finding fixed admission requirements in their museums, our discretionary policy was favored by three in five. These and other attitudes emerging in the study confirm that the great majority of visitors, in every group that we sampled—by age, income level, racial and ethnic background, educational level and place of residence—did not consider a Museum visit to be very expensive and did not consider the costs related thereto, including the admission payment, to be a significant barrier in their coming to the Museum.

Visitor reaction to the Museum's admission payment policy may be related somewhat to their perceptions of the Museum as an institution, to its need for funds and the sources of those funds. These perceptions, in relation to reality, should also be important in guiding our publicity and promotional activities. Most visitors, according to the study, recognize the Museum's needs for financial support and favor a combination of private and government sources from which it should come. More than nine in ten visitors recognize that the Museum must supplement its earned income from other sources: two in three identified donations from individuals and from business corporations as appropriate sources of supplementary support and four in five felt that one or more levels of government support was appropriate. Only one percent of the visitors surveyed felt that, in the face of a need for more funds, the Museum should curtail operations! But among the disturbing factors was the opinion held by one in three of our visitors, and even by one in five of our visiting members, that the Museum was a government institution as opposed to a private organization. This suggests an area in which appropriate publicity and promotion could be effective in generating a more supportive public constituency.

The study has also shown that our visitors are aware of the Museum's varied activities and contributions to society and do not by any means narrowly conceive of us as an exhibition center or a local community center. Almost everyone surveyed recognized the Museum to be an educational institution as well as an exhibition center, and nine in ten visitors identified it as a research institution, a cultural center and an environmental study center. Only one visitor in three, including those who live in the Museum's neighborhood, would describe us as serving the role of a community center.

While they are in the Museum, three in ten Museum visitors use our Cafeteria; one in five attends a lecture, performance or film; three in ten plan to visit the Planetarium; about half visit specific galleries they want to see while the others simply wander around; two in three find that our floor plans and wall maps make it easy to get around, and two in three visit Tyrannosaurus Rex (and we have comparable figures for most other popular displays). We know also a great deal about our visitors' opinions of what they see and do, some good, some not so good. At least





Examples of the dazzling variety in the world's mollusks are on display in the new Hall of Mollusks and Mankind, one of the Museum's most esthetically-pleasing new permanent exhibitions.

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nine in ten visitors consider our exhibits well-displayed and helpful, the Museum to be clean, tidy and not too crowded. At least two in three find our guards pleasant and helpful, consider our signs and labels to be adequate and do not find it too noisy to enjoy the visit. But it is still disturbing that two in five visitors find the light level too low in some galleries, one in four weekday visitors (when school groups are in the Museum) find the noise level too high, two in three are uncomfortably warm in summer and one in three in winter. One in three also observes that there is not enough staff available to give them information they need during their visit. In general, however, we are pleased that all but a minority (six percent) of our visitors find that the Museum meets or exceeds their expectations, despite dissatisfaction with some things.

Any study such as this is only as good as the survey tools and methods used in obtaining its data. Our decision to obtain data from a relatively large sample of the museum-going audience, immensely important in allowing us to interpret the data in so many more ways of statistical significance, dictated our choice of using the questionnaire tool rather than the conducted interview, as has been used in most similar studies of recent years in large museums. Our sample of visitors is ten times larger in relative terms than other such studies, thus permitting us to seek and find many relationships that could not be identified to any degree of confidence in a smaller sample. Such a study as this required not only the careful professional planning and supervision of the National Research Center of the Arts, but also the very generous and skillful assistance of the hundreds of volunteers who worked with us on the project.

The real value of such a study lies in how the data are used, on the effect they have on our policies, on our planning for the future, on the perception of the Museum visitor and how that perception affects our work and practices. For this reason, it is important that the results of the study be promulgated as broadly as possible among our employees, Trustees and others. The full text of the study and all its data will be available in published form, and an abstracted version of its more significant data and findings will be published in *Curator*, our journal for the museum profession. It is also important that we plan and carry out follow-up studies, not necessarily as complete and not necessarily every year. But it will be important to test the data periodically, to observe the effects of changes in us and in our visitors, to broaden our knowledge in areas we may have overlooked. The experience of the study completed this year will be invaluable in helping us to do so.

Thomas D. Nicholson

Thomas D. Nicholson, *Director*

REVIEW OF THE YEAR 1975-1976

During the year, the following distinctions and honors were given to members of the staff:

Department of Animal Behavior: Peter Moller was elected President of the New York Entomological Society. Rae Silver was elected to the Hunter College (City University of New York) chapter of Psi Chi, the national honorary society in psychology. Carol Ann Simon received a Theodore Roosevelt Memorial Award and Sigma Xi Research Award.

Department of Anthropology: E. Craig Morris was elected Secretary of the Institute of Andean Research. Margaret Mead was voted Woman of the Year in Science and Research by *Ladies Home Journal* Magazine. Bettie Erda received the 1976 Puppeteers Citation Award for her work on the exhibition, "Puppets: Dance and Drama of the Orient."

Department of Entomology: Pedro Wygodzinsky was elected a Corresponding Member of the Brazilian Academy of Sciences.

Department of Fossil and Living Invertebrates: Dorothy E. Bliss was elected President-elect of the American Society of Zoologists.

Department of Ornithology: Wesley E. Lanyon was elected Vice-President of the American Ornithologists' Union. Dean Amadon was elected an Honorary Member of the Linnaean Society of New York. Lester L. Short was elected a Research Associate of the National Museums of Kenya. François Vuilleumier was elected a member of the Société de Biogéographie of France. Walter J. Bock was given the 1975 American Ornithologists' Union Coues Award. The American Physiological Society's annual award for research was given to Jared M. Diamond, who was named Bowditch Lecturer for 1976. Robert W. Dickerman was appointed a Research Fellow of the New York Zoological Society.

Department of Vertebrate Paleontology: Malcolm C. McKenna was elected President of the Society of Vertebrate Paleontology.

Archbold Biological Station: James N. Layne received the first C. Hart Merriam Award from the American Society of Mammalogists.

Staff appointments and promotions are listed below, including those effective July 1, 1976:

Department of Animal Behavior: Jon C. Cooper and Betty L. Faber were appointed Associates.

Department of Anthropology: David Hurst Thomas was appointed Chairman and Assistant Curator, Ian

Tattersall was promoted to Associate Curator, and Gertrude E. Dole and Ruth S. Freed were appointed Research Associates.

Department of Astronomy: Yuen F. Ng was promoted to Chief Technician, Allen Seltzer was promoted to Education Coordinator and Thomas A. Lesser was promoted to Senior Lecturer.

Department of Entomology: Marjorie Statham Favreau was appointed Scientific Assistant Emeritus and Herman Lent was appointed Research Associate.

Department of Herpetology: Martha L. Crump was appointed Research Associate.

Department of Ichthyology: Gareth Nelson was promoted to Curator and Willard Brownell was appointed Field Associate.

Department of Mammalogy: Guy G. Musser was promoted to Archbold Curator and Howard J. Stains was appointed Research Associate. Before his death on June 9, Hobart M. Van Deusen was appointed Archbold Curator Emeritus.

Department of Mineral Sciences: Martin Prinz was appointed Chairman and Curator and C. E. Nehru was appointed Research Associate.

Department of Ornithology: William H. Phelps, Jr., was appointed Research Associate and Gardner D. Stout was appointed Field Associate.

Department of Vertebrate Paleontology: Richard H. Tedford was appointed Chairman and Curator and Theodore Galusha was appointed Frick Curator Emeritus. Annlinn Kruger was promoted to Scientific Assistant, Eric Delson was appointed Research Associate and John Wahlert was appointed Associate.

Department of Education: C. Bruce Hunter was promoted to Assistant Chairman and Marjorie M. Ransom was promoted to Coordinator of School Programs.

Department of Exhibition and Graphics: Henry Gardiner was promoted to Exhibit Design Chief and Eugene B. Bergmann was promoted to Exhibit Designer.

Library: Pamela B. Haas was appointed Reference Librarian and Ronald Wilkinson was appointed Associate in Bibliography.

Natural History Magazine: Roberta Goldman was appointed Membership Secretary.



The Alvin Ailey Repertory Workshop gave a free public performance at the Museum in May under the auspices of the Department of Education. The department has recently been enlarging the scope of Museum presentations to include live dance and other performances not ordinarily offered in a natural history museum setting.

Department of Development and Public Affairs: Ann Breen was promoted to Manager of the new department. Cheryl A. Schmidt was appointed Assistant Guest Services Coordinator and Ellen M. Stancs was appointed Travel Assistant.

Building Services: Robert B. Hill, Philip C. Miller and Albert C. Potenza were promoted to Associate Managers. Peter F. Clarke, Sankar Gokool, Franklin W. Hoffman, Frank P. Masavage and Joseph W. O'Neill were promoted to Assistant Managers. Barbara A. Armond and John J. Othmer were promoted to Supervising Museum Attendant-Guards.

Museum Shops: Corinne Sternlieb was appointed Assistant Manager.

Office of the Controller: William H. Humber was promoted to Assistant to the Controller.

Personnel: Jean T. Ward was appointed Personnel Assistant.

Friends of Hobart M. Van Deusen, Archbold Curator Emeritus in the Department of Mammalogy,

were saddened by his death on June 9. Mr. Van Deusen, who retired from the Museum staff in 1975, was an active participant in several Archbold Expeditions, which over the past three decades have garnered for the Museum the world's finest collection of mammals from New Guinea, as well as rare and important specimens from Australia. Active in many scientific organizations, Mr. Van Deusen was both a director and a past President of the Explorers Club.

Brooks F. Ellis, Curator Emeritus in the Department of Fossil and Living Invertebrates, died July 11, 1976. When he retired in 1967, Dr. Ellis was Chairman and Curator of the Department of Micropaleontology, as it was then called. He was one of the world's foremost authorities on Foraminifera, single-celled organisms that are important economically because they are used to determine the subsurface structure in the search for petroleum deposits.

On August 1, 1976, Richard Archbold died at the Archbold Biological Station, Lake Placid, Florida, his home since its founding by him in 1941. Mr. Archbold's many contributions to the Museum in his lifetime will continue through Archbold Expeditions, which supports some of the work in the Department of Mammalogy and virtually the entire operation of the Archbold Biological Station.

SCIENCE, EDUCATION AND EXHIBITION

An important program this past year has been the revitalization of one of the major fields of natural history at the Museum: mineral sciences. The department whose responsibility it is to carry out research in mineralogy and meteoritics has a new name, a new chairman and curator, new temporary quarters and a new research orientation. In addition, a major new exhibition section, housing portions of our outstanding collections of minerals, gems and meteorites, opened in May.

The resurgence in our mineral sciences program is a story which offers insights into the complicated interplay of forces enabling the Museum to function as a dynamic cultural, educational and research institution. Initial planning for the new department began over two years ago when an advisory committee, composed of eminent geologists and mineralogists, assisted the Administration in developing a proposed program for the Department of Mineralogy, as it was then called. The committee acknowledged the outstanding scientific, esthetic and educational value of our collections. More importantly, it reaffirmed the importance of basic research in mineral sciences to the future welfare of human society.

The renewed commitment to strengthen mineral sciences at the Museum resulted in a nationwide search for a departmental chairman; it culminated in the appointment of Martin Prinz, an established

leader in the fields of meteoritics and lunar geology. Dr. Prinz's research interests also include the mineralogy and petrology of igneous rocks, as well as their major and trace-element chemistry; abundance geochemistry; volcanological processes, and the nature and composition of the earth's upper mantle. His interests will be balanced by those of a new assistant curator of mineralogy and crystallography.

Finding office and laboratory space for the new and expanded staff was high on the Museum's list for the department. A team of carpenters, painters, plumbers and electricians soon had temporary quarters ready on the third floor, where research can be carried out until permanent laboratories are constructed. A generous contribution from a private foundation, the Esther A. & Joseph Klingenstein Fund, Inc., and a grant from the National Aeronautics and Space Administration will provide funds for the purchase of an electron microprobe, an instrument that will make possible the precise characterization and interpretation of mineral and meteorite samples.

The staff is responsible for a vast assemblage of minerals and meteorites meticulously collected by generations of donors and scientists. From the research point of view, it is one of the most significant collections in the world, totalling 85,000 specimens that include 60,000 minerals and gems, 20,000 rocks and 4500 meteorites. These collections are the de-



Museum President Robert G. Goelet, center, and D. Vincent Manson, scientific consultant for the Section of Meteorites, Minerals and Gems, enjoy the enthusiasm of Mrs. Aristotle Onassis for the heart-shaped topaz Mr. Goelet has placed in her hand. Brilliant gems were the stars of the evening for the hundreds who attended the "Twenty-four Carat Evening" on May 20.

Top: Museum visitors view the largest single specimen in the Section of Meteorites, Minerals and Gems: a magnificent four-and-one-half-ton block of copper ore from Arizona. Bottom left: Former New York State Special Prosecutor Maurice H. Nadjari, left, chats with Mrs. Carl C. Ulstrup,

Chairwoman, Women's Committee, and Charles A. Weaver, Jr., Deputy Director for Administration, during a preview of the section. Bottom right: At the same preview, Actress Mildred Natwick admires a smoky quartz specimen with Malcolm Arth, Chairman of the Department of Education.



partment's *raison d'être*, forming the basis of research efforts on the earth's processes and the evolution of the solar system.

