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**DEPARTMENT OF THE INTERIOR AND RELATED
AGENCIES APPROPRIATIONS FOR 1972**

HEARINGS

BEFORE A

**SUBCOMMITTEE OF THE
COMMITTEE ON APPROPRIATIONS
HOUSE OF REPRESENTATIVES
NINETY-SECOND CONGRESS**

FIRST SESSION

SUBCOMMITTEE ON DEPARTMENT OF THE INTERIOR AND
RELATED AGENCIES

JULIA BUTLER HANSEN, Washington, *Chairman*

JOHN J. FLYNT, Jr., Georgia
DAVID R. OBEY, Wisconsin
SIDNEY R. YATES, Illinois
NICK GALIFIANAKIS, North Carolina

JOSEPH M. McDADE, Pennsylvania
WENDELL WYATT, Oregon
DEL CLAWSON, California

GEORGE E. EVANS and BYRON S. NIELSON, *Assistants to the Subcommittee*

COM FINE ARTS 425
NATL. GAL. ART 489
S.I. 518

Mr. GALIFIANAKIS. I was wondering what is encompassed in the future that you would house in the gallery. You mentioned sculpture and of course portrait work. What else? Is it a mixed artistic media type of thing?

Mr. BROWN. I think there will be, increasingly. In our new building, we are trying to design as much flexibility into it as possible. We cannot pretend to be able to foresee what the artists will come up with. Already they are operating in various technological media involving light and mixed media and we want to have the maximum flexibility for them.

Mr. GALIFIANAKIS. Thank you.

Mrs. HANSEN. Thank you, very much, Mr. Brown.

As usual, you have given the committee a very stimulating and educational morning.

MONDAY, APRIL 5, 1971.

SMITHSONIAN INSTITUTION

WITNESSES

S. DILLON RIPLEY, SECRETARY

JAMES BRADLEY, UNDER SECRETARY

CHARLES BLITZER, ASSISTANT SECRETARY FOR HISTORY AND ART

DAVID CHALLINOR, ACTING ASSISTANT SECRETARY FOR SCIENCE

WILLIAM W. WARNER, ASSISTANT SECRETARY FOR PUBLIC SERVICE

T. AMES WHEELER, TREASURER

JOHN F. JAMESON, DIRECTOR, OFFICE OF PROGRAMING AND BUDGET

RICHARD S. COWAN, DIRECTOR, NATIONAL MUSEUM OF NATURAL HISTORY

DANIEL J. BOORSTIN, DIRECTOR, NATIONAL MUSEUM OF HISTORY AND TECHNOLOGY

FRED L. WHIPPLE, DIRECTOR, SMITHSONIAN ASTROPHYSICAL OBSERVATORY

THEODORE H. REED, DIRECTOR, NATIONAL ZOOLOGICAL PARK

ABRAM LERNER, DIRECTOR, JOSEPH H. HIRSHHORN MUSEUM AND SCULPTURE GARDEN

INTRODUCTION OF WITNESSES

Mrs. HANSEN. This morning we have the Smithsonian Institution and our principal witness is Dr. S. Dillon Ripley, Secretary.

Dr. Ripley, do you want to introduce your colleagues who are here today?

Dr. RIPLEY. I am sorry to produce such a groaning board for you today, but it is, in effect, a group that includes some of the bureau directors who will be testifying during the hearing. It seems to me that it would be an opportunity for the committee to see some of our people.

Mr. Bradley, who you know very well, is the Under Secretary; John Jameson, our Budget Officer; Mr. Challinor, the Acting Assistant Sec-

retary for Science; Mr. Blitzer, the Assistant Secretary for History and Art; Mr. Warner, the Assistant Secretary for Public Service; Dr. Whipple, Director of the Astrophysical Observatory; and Dr. Boorstin, Director of the Museum of History and Technology.

We also have Dr. Cowan, head of the Museum of Natural History, Mr. Lerner, Director of the Hirshhorn Museum; Mr. Michael Collins, former astronaut, who will be coming in as head of the National Air and Space Museum; Dr. Reed, Director of the National Zoological Park; and Mr. Wheeler, our Treasurer.

I want to say it is a great pleasure to be here and to be able to speak again to this committee which has been so friendly to our objectives in the past.

INCREASE IN VISITORS

We had difficulty getting here having to walk through the throngs that crowd the Capitol. Right now is also a peak of our holiday visitors and our attendance has come back this year to the level of 1967, the year prior to the riots, when we had over 13 million visitors.

Well, this year we anticipate we will have over 14 million, the way things are going now. How hard it is to get in and out of our buildings. We have another 5 million visitors at the Zoo and about 50,000 a year at Anacostia, our little neighborhood museum.

We are doing very well with the public and the public has more on their minds. They have more demands.

Mrs. HANSEN. I see the press has made some favorable comments about your activities.

Dr. RIPLEY. Yes; I think this is the sort of thing that happens when you become a little bit of an underdog and even the press tries to change their pace a little bit.

GENERAL STATEMENT

Mrs. HANSEN. Great. I am sure you have a general statement, Dr. Ripley; and if you will insert it in the record at this point and summarize it for us.

(The prepared statement of Dr. S. Dillon Ripley follows:)

Madam Chairman and members of the committee, it is a pleasure to appear again before this committee to review the Smithsonian Institution's accomplishments over the past year and to enlist your continued interest in and support of our programs. This coming August will mark the 125th birthday of the Institution. We are enthusiastic about the future and confident that our continued efforts at increasing and diffusing knowledge will result in contributions to the Nation as significant as those in the past.

NOTABLE EVENTS OF THE PAST YEAR

There have been many notable events and achievements during the past year which I would like to summarize briefly for the record.

Visitor attendance to the buildings on and in the vicinity of the Mall increased by approximately 3,200,000 persons in fiscal year 1970 over the previous year, from 10,400,000 to 13,600,000. Through February of this fiscal year we have had 8,024,000 visitors, slightly ahead of last year's pace. An additional 50,000 persons visit the Anacostia Neighborhood Museum and approximately 5 million come to the National Zoological Park each year. This use testifies to the growing interest in all public institutions as educational and cultural resources.

Construction of the Joseph H. Hirshhorn Museum and Sculpture Garden began in March 1970. As of now, the ground floor slab is 75 percent complete, the four-

dation walls are complete, and the Mall level