The last part of this story actually began years ago with the decision to replace the old and venerable Morgan Memorial Hall of Minerals and Gems. The final result of that decision came with the opening of the new Section of Meteorites, Minerals and Gems, a magnificent example of what can be accomplished by the dedication, inspiration, cooperation and hard work of professionals both within and outside of the Museum. The success and appeal of this spectacular exhibition area is largely the result of a skillful blending of the scientific expertise of D. Vincent Manson, the department's Consultant; the artistic and design talents of Fred B. Bookhardt, Jr., of the architectural firm of William F. Pedersen & Associates; the innovative educational approaches of Christopher J. Schuberth of the Department of Education, and the special skills of a host of Museum employees. Composed of three halls—the Harry Frank Guggenheim Hall of Minerals, the Morgan Memorial Hall of Gems and the Arthur Ross Hall of Meteorites—the section is an esthetic and scholarly inspiration to all visitors.

Although rekindling interest in mineral sciences is perhaps the single most noteworthy program this year, there were numerous other activities and advancements in research, exhibition and education. In fact, a list of all major achievements would occupy too much space to be included here. A new, permanent Hall of Mollusks and Mankind opened in December, the result of the coordinated efforts of the Departments of Anthropology, Fossil and Living Invertebrates, and Exhibition and Graphics. It represents the marriage of elegant design with an interdisciplinary approach to mollusks that covers the roles they play in the art, religion and daily life of peoples around the world. "This Exhibit in Preparation," a temporary exhibit in Gallery 77, provides the visitor with a behind-the-scenes look at the actual operation of the Department of Exhibition and Graphics; it includes live demonstrations of how the Museum's world-renowned exhibits are created.

In the scientific realm, Richard H. Tedford, an authority on fossil marsupials, was appointed Chairman of the Department of Vertebrate Paleontology. His predecessor, Bobb Schaeffer, will continue at the Museum as Curator, pursuing his research on fossil fishes. David Hurst Thomas, a specialist in North American archeology, was appointed Chairman of the Department of Anthropology. He succeeds Stanley A. Freed, a well-known ethnologist who remains on staff as Curator. The chairs of these departments were changed in keeping with the policy of rotating chairmanships in the scientific departments.

During the year, the Museum's scientists participated in 400 research projects and had over 200 scientific papers published, an indication of the great

activity of an illustrious scientific staff.

The programs of the Department of Education were again wide-ranging. They included 22 teachers' courses with a total enrollment of 700, evening school courses for 2500 persons, weekly free gallery talks, slide lectures and film presentations, and a number of activities designed to attract new audiences and to provide special services for African-American and Caribbean groups.

Jerome G. Rozen, Jr.,
Deputy Director for Research

DEPARTMENT OF ANIMAL BEHAVIOR

For years it has been known that the genetic constitution of an individual or species affects behavior, but how this occurs remains one of the major unanswered questions in biology. Ethel Tobach and Lee Ehrman are attempting to gain insight into this question by studying the behavioral characteristics of two inbred strains of rats and correlating them with changes in the animals' physiological and biochemical processes, which are genetically determined.

Most schools of fish remain together because each individual maintains a fixed visual distance from neighboring individuals. Peter Moller has discovered that when vision in fishes is severely restricted—for example, in the elephant fishes of Africa, which live in murky waters—they use weak electric discharges to maintain their distance from one another.

Male Ring Doves as well as female Ring Doves incubate the nest; they take turns by following a strict schedule during which the males sit in the middle of the day and the females sit from late in the afternoon until mid-morning the next day. According to Rae Silver, this remarkable regularity is controlled by a system of internal "biological clocks;" she is now attempting to find out how the clocks develop their different "settings."

One of the major drawbacks in studying the unique behavior of predatory army ants has been the difficulty of keeping colonies alive in captivity. Howard R. Topoff has now successfully maintained a species at the Southwestern Research Station and has learned that the amount and location of food is extremely important in influencing the frequency, direction and distance of army ant emigrations.

William N. Tavalga continued his research on echolocation in catfishes; H. Philip Zeigler, his studies on feeding behavior in pigeons; Carol Ann Simon, her field investigations of social behavior in lizards; Carl J. Berg, his analysis of boring behavior in predatory marine snails; and Lester R. Aronson and Madeline L. Cooper, their investigations of hypersexuality in cats. Betty L. Faber studied territoriality in wild roaches.

The staff also supervised the work of five postdoctoral trainees, 30 graduate students (of which 24 were

Ph.D. degree candidates), 21 undergraduate students and eleven high school students. Fifteen seminars presented by visiting investigators were arranged for the benefit of both students and staff.

Lester R. Aronson, *Chairman*

DEPARTMENT OF ANTHROPOLOGY

The department had a productive year, particularly in publishing. The six curators had more than 900 pages of material published; the curators emeritus and research associates were equally prolific. The books and articles which appeared concerned such subjects as urbanization, ethnicity, cultural evolution, the biology of non-human primates, and the uses of statistics in anthropological analysis.

Stanley A. Freed continued his work on urbanization in a North Indian village and his study of the careers of male and female anthropologists. Robert L. Carneiro spent four months doing a follow-up field study of the Kuikuru Indians of central Brazil, whom he first visited in 1953-54. E. Craig Morris examined the nature and functions of Huánuco Pampa, one of the largest cities of the Inca empire. Enid Schildkrout pursued her study of the changing economic roles of children in West Africa. Ian Tattersall continued his long-term work on lemurs and also his effort to apply cladistic analysis to human phylogeny. David Hurst Thomas continued his excavations of early Indian

sites in Nevada and on St. Catherine's Island, Georgia, which is believed to have the oldest burial mound complex in the southeastern United States.

Junius B. Bird continued his archeological research in Panama, and Gordon F. Ekholm, his study of the lotus motif in India and Mesoamerica, a topic which may throw light on early trans-oceanic contacts between the two regions. Margaret Mead made her seventh return visit to the Manus people of Papua New Guinea and continued her research on a new theory of the dual origin of science. Harry L. Shapiro continued his study of the Point Hope skeletal series, and Walter A. Fairervis returned to Pakistan for a third season of fieldwork on the Harappan civilization. Rhoda Metraux continued her analysis of latmul field data and Terrance Stocker, Ogden Mills Fellow, studied archeological material from Mesoamerica.

In the realm of exhibition, Dr. Freed and Jane Safer supervised the completion of the anthropological section of the new Hall of Mollusks and Mankind. Representing a unique combination of ethnological, biological and artistic views of the mollusk and its shell, the hall opened to considerable critical acclaim.

Dr. Carneiro helped to create the unusual temporary exhibit, "Return to the Kuikuru," which opened in June and featured his fieldwork among the Kuikuru Indians. Bettie Erda received the Puppeteers Citation Award for 1976 for last year's exhibition, "Puppets: Dance and Drama of the Orient."

Stanley A. Freed, *Chairman*

Yahya A. Faden, a student from Saudi Arabia, restores a Chinese bridal chair that will be on exhibit in the new Hall of the Peoples of Asia when it opens in 1978. He was sent here by his government to learn some of the Museum's exhibition and restoration techniques.





Robert L. Carneiro, Curator in the Department of Anthropology, took this field-study photograph in the summer of 1975 during his second extended stay in 20 years with the Kuikuru Indians of central Brazil. This girl is processing manioc, a staple in the diet of the Kuikuru.

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DEPARTMENT OF ASTRONOMY & THE AMERICAN MUSEUM-HAYDEN PLANETARIUM

The Planetarium celebrated its 40th anniversary in October. The event was marked by a gala fund-raising evening which attracted considerable publicity.

Public attendance at Planetarium Sky Shows totaled 403,789, a drop of 68,000 compared to last year. Over half of the drop can be attributed to the decrease in the number of school classes coming to the Planetarium, a circumstance related to financial difficulties faced by local school systems.

Attendance at the Laserium shows on weekend evenings continued to be particularly strong; total attendance at these cosmic light displays, accompanied by music, was 286,912. In all, over 400,000 people have seen Laserium at the Planetarium since its premiere in September, 1974.

Courses in astronomy, navigation and meteorology were also well-attended, by a total of 884 people. The Planetarium Shop increased its revenues through the addition of a new adult sales area on the first floor of the Perkin Wing.

Construction began on the Hall of the Sun, located on the second floor of the Perkin Wing and scheduled to open in November, 1976. The exhibition was designed by Chermayeff and Geismar Associates under a grant from the Billy Rose Foundation.

Plans are also under way to upgrade and improve the technical capabilities of the audio and projection systems in the Planetarium; these are vital to exhibition and teaching activities.

Mark R. Chartrand, III, *Chairman*

DEPARTMENT OF ENTOMOLOGY

There was much activity in the department this year involving the curation of the immense collection, totaling over fourteen million specimens. Under a National Science Foundation grant, a new curatorial associate was hired; she is curating the termite collection, the world's largest and most complete.

Lee H. Herman, Jr., continuing his work on the rove beetle genus *Bledius*, completed a revision of two-thirds of the species found in northern North America. The remaining boreal species are proving difficult to classify due to individual and geographical variation and to the absence of external differences.

Frederick H. Rindge completed distributional studies of three tribes of Ennominae (Geometridae) from Baja California and a revision of the genus *Plataea*. He is now studying the previously-unrevised geometrid genus *Sabulodes*, which occurs from Oregon to Argentina.

As one of his projects on the evolution, classifica-

tion and behavior of bees, Jerome G. Rozen, Jr., studied the biology of immature and adult *Meganomia binghami* (Cockerell). These large, fast-flying, vividly-marked solitary bees stridulate rhythmically while copulating, a feature that is unknown in other bees.

Pedro Wygodzinsky continued to work with Herman Lent of the Instituto Oswaldo Cruz, Rio de Janeiro, on a world-wide review of the Triatominae (kissing bugs), which are vectors of Chagas' disease. Dr. Wygodzinsky also submitted for publication an important, illustrated key to the silverfish which are associated with humans throughout the world. These species damage paper and stored food products.

Norman I. Platnick's studies on spider biogeography indicate that some Recent species may be 50 million years old and that their distributions were influenced by the forces of continental drift. With Willis J. Gertsch, he collaborated on a cladistic analysis of spider suborders which resulted in the rejection of current classifications in favor of earlier ones.

Randall T. Schuh, working with plant bugs, completed a scanning electron microscope study of their claws and associated leg structures. He also continued a systematic study of species found in New Guinea and spent five weeks studying shore bugs in the Andes of Peru, Ecuador and Colombia. In Colombia he experienced an unusual but not unheard-of occupational hazard: robbery by bandits. Undaunted, he went on to spend four days of successful collecting before his next stop.

Lee H. Herman, Jr., *Chairman*

DEPARTMENT OF FOSSIL AND LIVING INVERTEBRATES

Several years of cooperative effort by members of this department and the Department of Anthropology culminated in the opening of the Hall of Mollusks and Mankind in December. Unique in concept and development, the hall considers the biological, ethnological and artistic significance of mollusks and their shells, as well as their importance to malacologists and amateur collectors.

Other notable events included the publication of three books by staff members: "The Evolution of the Earth," second edition, by R. H. Dott, Jr. and Roger L. Batten; "The American Museum of Natural History Guide to Shells: Land, Freshwater and Marine, from Nova Scotia to Florida," by William K. Emerson and Morris K. Jacobson, and "Wonders of Sponges," by Mr. Jacobson and Rosemary K. Pang. Also noteworthy was the publication of 24 scientific papers and abstracts by staff members on topics ranging from the culture of salt marsh organisms (John J. Lee) to the Permian Reef Complex in Tunisia (Norman D. Newell and Donald W. Boyd).

Field studies were diverse. Dr. Batten spent several days exploring newly-opened coal strip mines in West Virginia in search of marine fossils that are critical to understanding molluscan phylogeny. Ernst Kirsteuer made two trips to Belize, where he first participated in the charting of a transect through a barrier reef and later continued his ecological study of coral reef invertebrates. Linda H. Mantel collected terrestrial and semi-terrestrial crabs in Boca Raton, Florida, for a study of their salt and water balance.

The diversity of interests within the department was also reflected by research in the laboratory. At the Marine Biological Laboratory in Woods Hole, Mass., Horace W. Stunkard continued his research on digenetic trematode flatworms that are parasites of fishes and birds. At the Museum, Dorothy E. Bliss and her co-workers pursued their studies of factors in the central nervous system of land crabs that control color change and limb regeneration. Niles Eldredge continued his long-term studies of trilobites and virtually completed a manuscript on alternate approaches to evolutionary theory.

There was a notable addition to the collections: a gift from Columbia University of the Kay-Columbia Paleontological Collection, numbering over 100,000 fossil invertebrate specimens. Noteworthy acquisitions of Recent invertebrates included an extremely rare sinistral—or left-handed—sacred chank from India and a perfect glory-of-the-sea cone from the Philippines. These rare shells are on display in the Hall of Mollusks and Mankind.

Micropaleontology Press inaugurated a new series of special publications by issuing two books: "Late Neogene Epoch Boundaries," consisting of seventeen papers presented at the 24th International Geological Congress, and "Progress in Micropaleontology," consisting of 27 papers that detail advances in many of the most actively investigated fields of micropaleontology. Headed by Tsunemasa Saito, the Press also published more than 2800 pages of text and illustrations in *Micropaleontology*, the *Bibliography and Index of Micropaleontology*, and supplements to the "Catalogue of Ostracoda" and the "Catalogue of Foraminifera."

Dorothy E. Bliss, *Chairwoman*

DEPARTMENT OF HERPETOLOGY

The Hall of Reptiles and Amphibians continued to occupy a significant part of the curators' time as exhibits dealing with reptilian reproduction, defense and feeding neared completion.

Richard G. Zweifel continued his long-term studies of the ecology of snakes and turtles at the Kalbfleisch Field Research Station. With support from the Edward John Noble Foundation, he and Charles J. Cole continued their ecological studies of the lizards and

snakes on St. Catherine's Island, Georgia.

Dr. Cole also continued his research on the evolutionary relationships of amphibians and reptiles. His primary field and laboratory efforts involved a detailed study of geographic variation in two species of fence lizards, *Sceloporus occidentalis* and *Sceloporus undulatus*. In collaboration with Thomas R. Van Devender of the Department of Geosciences, University of Arizona, Dr. Cole used the scanning electron microscope to study more than 2000 fossil lizard scales found in ancient packrat nests in California, Nevada and Arizona. Comparing these scales with those of Recent species, they discovered that one species evidently has inhabited some of these localities since the Pleistocene, even though the habitat has changed from woodland to desert.

With Carol R. Townsend, Dr. Cole continued the experimental program of breeding all-female species of whiptail lizards. Three generations of one species and two of another have now been raised to adulthood in the complete absence of any males.

Charles W. Myers conducted fieldwork at a future dam site in the highlands of western Panama, and prepared a report on the ecological geography and herpetofauna of the area as part of an environmental impact statement. With Marinus S. Hoogmoed of the Rijksmuseum van Natuurlijke Historie, Leiden, he joined a government mapping party in an unexplored section of southeastern Surinam and later made collections in the uninhabited Lely Mountains near the border of French Guiana.

With John Daly of the National Institutes of Health, Dr. Myers is continuing his interdisciplinary studies of the systematics and biochemistry of tropical poison-dart frogs.

The department's five-year grant from the National Science Foundation, activated in January, 1975, has already yielded substantial benefits to care of the collections.

Richard G. Zweifel, *Chairman*

DEPARTMENT OF ICHTHYOLOGY

This year a landmark paper by Donn E. Rosen on Caribbean zoogeography was published. It presents a unified view of the distribution of animals and plants in the West Indies, applying and expanding the theoretical precepts of Leon Croizat and data from modern plate tectonics. Dr. Rosen also pursued his interest in Middle American biogeography and is in the midst of several revisionary studies of the fishes of Guatemala. In addition, he continued his studies of teleostean phylogeny and his work on Jurassic fishes.

Gareth J. Nelson completed a three-year term as the editor of *Systematic Zoology*, a period during which he injected new life into the journal. His editorial reviews have examined many practices in syste-



C. Lavett Smith, left, and Charles S. Rand examine an embryo, one of five they found last autumn in the uterus of this rare female coelacanth. The discovery established conclusively that coelacanths, previously thought to be egg-laying fishes, give birth to living young. Dr. Smith is Chairman and Curator of the Department of Ichthyology; Dr. Rand is Professor of Comparative Hematology at Long Island University.

matic zoology and challenged the foundation on which taxonomic and biogeographic procedures have been based. This past year he also began a major revisionary study of the parrotfishes (Scaridae) and, with M. Norma Feinberg, continued a study of the venomous catfishes (Plotosidae).

James W. Atz made progress on his reviews of the reproductive mechanisms of fishes, concentrating on aspects of oral brooding and viviparity. With colleagues from other institutions, he is now making a comparative study of osmoregulation in elasmobranchs, cyclosotomes and bony fishes using the principles of phylogenetic systematics.

C. Lavett Smith continued his interest in the community structure of fishes and embarked on a study of the inland fishes of New York State. In April, he participated in the St. Brandon's Expedition, organized to explore the little-studied Cargados Garajos shoals in the western Indian Ocean.

A history-making discovery occurred in September, when the dissection of a coelacanth at the Museum revealed the animal to be a female with five advanced embryos in her oviduct. The discovery ended the debate over whether *Latimeria chalumnae* was a live bearer or an egg-layer, but it triggered new discussion on whether all extinct coelacanths repro-

duced in the same way. One of the newly-found baby coelacanths was presented by the department to the British Museum (Natural History) to mark the long tradition of cooperation between American and British zoologists over the past 200 years.

C. Lavett Smith, *Chairman*

DEPARTMENT OF MAMMALOLOGY

Hobart M. Van Deusen, Archbold Curator Emeritus, died on June 9. An authority on the mammals of Australia and New Guinea, he was an active participant in several of the Museum's Archbold Expeditions to those areas. At the time of his death he was completing a report on the seventh expedition, which he led. He will be missed by friends and colleagues.

Richard Archbold, President of Archbold Expeditions and a Research Associate in the department, died August 1, 1976. His important contributions are discussed in the report of Archbold Biological Station.

In research and fieldwork this past year, Richard G. Van Gelder analyzed the significance of color markings in the nyala antelope and other mammals. He has also been evaluating the available evidence on

hybridization as it may relate to the ways in which taxonomists have grouped species into genera. Guy G. Musser spent his third and final year in Sulawesi, Indonesia, completing his extensive field studies on the systematics and ecology of native rodents.

Karl F. Koopman completed an annotated list of mammal type specimens at the Philadelphia Academy of Natural Sciences. He also continued his systematic analyses of the bats of Peru and Australia, as well as his work on a revised classification of the mammals with colleagues in the Department of Vertebrate Paleontology.

Using a computer program he has developed, Dr. Sydney Anderson continued his theoretical studies of the sizes of the geographical areas which species occupy. He also continued his work on the ecology of raccoons on St. Catherine's Island, Georgia.

Marie A. Lawrence continued to coordinate the publication of a quarterly bibliography of mammalogy for the American Society of Mammalogists; she also pursued her curation of microtine rodents and worked with Dr. Koopman on curating specimens of Old World hares.

The department is called upon daily to distribute information to public agencies, private individuals and commercial firms on subjects relating to conservation, health, the protection of rare and endangered species and the production of energy. One thousand specimens, for example, were identified for federal and state agencies responsible for enforcing laws protecting endangered species.

Sydney Anderson, *Chairman*

DEPARTMENT OF MINERAL SCIENCES

The department saw major changes this year with the opening of a spectacular new Section of Meteorites, Minerals and Gems and the appointment of a new chairman.

The Harry Frank Guggenheim Hall of Minerals, Morgan Memorial Hall of Gems and Arthur Ross Hall of Meteorites opened to the public on May 21. This permanent, three-part exhibition was received with much acclaim by colleagues as well as the press and the public. Representing the culmination of many years of effort by D. Vincent Manson, consultant to the department, the new section replaces the old Hall of Minerals and Gems, which opened in 1916. The site of the old hall will be used for departmental storage and office and laboratory space.

The new chairman and curator of meteorites is Martin Prinz, formerly of the Institute of Meteoritics at the University of New Mexico, who took charge of the department in January. Dr. Prinz proposed that the department's name be changed to Mineral Sciences, to indicate the breadth of future activities. He also

appointed a new assistant curator for minerals and gems and has laid the groundwork for a new period of departmental development.

His own research this year was on terrestrial, meteoritic and lunar rock samples. In order to gain a better understanding of the processes that operate within various planets as well as on their surfaces, Dr. Prinz examined deep oceanic materials, Snake River Plain basalts, pieces of the upper mantle found in basalt flows in San Carlos, Arizona, silicate inclusions in iron meteorites and some Apollo 17 and Luna 16 mare basalts.

Martin Prinz, *Chairman*

DEPARTMENT OF ORNITHOLOGY

The wide-ranging research interests of the curators are reflected in the fieldwork they pursued this year. Wesley E. Lanyon completed the field studies for his revision of the flycatcher genus *Myiarchus*. His principal objectives were to become familiar with a species endemic to the Galapagos Islands and to determine its closest living relative among continental forms. He also made observations and sound recordings of three species with restricted ranges in Colombia, Ecuador and Costa Rica.

Dean Amadon did fieldwork on birds of prey in Idaho and at the Museum's Southwestern Research Station. He is also studying certain morphological variations in this group of birds.

Lester L. Short did final research for his book on the woodpeckers of the world. Work in Kenya and at museums throughout Europe helped him to determine the precise ranges of two African woodpeckers previously regarded as one species; finding out whether or not they are two distinct species will require further study. Dr. Short has also initiated systematic studies of the relationship of barbets to woodpeckers, and zoogeographic and systematic studies of the birds of the dry woodlands of eastern Brazil.

François Vuilleumier's distributional and systematic studies of high Andean birds took him to Peru and Colombia, and resulted in manuscripts on *Oreomanes* and *Diglossa* as well as on the birds associated with the plant, *Puya Raimondii*. He also visited Paris, where he collaborated with colleagues on an analysis of the species concept of birds and made plans for work on Palearctic species.

Both Drs. Short and Vuilleumier also helped to lead Museum-sponsored tours to Egypt and to the Black and Aegean Seas.

For the fourth consecutive year, projects funded by a National Science Foundation grant dominated curatorial activities. Among the completed projects is a large-scale reorganization of the department's excellent library and reprint resources.

Gardner D. Stout, who retired as President of the

Museum in November, was appointed Field Associate in the department in recognition of his long-standing interest in it and its programs. The department benefited for many years from a similar association with Robert G. Goelet, the current President.

Wesley E. Lanyon, *Chairman*

DEPARTMENT OF VERTEBRATE PALEONTOLOGY

The massive curatorial effort required to clean, move, arrange and catalog the fossil mammal collection is now entering its fifth year. The activity has made this valuable resource more available to researchers than ever before, and nearly 100 research projects are now under way. Over half are being carried out by investigators from other North American and European institutions.

The development of a new classification of mammals, including cladistic analyses of many groups, continued to occupy much of Malcolm C. McKenna's attention. Richard H. Tedford and Susan Koelle Bell, together with colleagues in the Department of Mammalogy, continued to contribute to this long-range project. Dr. McKenna also pursued his studies of Eocene rocks in northwestern Wyoming and participated in joint field expeditions to Rhodesia and to the Arctic Islands of Canada with colleagues from the University of Rhodesia and from the Carnegie Museum of Natural History and the Milwaukee Public Museum, respectively.

Dr. Tedford continued his phylogenetic studies of herbivorous marsupials and his work on the stratigraphy of Cenozoic rocks from the Great Artesian Basin of Australia. With Morris F. Skinner and Theodore Galusha, he conducted fieldwork in western Nebraska and Wyoming relevant to both his biochronology project and to the overall task of documenting the mammal collections. With Beryl E. Taylor, he continued his revision of the fossil dogs of North America; Mr. Taylor also pursued his studies of camel and other artiodactyl systematics.

In addition to fieldwork, Mr. Galusha neared completion of his study of the large Pleistocene cat, *Panthera augusta*, and Mr. Skinner completed a monograph on the complex geological history of part of Sioux County, Nebraska, an area from which thousands of fossil mammals have been collected since the beginning of the century.

Eugene S. Gaffney completed his extensive review of turtle skull morphology and presented the preliminary results of his wide-ranging study of lower tetrapod phylogeny at a symposium on vertebrate paleontology held in New Orleans in May.

Bobb Schaeffer completed a review of the morphogenesis of the dermal skeleton in fishes; a similar

study of the endoskeleton is now under way. He also continued his long-range study of North American Triassic fishes. With Michael Williams of the Cleveland Museum of Natural History, Dr. Schaeffer presented the Paleozoic and Mesozoic history of the sharks and their relatives at a symposium on elasmobranch biology held in New Orleans.

Bobb Schaeffer, *Chairman*

ARCHBOLD BIOLOGICAL STATION LAKE PLACID, FLORIDA

Friends and colleagues mourn the death of Richard Archbold, founder and Resident Director of the Station, who died August 1, 1976. A noted explorer and aviator, Mr. Archbold was a patron of the Museum and an active, full-time natural scientist who specialized in mammal classification and ecology. As founder and President of Archbold Expeditions, he sponsored a series of explorations of New Guinea and other regions of Indo-Australia which produced hundreds of thousands of important mammal specimens now in the Museum's collections. He established the Archbold Biological Station in 1941. A graduate student scholarship fund has been created to commemorate Mr. Archbold's deep and long-standing interest in the training of young biologists.

The staff and fourteen graduate and undergraduate students under their supervision were involved in some 40 research projects this year. Many of the data from these studies were submitted to the ENDEX (Environmental Data Index) file system being prepared by the National Oceanic and Atmospheric Administration (NOAA). In addition, three long-term projects are being included in the national inventory of selected biological monitoring programs being prepared by the Council on Environmental Quality and several other federal agencies.

Before his death, Richard Archbold had begun an extensive revision of the checklist of insects at the station in order to incorporate new additions to the collection. James N. Layne continued his studies of Florida mammals and his work on the status and biology of Audubon's Caracara. Thomas Eisner and his associates continued their intensive, wide-ranging investigations of arthropod defensive secretions and plant-insect interactions. Austin L. Rand completed the major portion of a critical review of nest-life strategies in passerine birds. Glen E. Woolfenden continued his long-term investigation of the sociobiology of the Florida Scrub Jay population at the station; Fred E. Lohrer, his research on the breeding biology of the Florida Screech Owl as well as on the growth patterns of hole-nesting birds, and Chester E. Winegarner, his work on the reproductive behavior of the Great-crested Flycatcher. F. Vincent Brach, who

spent the year at the station as a postdoctoral research affiliate, investigated the ecology of pseudoscorpions as well as social behavior in the theridiid spider *Anelosimus studiosus*.

Graduate and undergraduate student projects included a radio-tracking study of the activity, rest-sites and movements of raccoons; an investigation of the function of insect sounds as an anti-predator mechanism, and an analysis of habitat relationships and patterns of resource utilization in seven species of woodpeckers.

A total of 29 visiting investigators and their 21 associates also worked at the station. Leon Bennett, New York University, studied the aerodynamics of flight in heavy-bodied insects. Wayne F. McDiffett, Bucknell University, made a limnological examination of selected lakes in the southern Lake Wales Ridge section of Florida. George Diatloff of the Department of Lands, Queensland, Australia, investigated insects of potential use in the biological control of *Lantana*, an introduced plant in Australia. Marcia Litte, Cornell University, studied the sociobiology of the wasp *Mischocyttarus mexicanus*. Lytton J. Musselman, Old Dominion University, worked on the seedling behavior of the hog plum and Warren G. Abrahamson, Bucknell University, studied reproductive strategies of selected plant species in relation to environmental factors.

James N. Layne, *Resident Director*

GREAT GULL ISLAND LONG ISLAND SOUND, NEW YORK

About 1500 adult Common Terns were trapped on the island during the 1975 season. This figure includes many birds which were banded three to six years ago and which have returned to the island to nest and breed. The data on these birds is providing information on the age composition of the breeding population, as well as on the success of breeding birds in different age classes.

Only two out of 3900 young terns checked for abnormalities proved to have any. Half as many thin-shelled eggs were noted this year as in 1974.

Habitat reclamation continued this season in an effort to provide more nesting areas. One pair of terns underlined the critical need for space on the island by nesting on a building roof. This behavior provided the first evidence of roof nesting by Common Terns, although the phenomenon has been recorded in Least Terns in Florida.

The availability of a boat during the week enabled work to be carried out elsewhere besides Great Gull Island. Peter Houde, a student at the State University of New York, Stony Brook, and John Biderman, a student at College of the Atlantic, studied productivity in terns on Hicks Island, Napeague. David Duffy, a graduate student at Princeton University, completed a

survey of tern colonies at the eastern end of Long Island Sound, as well as along the Connecticut shore, as part of a U.S. Fish and Wildlife survey of colonial species nesting along the East Coast.

Helen Hays, *Chairwoman*

KALBFLEISCH FIELD RESEARCH STATION HUNTINGTON, LONG ISLAND, NEW YORK

Wesley E. Lanyon continued his investigations of the breeding potential and behavior of hybrid meadowlarks produced from the station's unique captive breeding stock and reared from the egg in sound isolation. He also continued to monitor the succession of populations of breeding birds in relation to plant succession on the station's grounds.

Richard G. Zweifel continued his research on the growth patterns and movements of painted turtles and garter snakes. A visiting investigator, Andrew M. Geller, Department of Biology, Queens College, spent time at the station for his study on the composition and distribution of Long Island hardwood forests.

Jacalyn Madden successfully defended her doctoral thesis, based on research at the station, concerning the behavior and ecology of the southern flying squirrel. David Ewert completed his field studies on the variation and function of song in towhees. Both students are in the Evolutionary Biology Program, jointly sponsored with the City University of New York.

Museum staff, student alumni and others who have worked at the station were saddened by the death of Resident Superintendent Edward Szalay in January. Mr. Szalay, who had worked at the station since 1967 and was in charge of the physical plant and security, had increasingly contributed to research programs in recent years.

James Mansky, a zoologist who recently received his M.S. degree from the State University of New York at Brockport, was appointed to succeed Mr. Szalay.

Wesley E. Lanyon, *Resident Director*

SOUTHWESTERN RESEARCH STATION PORTAL, ARIZONA

A total of 1116 people visited the station this year, including 87 scientists and 542 students from 52 institutions around the country. Eighteen volunteers helped out at various times, especially with the extensive renovation program, which has already succeeded in making a great number of improvements at the station.

Research covered a wide variety of topics in numerous fields including arachnology, ornithology,

Theresa Moore dramatizes an African fable in one of the "teaching pits" of the People Center. The Center was designed especially for small-group learning sessions such as this one presented by Mrs. Moore, who is African-American Studies Assistant in the Department of Education.



entomology, herpetology, botany, mammalogy, geology and animal behavior.

Jerram Brown, a professor at Rochester University, did research on the population ecology of operational altruism in birds, gathering data on the age-specific rates of survival, reproduction, dispersal and feeding young in the Mexican Jay.

Donna J. Howell, a visiting assistant professor at Harvard University, studied the flock-foraging behavior of the nectar-feeding bat *Leptonycteris* and also investigated various aspects of its symbiotic relationship with the agave plant, which it pollinates. Over the past ten years, both *Leptonycteris* and certain agave populations have been declining in the Southwest.

Laurence Pomeroy, a graduate student at the University of California at Riverside, laid the foundations for continuing studies of tadpole dimorphism and its role in the population biology of the spadefoot toad *Scaphiopus bombifrons*.

Vincent D. Roth completed two chapters on marine insects and arachnids for a book featuring the revision of common invertebrates of the intertidal zone of the Gulf of California. He also made a collecting trip to Costa Rica, where he gathered jungle and intertidal zone insects and arachnids.

Vincent D. Roth, *Resident Director*

DEPARTMENT OF EDUCATION

Museum education departments are most often identified in the public mind with the teaching of school classes, but that is only one of the department's activities. Less well-known are the departmental college-accredited courses for teachers, the evening lecture series and other programs designed specifically for adults.

Again this year in cooperation with the City College of the City University of New York, 22 teachers' courses were offered; over 700 teachers enrolled. More than 2500 persons registered for evening school classes, ranging in subject from the archeology of Mexico to the wildflowers of the Atlantic seaboard. Field study-tours in archeology and geology took small groups to Central and South America, East Africa, Iceland and, closer to home, to the Grand Canyon. These adult programs are coordinated by C. Bruce Hunter, who was appointed Assistant Chairman this year. The free weekly gallery talks, slide lectures and film programs, which also primarily serve an adult audience, continued as a regular public service.

A grant administered by the Museums Collaborative expanded the department's involvement with adult community organizations under the newly-established Cultural Voucher Program. The program

issues "vouchers" to such organizations for various Museum services, including staff assistance. The department's African-American and Caribbean Studies programs also served to attract new audiences of young and old by providing special services and events, such as Black and Puerto Rican History Weeks at the Museum, as well as many outreach activities.

For the past several years, the department has offered mini-courses for schools; they are becoming increasingly popular. At the same time, more than 32,000 youngsters who visited the Museum attended single-class sessions with a Museum instructor.

Gifts and grants enabled a number of special programs to continue this year, including the Museum Minority Training Program; the Teaching Assistant Program, which places interpreters in three of the permanent anthropology exhibitions; the Environmental Information Center, and the revitalized Circulating Exhibits Program.

The Alexander M. White Natural Science Center and the People Center continued to serve as teaching facilities for school groups and as natural history and anthropology interpretation areas for the public. A

new Discovery Room for children is now in the final stages of construction. Located near the Hall of Ocean Life, it will provide youngsters with a unique opportunity to explore natural history concepts.

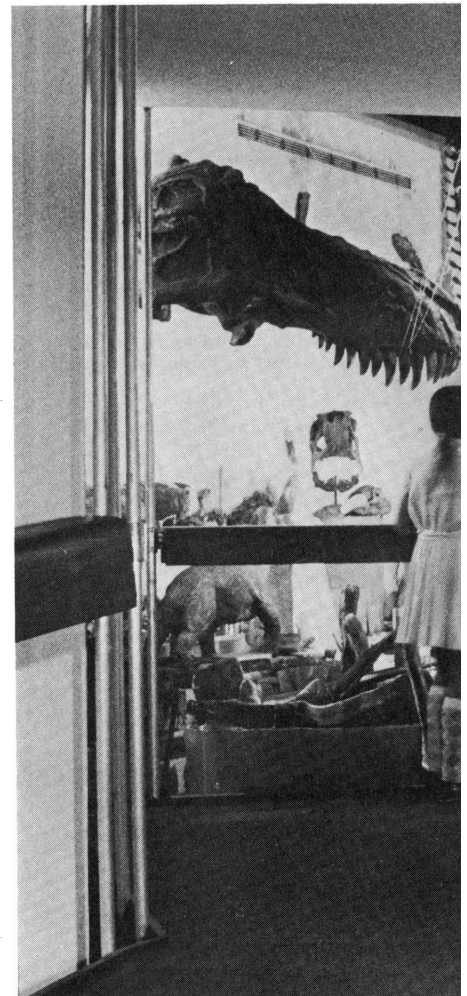
Two exhibits were mounted in the People Center: "Historical Black Dolls," which was featured in connection with Black History Week, and "Trash Can Toys and Games," which illustrated how waste can be imaginatively recycled. In June, the Center Gallery featured a photographic exhibit in connection with a special departmental program entitled "Highlighting the Black Experience."

Malcolm Arth, *Chairman*

DEPARTMENT OF EXHIBITION AND GRAPHICS

The culmination of years of planning and work by architects, designers, curators and preparators came with the opening of two new exhibition areas: the Section of Meteorites, Minerals and Gems and the Hall of Mollusks and Mankind.

Live demonstrations by Museum staff of the reproduction of fossil bones and other items for future display are featured in "This Exhibit in Preparation," which opened in the fall. It has been one of the Museum's most popular temporary presentations.



The Harry Frank Guggenheim Hall of Minerals, Morgan Memorial Hall of Gems and Arthur Ross Hall of Meteorites are a dramatic example of an architectural setting that beautifully complements displays of thousands of specimens from the Museum's collections. Work on the Section, which was designed as a teaching hall, was coordinated by Ralph J. T. Bauer. Since its opening in May, it has drawn thousands of visitors, many of them eager to view not only the permanent specimens but also a temporary display of some of the world's most famous diamonds, on loan for the first month of the Section's existence. Several of these gems will remain through the summer and fall, to be joined by additional diamonds on loan from the owners.

The unusual new Hall of Mollusks and Mankind, which opened in December and was designed by Henry Gardiner, is a stunning gallery that integrates exhibits of the biology of these animals with displays featuring their role in the art, religion and daily life of human cultures. Conceived by the Departments of Anthropology, Fossil and Living Invertebrates, and Exhibition and Graphics, the hall is esthetically-pleas-

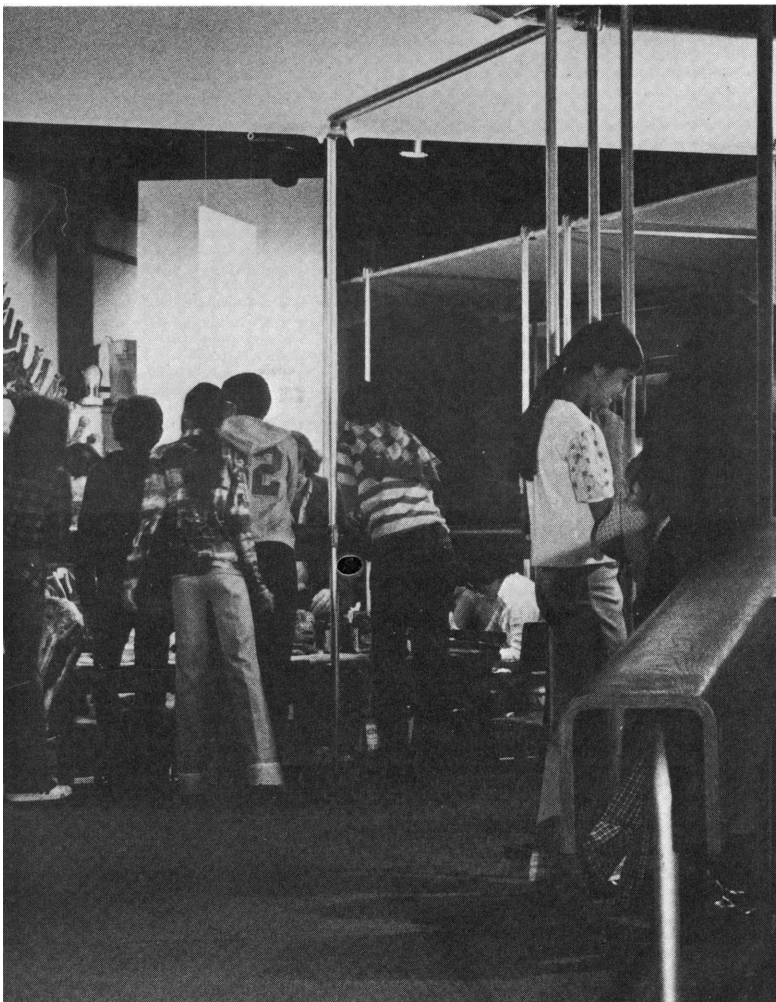
ing as well as highly informative.

The Exhibit of the Month program continued, offering temporary exhibits on such diverse subjects as whales, trout flies, extinct fishes, parthenogenesis (reproduction in all-female species of animals), a Museum ethnologist's return to a Brazilian Indian tribe he first studied 20 years ago and the traditional origami Christmas tree. A show was also mounted in the Akeley Gallery on the topical subject of "Recycling America's Resources."

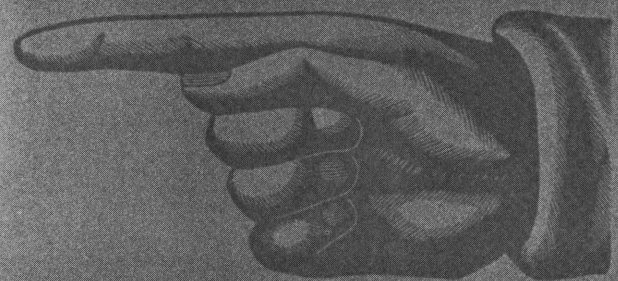
Both the recycling exhibit and the trout fly display featured color videotape recordings, a display technique that the department is refining for future use.

A temporary exhibit staged in Gallery 77, "This Exhibit in Preparation," proved to be extremely popular with school groups as well as with the general public. It provided a behind-the-scenes look at the activities of the department, showing how the Museum's dioramas and exhibits are created through live demonstrations by staff members.

The Graphics Division, under the expert guidance of Joseph M. Sedacca, created the designs and layouts for hundreds of captions and thousands of



"this
exhibit
in preparation"



A behind-the-scenes look at the activities of the Department of Exhibition and Graphics, which designs and builds all the exhibits and dioramas you see at The American Museum of Natural History.

identifying labels in the new Section of Meteorites, Minerals and Gems. It also produced a large number of brochures, leaflets and scientific publications and continued refurbishing and replacing labels in the Akeley Hall of African Mammals and the Hall of Ocean Life. The Corner Gallery was the site of a multi-screen, audiovisual presentation called "The World in a Hat" with an original script by Margaret Cooper.

The apprenticeship program, funded by the New York State Council on the Arts, again permitted the department to train two apprentices in the varied techniques of exhibit preparation.

Work on three major exhibition areas—the Hall of the Sun, the Hall of Reptiles and Amphibians and the Hall of Peoples of Asia—continued, with openings scheduled over the next three years.

George S. Gardner, *Chairman*

LIBRARY

The Library was especially productive this year in trying to provide better service by instituting modern systems. To that end, the stringent acquisitions policy established last year was continued, as was the contract with the New York State Inter-library Loan network. The Library's fill rate was again one of the highest in the state.

A new visible record for the daily check-in of current serials was instituted and a new circulation charging system will soon be installed. The Restoration Project, funded by the Clark Foundation, repaired 1068 items and rebound and restored 933 books; 87 items received special preservation treatment. The Review Project selected hundreds of volumes for restoration, transferred 253 titles to the Rare Book Room and reviewed several general collection sections. Auction sales of duplicate materials netted \$54,000. In addition, the author catalog to the Library's collection will be published by G. K. Hall & Co.; a royalty income will result from this publication. The Library also joined METRO-New York Metropolitan Reference and Research Library Agency, a co-operative organization of academic, research and large public libraries.

In the realm of exhibition, "Fishes of Mauritius," featuring original drawings, watercolors and manuscripts by Nicholas Pike, opened in the Rare Book Room in February. Selected as the recipient of proceeds from the 1977 International Antiquarian Book Fair to be held in New York City, the Library will also be provided with exhibit space at the Fair for some of its rare books.

Several important gifts were received this year, including "Progress in Micropaleontology" from the author, Tsunemasa Saito; "The European Vision of America," by Honour Hugh of the Cleveland Museum

of Art, and "Casas Grandes," by Charles diPeso of the Amerind Foundation. A large collection of books on Africa were received from Clifford Shields; many were donated by the Museum to the Schomberg Collection of the New York Public Library. Time/Life, Inc., Columbia University, the Department of Ornithology, Sidney S. Horenstein, Dorothy E. Bliss and *Natural History* all donated books to the library.

The Library served 9036 readers, circulated 52,000 items, delivered 9125 items to readers, answered 2977 reference requests and 3291 telephone requests, handled 4534 interlibrary loans, photocopied 26,453 pages, distributed 21,135 scientific publications, added 15,393 serial issues and 404 new titles, cataloged 1278 books and 313 serial titles, reported 355 serial titles to "New Serial Titles" and prepared 4800 Kardex cards.

Nina J. Root, *Librarian*

PUBLICATIONS

Curator

The articles in *Curator*, The American Museum's quarterly journal for museum professionals, are written by experts from museums throughout the world. Subjects range from the role of trustees to exhibit design, from deaccessioning art to preparing fossils, from educational techniques to preserving specimens. *Curator* attempts to give both information and inspiration to people working in all museum fields. During the year, the four issues of Volume 18 were published. Despite a subscription price increase, circulation grew appreciably.

Thomas D. Nicholson, *Editor-in-Chief*

Scientific Publications

The office brought to press 33 articles from seven different areas of natural science, ranging in subject matter from anthropology to vertebrate paleontology. The majority of the papers were written and illustrated by Museum scientists; a few, however, represent the work of researchers from other institutions.

Nineteen of the 33 articles were printed in *American Museum Novitates*, twelve in the *Bulletin of The American Museum* and two in *Anthropological Papers*. These three scientific journals of The American Museum publish new findings from research conducted by its scientific staff. The total number of printed pages amounted to 2230; of these, Anthropology contributed two articles; Entomology, 14; Herpetology, 3; Ichthyology, 1; Mammalogy, 4; Ornithology, 2, and Vertebrate Paleontology, 7.

Florence Brauner, *Editor*

The standard of excellence maintained by this Museum in its scientific, educational and exhibition programs has an equally demanding price in terms of dollars and cents. But at the start of this year, continued erosion of government support threatened to undermine many aspects of Museum operations.

Responding to increasing pressures, *Natural History* and the Department of Development and Public Affairs raised a record level of annual support to help bridge the financial gap left in the wake of cutbacks and, thereby, to help continue the vital work of this institution. Combined efforts of Development activities and the *Natural History* Associate Membership Program generated \$1,500,000, substantially exceeding the original budget objective of \$1,200,000. Such success can only be attributed to teamwork by Trustees; the Men's and Women's Committees; the Administration; the scientific, educational, volunteer *Natural History* and Development staff, and members alike.

Natural History—Membership

In all areas, *Natural History* continued its vigorous growth as a major national publication. It had more pages, reached more people, carried more advertising and generated more revenue for the Museum than ever before.

Last year the Museum reluctantly raised by 25 percent the price of Associate Membership, which includes the magazine as the main benefit. Despite this, the circulation department managed with a nationwide campaign to increase Associate Memberships by nearly 40,000. Circulation of the June/July issue of *Natural History* reached 394,000, an eleven percent rise over the previous year.

This was the first year of a new arrangement with the Harper-Atlantic Sales Company for a joint national advertising sales and promotion program. Because

Ornithologist Lester L. Short took this photograph of a figure with the head of a bird during the Museum's Nile Cruise in February. He was one of the scientific experts who accompanied this

enormously popular tour. The Museum's Travel Program, which arranges several trips a year to many areas of the world, has been well-received by Museum members and friends.



of the new sales efforts and a recovery in the economy, the number of pages sold was up thirteen percent and advertising revenue was up 29 percent. The large increase in revenue was partly due to increased page rates because of the magazine's higher circulation and to an increase in the number of full-page color advertisements. *Natural History* was also a major advertising vehicle for the Museum Tour Program, for the Education Department's tours and courses and for the Museum Shops.

This year, *Natural History* tested several merchandising efforts, including the sale of books, Museum replicas, its own calendar in a special retail edition and other items. Although the merchandising program is only in its formative stages, revenue from the project has increased significantly. The magazine has added a merchandising manager to promote this potential source of revenue for the Museum.

Natural History continued its general format of a profusely-illustrated middle section, surrounded front and back by advertising and a variety of columns, book reviews, short articles, celestial events and announcements. In its efforts to produce a lively, interesting publication, the magazine obtains its articles from researchers throughout the world. But some of the most interesting material continues to come from the Museum. Howard R. Topoff's article on army ants was dramatically illustrated with some of his color close-ups. Similarly, an article by D. Vincent Manson on the evolution of gems was strikingly illustrated with a portfolio of color photographs from the Museum's new Section of Meteorites, Minerals and Gems. And Curator Emeritus Margaret Mead searched through exhaustive files in her sixth-floor tower office to illustrate the course of change in the New Guinea village that she has studied for the past 50 years.

Natural History commemorated the nation's Bicentennial with a dramatic picture of the bald eagle on its January cover and a beautiful spring bonus to members of a special edition of Eric Sloane's "An Age of Barns."

Under Membership Secretary Roberta Goldman, a new program has been developed to encourage the conversion of Associate Members to Participating and Donor Members. The plan is to present an exciting new series of evening programs (Buckminster Fuller, Margaret Mead, special film lectures) that reflect the vitality of the Museum and have broad popular appeal. These will be offered, along with a wide range of benefits and discounts, to all current Associate Members in the New York area.

Development

The Corporate Campaign, launched in October with the "Celestial Bestiary" reception and followed through the winter with six scientific seminar-lunches for business executives, attained \$379,326 from

330 donors by the close of the fiscal year, a 40 percent increase over 1974-75. Under the able direction of Joseph F. Cullman 3rd, American Museum Trustee and Chairman of Philip Morris Incorporated, and with the assistance of 50 Vice-Chairmen, the campaign expanded business community support of the Museum. This year's great success is attributed to several factors: strong ties with past corporate contributors, 71 percent of whom substantially increased their gifts; the addition of 87 new donors, and a growing corporate understanding of the Museum as a center of scientific research as well as a cultural and educational institution.

The Contributor's Program brought donations to the Museum totaling \$438,000, as opposed to \$428,000 last year. These generous annual gifts from individuals and private foundations were acquired through the untiring efforts of the Trustees and the Men's and Women's Committees. Led by Chairpersons Daniel Ward Seitz, Mrs. Carl C. Ulstrup, Mrs. Frederic G. Cammann and Mrs. John V. Lindsay, the Men's and Women's Committees brought elegance and style to Museum fundraising events. A private showing of the film, "The African Elephant," an inventive Museum "Treasure Hunt" and the spectacular "Twenty-Four Carat Evening" celebrating the opening of the Section of Meteorites, Minerals and Gems, netted \$43,000 for the Museum.

The Museum scientific study tours have demonstrated again the value of the Tour Program in generating new sources of revenue. Led by Museum scientists, members and contributors were given firsthand experiences in places closely related to Museum fieldwork and research: on safari in South Africa, cruises to the Black Sea and the Nile and an expedition to Alaska. Tour participants were requested to make a sizeable donation, netting the Museum \$162,000. Next year, scientific tours will include a circumnavigation of the United Kingdom; an excursion to the Yucatan Peninsula, Belize and the Barrier Reef of Honduras, and two return trips to the Nile.

American Discovery, a major project led by Robert A. Matthai and based on the scientific discoveries about man and nature resulting from the exploration of America, moved into its second phase with renewed support from the National Endowment for the Humanities and Exxon Corporation. This has provided funding for preparatory work on the project's complementary components: an exhibition, a television series, books and a variety of educational materials. A proposal for phase three, including a pilot film, will be submitted in November, 1976.

Public Affairs

This year, the efforts of Public Affairs were concentrated primarily on the opening of the Section of Meteorites, Minerals and Gems, resulting in a cam-

paign of outstanding publicity, promotion and multimedia advertising. A radio commercial featuring Carol Channing, inviting the public to view a selection of the world's finest diamonds which marked the opening of the Morgan Memorial Hall of Gems, was created by the Public Affairs office and Ogilvy & Mather, Inc. Also promoting the diamond exhibit were several newspaper ads. The office arranged social and press events for representatives of the jewelry and mining industries, government officials, members of the press, local mineralogical clubs and Museum contributors, members, employees and volunteers.

Public Affairs assisted in the production of two segments of the highly-acclaimed Public Broadcasting series "The Tribal Eye," which focused on the Museum's superb collections of pre-Columbian gold and Northwest Coast Indian artifacts.

The favorable response of nationwide radio stations to last year's series of three-minute natural history information programs featuring Museum scientists prompted the production and distribution of a second series, again with Dr. Nicholson as host. And two full-page advertisements promoting the Museum appeared on a public service basis in *Psychology Today*, *Harper's*, *The Atlantic Monthly*, *Saturday Review*, *Natural History*, *Sports Illustrated*, *Time*, *Newsweek*, *New York* and other periodicals.

Guest Services coordinated 700 receptions, formal dinners, behind-the-scenes tours, press previews, classes and film screenings; many of these events were held in conjunction with the opening of the Section of Meteorites, Minerals and Gems. Recorded telephone announcements carried Museum information to 112,554 potential visitors and 1,200,000 copies of the Calendar of Events were distributed to members and visitors. More than 340,000 information brochures were sent to hotels, airlines, visitor information bureaus and other outlets. The Cafeteria served 655,146 meals to visitors and employees, and approximately 268,000 lunches were eaten by children in the school lunchrooms.

The successful culmination of this fiscal year is both a tribute to, as well as a source of, satisfaction for the staff of Development, Communications and *Natural History*-Membership. But their accomplishment is only a reflection of the vitality, excitement and innovation that mark The American Museum as a unique and very special place.

Generation of financial support is, at best, an inexact science. This past year, which started slowly in a depressed and uncertain economic environment, developed strength and finished well. Looking ahead, we know that it will require the same degree of commitment and continued encouragement from our Trustees and supporters in order to achieve an equally successful upcoming year.

David D. Ryus, Vice-President

The City of New York is a major source of reimbursement for the costs of salaries, materials, supplies and equipment for the service departments of the Museum. This year's fiscal crisis mandated reductions in all City expenditures, including funds allocated to the Museum. Our City allocation was reduced by over one-half-million dollars, which translates into the loss of approximately 40 full-time positions. The Administration has, wherever possible, attempted to distribute these reductions evenly throughout the Museum. However, the two principal service departments that are financed almost entirely by City funds—Building Services and Plant Operations, Construction and Maintenance—have had to absorb the major portion of these reductions.

Every effort has been made to maintain the level of security, standards of cleanliness, maintenance of the buildings and progress in renovation and construction plans. Employment of labor-saving equipment, development of improved methods and procedures, review and realignment of coverage-type operations, redeployment of employees to the most critical shifts and a general effort to improve the productivity of employees have all helped to bridge the gap between former and present resources. The cooperation of all employees in the face of this cut-back has proven again that it is the Museum's personnel that have made, and continue to make, this institution great.

Building Services

The opening of the new Section of Meteorites, Minerals and Gems required the development and installation of a sophisticated security system to protect the invaluable collections on exhibit. The new system will be evaluated and, if necessary, improved upon during the coming year.

As part of our effort to cope with the manpower reduction, we are experimenting with the use of a single-seat personnel carrier by attendant-guards in patrolling selected public areas of the Museum. Depending on the results, purchase of additional personnel carriers for use throughout the Museum will be considered.

Turnstiles have been installed at all public entrances to the Museum, providing a more accurate method of counting visitors. They also relieve attendant-guards of the task of counting visitors, which allows additional time for more important security and visitor-service duties. In another effort to conserve manpower, the guarding and cashiering duties at the less-frequently-used entrances have been combined, and are now performed by a single employee.

A modified valet parking system has been introduced in the visitors' parking lot. Attendants park some of the vehicles without leaving aisle space,

thereby accommodating a greater number of vehicles. This system has proved successful on weekends, when the parking lot requires additional space for the increased number of automobiles.

Office of the Controller

The office is currently implementing a computerized reporting system which will meet both the internal reporting and the budgetary control requirements of the Museum. The system is able to adjust accounting procedures where necessary in order to comply with guidelines applicable to museums in the soon-to-be-issued American Institute of Certified Public Accountants' Audit Guide. The office also continues to review the various job specifications in departments reporting to the Controller, with the objective of consolidating assignments and eliminating those which are unnecessary.

General Services

The mail room, which is one of the major components of General Services, has instituted a new system for distributing mail throughout the Museum complex. Centrally-located storage lockers for mail have been installed on each floor, making individual office delivery unnecessary. This new procedure was mandated by personnel cutbacks.

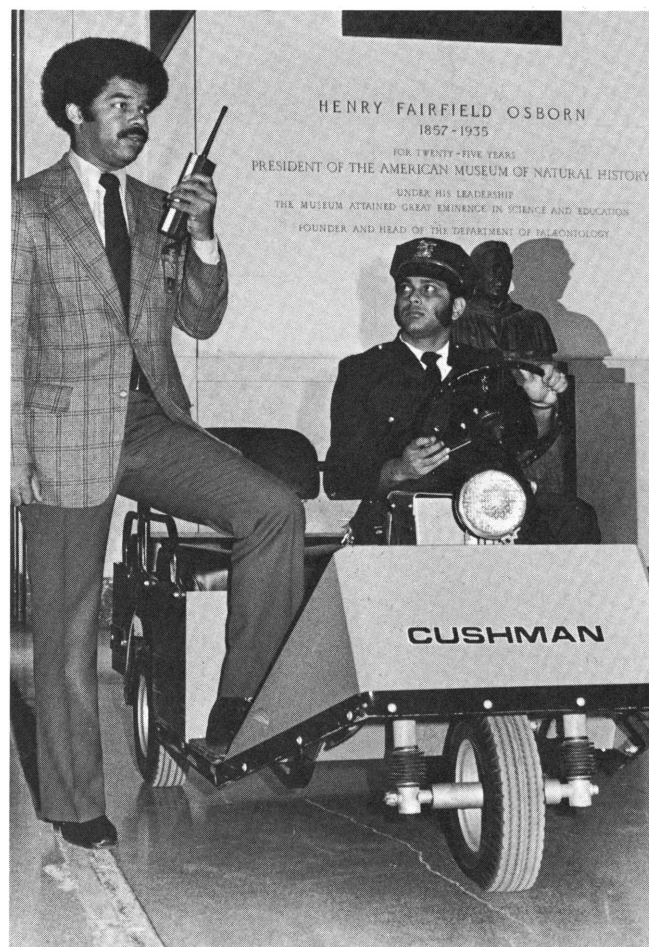
The project to microfilm Museum archives continued during the year, and achieved several successes beyond its original objectives. The old cataloging system was discontinued at the end of 1974 and a more appropriate system was adopted; this resulted in the abolition of one senior clerk position. The archival records, which were housed in three different storerooms, have now been consolidated into one central area.

Almost one hundred cartons of unevaluated records have been sorted, culled and arranged with summary lists. Over 150,000 items have been micro-filmed, and it is estimated that approximately two-thirds of the original material may now be discarded.

Museum Shops

In March, the Museum Shop marked its first anniversary in its modernized and expanded quarters. Favorable reactions of visitors are reflected in a greater number of visitors served and in a noticeable increase in the volume of sales.

In December, a display case was provided at the first-floor Information Desk in the Roosevelt Building to make additional merchandise available for sale. Among the items now on sale there are Museum re-



Charles L. Miles relays a message via walkie-talkie from one of the main halls back to the central security office. Sankar Gokool awaits instructions in one of the new electric carts which can swiftly transport personnel throughout the Museum's 20 interconnected buildings. Messrs. Miles and Gokool are Manager and Assistant Manager of Building Services.

productions, books and small gift items. In May, an additional information and membership counter in the 77th Street Foyer was equipped for selling mineral specimens, posters, postcards and books in connection with the opening of the new Section of Meteorites, Minerals and Gems.

Personnel Department

Although the Museum suffered severe cuts in City allocations, the receipt of grants and special funds for specific purposes, in addition to the normal

amount of personnel turnover, created a considerable amount of recruiting work for the department.

In January, Dr. Nicholson issued a memorandum which reemphasized the Museum's policy of non-discrimination in employment and which appointed Geraldine M. Smith, Personnel Manager, the Equal Employment Opportunities Officer for the Museum. The office is strengthening existing mechanisms and implementing innovative procedures for the Museum's multi-phase Affirmative Action Program. The work includes further refinement of human resource goals, including a redesign of most personnel forms to comply with revised manpower objectives, a modernization of evaluation criteria in recruiting and career development and a statistical inquiry into all conditions and terms of employment on a Museum-wide basis. The office has also been communicating the goals of Affirmative Action to administrative and supervisory groups.

Photography

During the year, publishers of trade books, encyclopedias and other publications paid the Museum for the right to reproduce 1067 black-and-white prints and 171 color transparencies from the Museum's collection. The department also sold 13,200 color slides and 3488 black-and-white prints to universities, high schools, elementary schools and individuals.

Crawford H. Greenewalt generously donated 159 color slides, as well as ten duplicates of each, from his slide collection of local birds. Arrangements are also being made with Mr. Greenewalt for the use of his extensive collection of transparencies of birds of the world.

Plant Operations, Construction and Maintenance

The department continues to provide management of construction projects for the Museum's program of architectural and mechanical improvements. Museum craftsmen, whose numbers were reduced by approximately ten percent due to reductions in the City budget appropriation, perform all aspects of structural and mechanical work.

New filtered forced-air ventilation systems were installed in the Hall of North American Forests, the Hall of Indians of the Eastern Woodlands and the Hall of Indians of the Plains. The Electrical Shop is providing more adequate night-lighting for cleaning crews when the Museum is closed to the public; case lighting can now be turned off, reducing the use of electrical energy. Improvement in the protection and appearance of wall surfaces in public areas was continued, with the addition of wood paneling in the Hall of Small Mammals of North America.

A major program to renovate some of the offices and laboratories of the scientific staff made significant progress during the year. The renovation and expansion of locker rooms used by Building Services Department female employees was undertaken in order to provide sufficient space for the increasing number of female attendant-guards. The department also played a major role in the installation of exhibits for the new Section of Meteorites, Minerals and Gems.

Using modern mechanical equipment and control systems, the Heating and Ventilating Shop supervised the operation of three additional large air-conditioning systems and still reduced the size of its work force by one employee. The installation of automatically-controlled elevators on the 77th Street side of the building which was initiated two years ago will be completed in August.

The freeze on City capital budget projects caused the cancellation or postponement of several design and construction projects, among them the installation of fire detection and alarm systems and a new Museum-wide intercommunication system; a major program of repairs to the Museum's exterior surfaces was also curtailed.

Projection

The department handled an increased number of film shows, slide shows, Auditorium programs and special meetings requiring audiovisual equipment. The number of audiovisual exhibits also increased with the opening of the Section of Meteorites, Minerals and Gems. Considerable ingenuity was involved in setting up a control mechanism for the fiber optics exhibit in the Energy and Mineral section of the Harry Frank Guggenheim Hall of Minerals.

Audiovisual exhibits in public areas now utilize over one hundred individual items of equipment, including 8mm, super-8mm and 16mm motion picture projectors, 35mm slide projectors, tape-recording systems, television monitors, playback units and various control devices; the department is responsible for the operation and maintenance of all of these devices.

During the year, the department cooperated in the development of audiovisual presentations in connection with the temporary exhibits, "This Exhibit in Preparation," "Trout Flies" and "Recycling America's Resources," all three of which utilized closed-circuit television programs.

Attendance

During the year 1,692,894 persons visited the Museum and 701,724 persons (including 393,598 paid admissions) visited the Planetarium, making a total attendance of 2,394,598.

Charles A. Weaver, Jr.,
Deputy Director for Administration

TREASURER'S REPORT

The following comments are made in an attempt to highlight the more significant figures and to aid in understanding The American Museum of Natural History's operations during the past year. These statements, audited by Coopers and Lybrand, show the Museum's financial condition, results of operations and changes in fund balances.

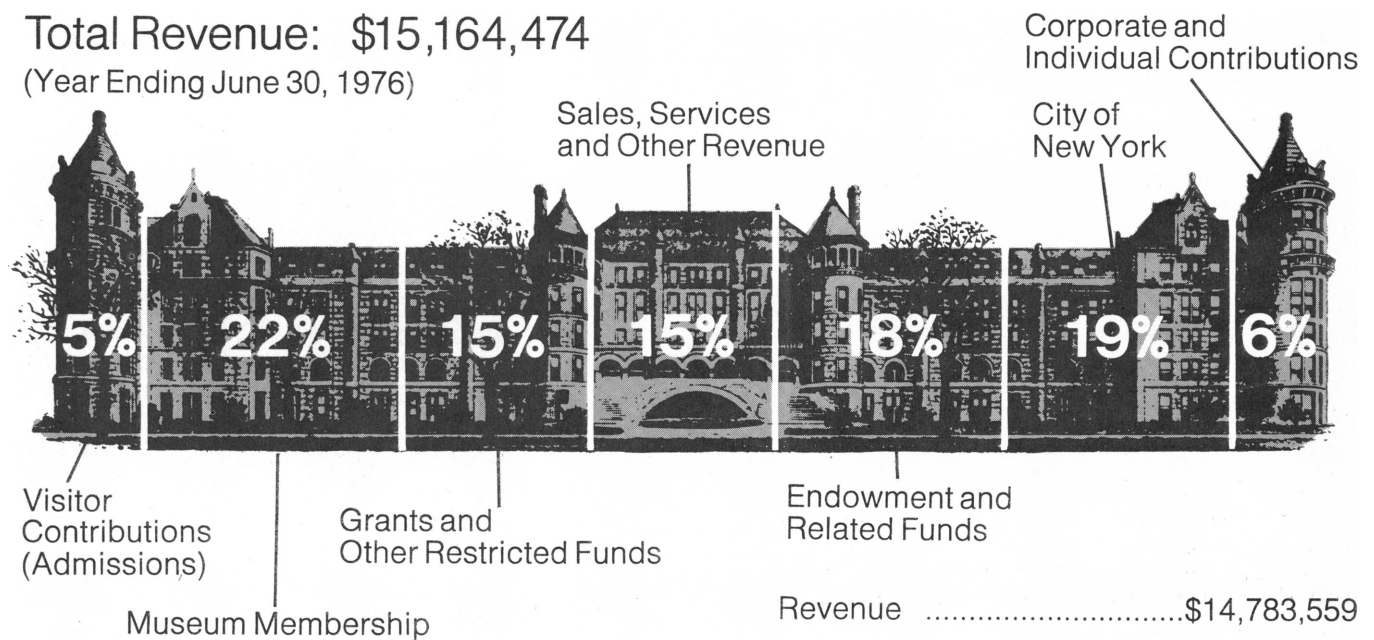
On page 35 you will find the Museum's Statements of Revenue and Expenses of Current Funds. This statement is divided into two categories: the General Fund is that used for daily unrestricted operating purposes, and Special Funds are those used or given for special projects. The total of revenues from these two sources, together with a grant from the New York State Council on the Arts, provides the total income to support the ongoing operations of the Museum. In 1976, this State grant was \$660,000 versus \$800,000 in 1975, and is reflective of the general budgetary stringencies existent in 1976 in our City and State. Before giving effect to this grant from the New York State Council on the Arts, the Museum's total operating deficit was \$887,942 versus \$1,602,502 in 1975. After crediting this grant, the net deficit was \$227,942 in 1976, compared to \$802,502 in 1975.

During the course of the year the Board of Trustees authorized transfers from the General Endowment Funds to cover the General Fund deficit. Since any surplus or deficit in the Special Funds category is funded only via increases or decreases in Special Funds balances and not via General Endowment transfers, this accounts for the variances between the total deficits in any year and the General Fund deficit. After giving effect to these transfers, the General Fund deficit in 1976 amounted to \$547,710 as compared to \$207,537 in the preceding fiscal year. Such deficit will be funded from the General Endowment Funds for fiscal 1976-1977. In the Special Funds category, the excess of revenues over expenses in 1976 was \$421,846. This represents contributions and grants received during fiscal 1975-1976 to fund either expenditures made in prior years or expenditures which will be incurred for special purposes in future years.

In reviewing the Statements of Revenue and Expenses of Current Funds, with respect to revenues, it should be noted that the appropriation from the City of New York was reduced by 7½ percent compared to fiscal 1975. During the current year, the fund-raising and promotional efforts of the Museum Administration

Total Revenue: \$15,164,474

(Year Ending June 30, 1976)



Revenue\$14,783,559

Add:

Accounting change—

Income from Investments 380,915

Total Revenue\$15,164,474

and Board of Trustees have resulted in substantial increases in gifts, bequests and grants, Museum membership and other revenue which have helped to offset the reduction in City support and to absorb the effect of inflation on labor, services and supplies that the Museum purchases.

During fiscal 1976, the Museum has been operating under a crisis expense budget. It has selectively reduced its staff by about nine percent through attrition, wherever possible, and by layoffs, when necessary, so that the character and quality of scientific and educational programs remained intact and the reduction of services to the general public was at a minimum.

The Endowment Fund investments are carried at cost in the Balance Sheets on page 34. During the current year, additions of \$2,744,183 were made to the Endowment Funds, as noted in the Statements of Changes in Fund Balances on page 36. This reflects a transfer of the balance remaining in the Museum's Pension Funds after funding all future liabilities via the purchase of an annuity. The book value and market value of Endowment Funds' investments at June 30, 1976, amounts to \$45,637,440 and \$51,654,489 respectively and is shown in the Notes to the Financial

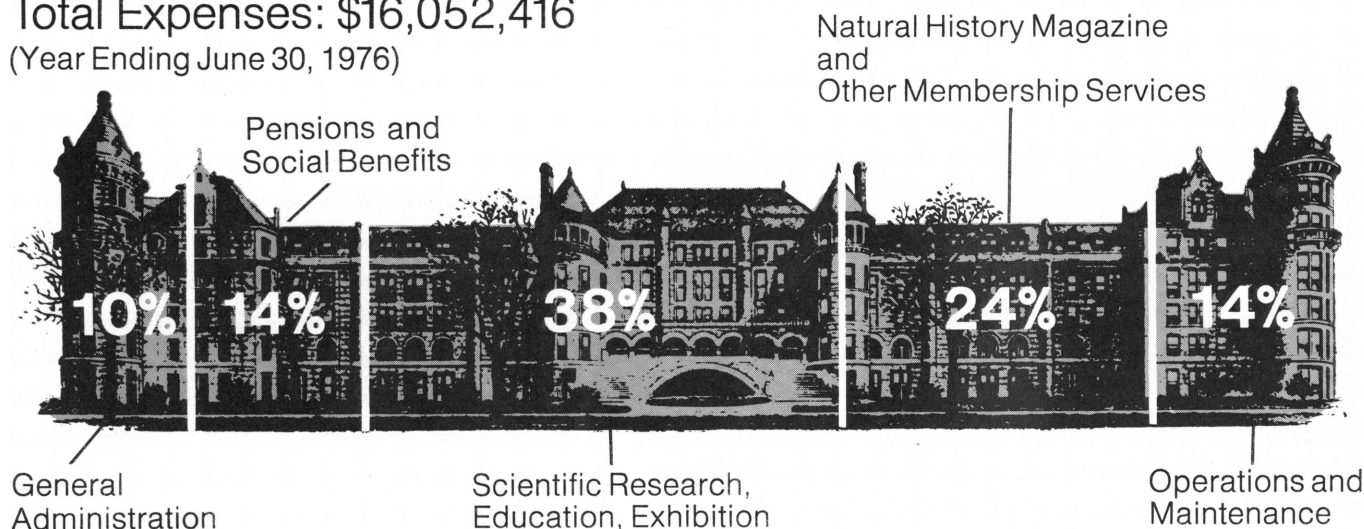
Statements on page 38.

The graphs below indicate the percentage of revenue from all sources and the percentage of expenses allocated to major Museum functions. It should be noted that while total revenue from all sources, both public and private, amounted to \$15,164,474 in fiscal 1975-1976, an increase of about sixteen percent over the previous year, the total expenses amounted to \$16,052,416 in fiscal 1975-1976, an increase of about nine percent over the previous year.

The Museum Administration and Board of Trustees are aware that future plans must be based on the development of new sources of revenue from the private sector, to offset the decline in City support, and are seeking programs to accomplish this objective. In order to absorb the effect of inflation on our economy, the Administration is continually reviewing new management techniques and introducing them, wherever possible, so that the cost for labor, services and supplies can be reduced without affecting the scientific and public programs.

Frederick A. Klingenstein, *Treasurer*

Total Expenses: \$16,052,416 (Year Ending June 30, 1976)



Expenses\$15,000,175

Add:

Accounting change—

Employees' Benefit Costs\$ 1,052,241

Total Expenses\$16,052,416

Operating Deficit:\$887,942

Less Support Grant
from New York State

Council on the Arts: 660,000

Net Operating Deficit:\$227,942

**THE AMERICAN MUSEUM OF NATURAL HISTORY
BALANCE SHEETS, JUNE 30, 1976 AND 1975**

1976

ASSETS:

	Current Funds			Endowment Funds	Total	1975 Total
	General Fund	Special Funds				
Cash	\$ 77,492	\$ 18,573		\$ 59,821	\$ 155,886	\$ 211,561
Receivable from sale of securities				10,133	10,133	182,298
Accrued interest and dividends receivable (Note 6)	270,154	66,679			336,833	
Accounts receivable, less allowance for doubtful accounts of \$59,030 in 1976 and \$54,980 in 1975	325,875	271,230			597,105	502,181
Due from City of New York	124,544				124,544	182,230
Due from other funds	446,759	215,759			662,518	577,425
Investments in marketable securities (Note 1)	3,048,707	2,068,914	45,637,440		50,755,061	54,185,171
Planetarium Authority bonds (Note 2)		425,000			425,000	425,000
Museum Shop inventory	94,473				94,473	94,391
Prepaid expenses	546,802				546,802	154,974
	<u>\$4,934,806</u>	<u>\$3,066,155</u>	<u>\$45,707,394</u>		<u>\$53,708,355</u>	<u>\$56,515,231</u>

LIABILITIES and FUNDS:

Accounts payable and accrued liabilities	\$1,169,630	\$ 122,530	\$ 9,996	\$ 1,302,156	\$ 1,160,354
Accrued employee benefit costs (Note 6)	1,086,290			1,086,290	
Payable for securities purchased					
Due to other funds			662,518	662,518	199,375
Unearned membership income	3,226,596			3,226,596	577,425
Funds:					3,327,465
General Fund (deficit)	(547,710)			(547,710)	(207,537)
Special Funds (Note 3)		2,943,625		2,943,625	2,446,356
Endowment Funds (Note 4)			45,034,880	45,034,880	42,787,233
Pension Fund (Note 5)					5,836,864
Frick Employees Retirement Fund (Note 5)					387,696
	<u>\$4,934,806</u>	<u>\$3,066,155</u>	<u>\$45,707,394</u>	<u>\$53,708,355</u>	<u>\$56,515,231</u>

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

**STATEMENTS OF REVENUE AND EXPENSES OF CURRENT FUNDS
FOR THE YEARS ENDED JUNE 30, 1976 AND 1975**

	1976			1975
	General Fund	Special Funds	Total	Total
Revenue:				
Appropriation from the City of New York	\$ 2,881,809		\$ 2,881,809	\$ 3,114,863
Gifts, bequests and grants	877,432	\$2,209,117	3,086,549	2,299,997
Interest and dividend income (Note 6)	1,859,938	476,044	2,335,982	2,281,902
Visitors' contributions		836,561	836,561	766,972
Museum membership	3,292,388		3,292,388	2,688,058
Other revenue	1,777,748	572,522	2,350,270	1,926,821
Total revenue	10,689,315	4,094,244	14,783,559	13,078,613
Expenses (Note 6):				
Scientific and educational activities	2,723,520		2,723,520	2,600,725
Exhibition halls and exhibits		1,219,935	1,219,935	1,045,919
Natural History Magazine	3,906,289		3,906,289	3,554,500
Other special purpose programs and projects		2,085,325	2,085,325	2,321,942
Administrative and general	1,372,624	208,943	1,581,567	1,493,783
Plant operating and maintenance	2,242,397		2,242,397	2,486,565
Pension and other social benefits (Note 5)	1,010,066	231,076	1,241,142	1,177,681
Total expenses	11,254,896	3,745,279	15,000,175	14,681,115
Excess of revenue over expenses (expenses over revenue) before cumulative effect of accounting changes and support grant	(565,581)	348,965	(216,616)	(1,602,502)
Cumulative effect of accounting changes (Note 6):				
Employee benefit costs	(1,052,241)		(1,052,241)	
Income from investments	308,034	72,881	380,915	
Excess of revenue over expenses (expenses over revenue) before support grant	(1,309,788)	421,846	(887,942)	(1,602,502)
Support grant (Note 7)	660,000		660,000	800,000
Excess of revenue over expenses (expenses over revenue)	(\$ 649,788)	\$ 421,846	(\$ 227,942)	(\$ 802,502)

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, 1976 AND 1975**

	Current Funds				Endowment Funds		Pension and Frick Employees Retirement Funds	
	General Fund		Special Funds		1976	1975	1976	1975
	1976	1975	1976	1975				
Balance (deficit), beginning of year	<u>(\$207,537)</u>	<u>(\$174,754)</u>	<u>\$2,446,356</u>	<u>\$2,642,716</u>	<u>\$42,787,233</u>	<u>\$45,127,464</u>	<u>\$6,224,560</u>	<u>\$7,501,281</u>
Additions:								
Gifts, bequests and grants					109,083	141,501		
Interest and dividend income							213,967	280,659
Total additions					<u>109,083</u>	<u>141,501</u>	<u>213,967</u>	<u>280,659</u>
Deductions:								
Net loss (gain) on sales of investments					(2,416)	1,824,111	80,658	956,244
Excess of (revenue over expenses)			(421,846)	640,598				
Payments to pensioners and beneficiaries	649,788	161,904						
General administrative expenses					90,842	84,262	189,862	477,873
Past service contributions to CIRS (Note 5)					132,155		22,086	36,900
Purchase of pension annuities (Note 5)							3,401,738	86,363
Total deductions	<u>649,788</u>	<u>161,904</u>	<u>(421,846)</u>	<u>640,598</u>	<u>220,581</u>	<u>1,908,373</u>	<u>3,694,344</u>	<u>1,557,380</u>
Transfers between funds:								
Financing of:								
1975 and 1974 General Fund deficits	207,537	174,754			(207,537)	(174,754)		
Special Funds activities			82,423	390,318	(82,423)	(390,318)		
Other	102,078	(45,633)	(7,000)	53,920	(95,078)	(8,287)		
Termination of Pension and Frick Employees Retirement Funds (Note 5)					2,744,183		(2,744,183)	
Total transfers	<u>309,615</u>	<u>129,121</u>	<u>75,423</u>	<u>444,238</u>	<u>2,359,145</u>	<u>(573,359)</u>	<u>(2,744,183)</u>	
Balance (deficit), end of year	<u>(\$547,710)</u>	<u>(\$207,537)</u>	<u>\$2,943,625</u>	<u>\$2,446,356</u>	<u>\$45,034,880</u>	<u>\$42,787,233</u>	<u>—</u>	<u>\$6,224,560</u>

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

AUDITORS' REPORT

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

We have examined the balance sheet of THE AMERICAN MUSEUM OF NATURAL HISTORY as of June 30, 1976 and the related statements of revenue and expenses of current funds and changes in fund balances for the year then ended. Our examination was 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. We previously examined and reported upon the financial statements for the year ended June 30, 1975.

In our opinion, the aforementioned financial statements present fairly the financial position of The American Museum of Natural History at June 30, 1976 and 1975 and results of its operations for the years then ended, in conformity with generally accepted accounting principles consistently applied during the period except for the changes, with which we concur, in the methods of accounting for income from investments and certain employee benefit costs as described in Note 6 to the financial statements.



1251 Avenue of the Americas
New York, New York 10020
September 24, 1976

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 portfolio at market value.

Investments are stated at cost or, if acquired by gift, at fair market 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 the 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:

	1976		1975	
	Cost	Market	Cost	Market
General Fund	\$ 3,048,707	\$ 3,048,707	\$ 3,090,198	\$ 3,090,198
Special Funds	2,068,914	2,068,914	1,609,802	1,609,802
Endowment Funds	45,637,440	51,654,489	43,229,062	47,414,215
Pension and Frick Employees Retirement Funds	<u>\$50,755,061</u>	<u>\$56,772,110</u>	<u>6,256,109</u>	<u>6,489,010</u>
			<u>\$54,185,171</u>	<u>\$58,603,225</u>

The Museum's investments consist of the following:

Short-term obligations	\$ 5,930,031	\$ 5,930,031	\$ 8,148,016	\$ 8,148,016
Bonds	17,735,082	17,327,853	19,640,094	18,497,362
Preferred stocks	1,000,000	1,000,000	1,005,035	1,004,517
Common stocks	26,089,948	32,514,226	25,392,026	30,953,330
	<u>\$50,755,061</u>	<u>\$56,772,110</u>	<u>\$54,185,171</u>	<u>\$58,603,225</u>

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, 1976 and 1975 is included in other revenue of the General Fund.
3. The balances at June 30, 1976 and 1975 of Special Funds (funds which are received or appropriated for specific purposes) are net of overdrafts of certain of these funds of approximately \$182,000 and \$260,000, 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.
4. Endowment Funds (including funds functioning as Endowment Funds) are summarized as follows:
- | | June 30 | |
|---|---------------------|---------------------|
| | 1976 | 1975 |
| Endowment Funds, income available for: | | |
| Restricted purposes | \$20,716,552 | \$21,062,361 |
| Unrestricted purposes | 7,717,128 | 8,007,046 |
| Funds functioning as endowment, principal and income available for: | | |
| Restricted purposes | 4,864,738 | 2,431,148 |
| Unrestricted purposes | 11,736,462 | 11,286,678 |
| | <u>\$45,034,880</u> | <u>\$42,787,233</u> |
5. All eligible employees of the Museum are members of the Cultural Institutions Retirement System's (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) were \$575,000 in fiscal 1976 and \$631,000 in fiscal 1975.

The Museum purchased a group annuity contract during fiscal 1976 to satisfy its pension obligation to those former employees not covered by the CIRS plan. The cost of this contract was financed from the assets of the Museum's Pension and the Frick Employees Retirement Funds. The remaining assets of the Pension Fund (approximately \$2,601,000) were then transferred to the Endowment Fund as a Board-designated restricted fund (Pension Support Fund). The income generated from this fund will be added to its principal, and an amount equal to 5% of the average balance will be used to fund annual prior service contributions. The excess of unfunded prior service cost over the Pension Support Fund's assets is being amortized as a General Fund expense over twenty years. The remaining assets of the Frick Employees Retirement Fund (approximately \$143,000) have been transferred to the existing Frick Laboratory Endowment Fund, the assets of which are available to fund the operating costs, including pension costs, of the Frick Laboratory.

The Museum has not yet determined the effect, if any, that the Employees Retirement Income Security Act of 1974 (Pension Reform Act) will have upon the cost of the plan.

6. Effective July 1, 1975, the Museum changed its methods of accounting for income from investments and certain employee benefit costs in order to reflect more clearly the operations of the Current Funds. As a result, interest and dividend income from the investment portfolio is recognized as those earnings accrue to the Museum and the cost of annual leave and sick benefits is accrued as it becomes vested. Previously, income from investments and the employee benefit costs were generally recorded when received or disbursed. These changes had the following effect upon the fiscal 1976 excess of expenses over revenue before support grant for the General and Special Funds:

	<u>General Fund</u>	<u>Special Funds</u>	<u>Total</u>
Excess of revenue over expenses (expenses over revenue) before support grant and before giving effect to accounting changes			
Effect of accounting changes:			
Recognition of income from investments	(37,880)	(6,202)	(44,082)
Employee benefit costs	<u>(34,049)</u>	<u> </u>	<u>(34,049)</u>
Excess of revenues over expenses (expenses over revenue) before cumulative effect of accounting changes and support grant	<u>(\$565,581)</u>	<u>\$348,965</u>	<u>(\$216,616)</u>

The pro forma effect of these accounting changes assuming they were retroactively applied to fiscal 1975 is as follows:

	<u>General Fund</u>	<u>Special Funds</u>	<u>Total</u>
Excess of expenses over revenue before support grant, as originally reported			
Effect of accounting changes:			
Recognition of income from investments	(\$961,904)	(\$640,598)	(\$1,602,502)
Employee benefit costs	<u>76,377</u>	<u>16,049</u>	<u>92,426</u>
Pro forma excess of expenses over revenue before support grant	<u>(\$955,209)</u>	<u>(\$624,549)</u>	<u>(\$1,579,758)</u>

7. In fiscal 1975 and 1976, grants were received from the New York State Council on the Arts towards the support of the General Fund's Operations.

8. Certain amounts in the fiscal 1975 financial statements have been reclassified to conform with the fiscal 1976 presentation.

AUDITORS' REPORT

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

We have examined the balance sheet of THE
AMERICAN MUSEUM OF NATURAL HISTORY
PLANETARIUM AUTHORITY as of June 30, 1976 and
the related statements of income, expenses and deficit
and of changes in restricted funds for the year then
ended. Our examination was made in accordance
with generally accepted auditing standards and, ac-
cordingly, included such tests of the accounting
records and such other auditing procedures as we
considered necessary in the circumstances. We
previously examined and reported upon the financial
statements for the year ended June 30, 1975.

In our opinion, the aforementioned financial state-
ments present fairly the financial position of The
American Museum of Natural History Planetarium
Authority at June 30, 1976 and 1975 and the results of
its operations for the years then ended, in conformity
with generally accepted accounting principles con-
sistently applied during the period except for the
change, with which we concur, in the method of
accounting for certain employee benefit costs as
described in Note 5 to the financial statements.

Coopers & Lybrand

1251 Avenue of the Americas
New York, New York 10020
September 24, 1976

**THE AMERICAN MUSEUM OF NATURAL HISTORY
PLANETARIUM AUTHORITY
BALANCE SHEETS, JUNE 30, 1976 AND 1975**

	ASSETS:		LIABILITIES:	
	1976	1975	1976	1975
Cash	\$ 85,346	\$ 6,825	Accounts payable	\$ 19,759
Short-term investments	199,038		Accrued employee benefit costs (Note 5)	72,475
Accounts receivable	2,297	92,213	4½ % Refunding Serial Revenue bonds, past due (Note 1)	570,000
Inventory (publications and souvenirs)	24,385	24,381	Accrued interest, past due	315,450
	311,066	123,419		977,684
				<u>913,473</u>
Equipment, fixtures, etc.:			CONTRIBUTED CAPITAL, RESTRICTED FUNDS AND DEFICIT:	
Zeiss planetarium instrument, at cost	221,928	221,928	Contributed capital:	
Building improvements	109,800	109,800	Charles Hayden	156,869
	331,728	331,728	Charles Hayden Foundation	429,455
	(83,150)	(66,560)	The Perkin Fund	400,000
Less, Allowance for depreciation	248,578	265,168		<u>986,324</u>
Furniture, fixtures and equipment	1	1	Restricted funds:	
	248,579	265,169	Trust Agreement Fund	2,500
Buildings, at cost	1,019,210	1,019,210	Billy Rose Foundation Fund (Note 2)	98,570
	<u>\$1,578,855</u>	<u>\$1,407,798</u>	Guggenheim Foundation Fund (Note 3)	19,624
			Other (Note 4)	241,650
			Deficit, as annexed	(747,497)
				<u>601,171</u>
				<u>\$1,578,855</u>
				<u>\$1,407,798</u>

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

**STATEMENTS OF INCOME, EXPENSES AND DEFICIT
FOR THE YEARS ENDED JUNE 30, 1976 AND 1975**

	1976	1975
Income:		
Admission fees, less allowances and commissions	\$471,323	\$472,459
Auxiliary activity, sales booth	101,823	92,212
Special lectures and courses	35,837	32,770
Other income and grants	35,876	16,914
Total income	<u>644,859</u>	<u>614,355</u>
Expenses (Note 5):		
Preparation, presentation and promotional		
Operation and maintenance	301,814	269,824
Auxiliary activity, sales booth	136,443	184,688
Administrative and general	88,966	81,018
Pension and other social benefits (Note 6)	37,254	32,422
	61,822	66,376
Total expenses	<u>626,299</u>	<u>634,328</u>
Income (loss) before interest and depreciation	<u>18,560</u>	<u>(19,973)</u>
Interest on past due 4½ % Refunding Serial Revenue bonds	(25,650)	(25,650)
Provision for depreciation	<u>(16,594)</u>	<u>(13,845)</u>
Loss from operations before cumulative effect of accounting change and support grant	(23,684)	(59,468)
Cumulative effect of change in accounting for certain employee benefit costs (Note 5)	(67,798)	
Support grant (Note 7)	15,000	35,000
Net loss	<u>(76,482)</u>	<u>(24,468)</u>
Deficit, beginning of year	<u>(671,015)</u>	<u>(646,547)</u>
Deficit, end of year	<u>(\$747,497)</u>	<u>(\$671,015)</u>

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

**STATEMENT OF CHANGES IN RESTRICTED FUNDS
FOR THE YEARS ENDED JUNE 30, 1976 AND 1975**

	Billy Rose Foundation Fund (Note 2)	Guggenheim Foundation Fund (Note 3)	Other
Balance, June 30, 1974		\$ 7,195	
Additions:			
Contributions and grants	\$100,000		\$ 30,512
Proceeds from special presentations (Note 4)			172,672
Expenditures:			
Special purpose programs and projects	(17,924)	(4,311)	(26,357)
Special presentation expenses (Note 4)			(85,271)
Balance, June 30, 1975	<u>82,076</u>	<u>2,884</u>	<u>91,556</u>
Additions:			
Contributions	200,000	21,350	259,047
Proceeds from special presentations (Note 4)			
Expenditures:			
Special purpose programs and projects	(183,506)	(4,610)	(4,419)
Special presentation expenses (Note 4)			(104,534)
Balance, June 30, 1976	<u>\$ 98,570</u>	<u>\$19,624</u>	<u>\$241,650</u>

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

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 the Cultural Institutions Retirement System's (CIRS) Pension Plan. It is the Planetarium's policy to fund pension expense accrued.

NOTES TO FINANCIAL STATEMENTS

1. The Planetarium Authority bonds were purchased by The American Museum of Natural History in 1948. The Charles Hayden Foundation contributed \$200,000 to the Museum toward the purchase of such bonds.

2. During fiscal 1976, the Planetarium began the construction of the Hall of the Sun. The cost of this project is estimated to be \$400,000 and is being funded by contributions of \$400,000 from the Billy Rose Foundation of which \$100,000 was received in fiscal 1975 and \$200,000 was received in fiscal 1976.

3. In fiscal 1972 the Daniel and Florence Guggenheim Foundation contributed \$188,000 to establish and maintain a Space Theatre at the Planetarium. In fiscal 1976 it pledged a contribution of \$51,350 to be paid over the next five years. Through June 30, 1976, \$21,350 has been received on this pledge.

4. 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 fund current and future improvements and renovations.

5. Effective July 1, 1975, the Planetarium changed its method of accounting for certain employee benefit costs in order to reflect more clearly its operations. As a result, the cost of annual leave and sick benefits is accrued as it becomes vested. Previously, these costs were generally recorded when disbursed. This change had the following effect upon the fiscal 1976 loss from operations before support grant:

Loss from operations before support grant and before giving effect to accounting change	(\$19,007)
Effect of change in accounting for employee benefit costs	(4,677)
Loss from operations before cumulative effect of accounting change and support grant	<u>(\$23,684)</u>

The pro forma effect of this accounting change assuming it was retroactively applied to fiscal 1975 would be negligible.

6. Pension expense for fiscal 1976 and 1975 was \$31,615 and \$31,722, respectively.
7. In fiscal 1975 and 1976, grants were received from the New York State Council on the Arts for the purpose of funding the operating deficit.

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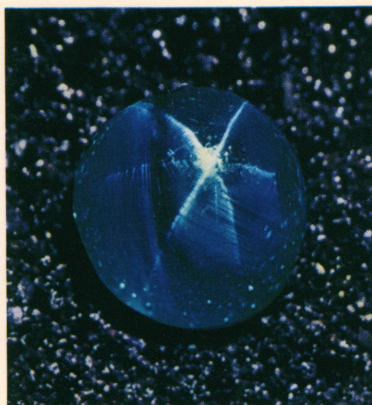
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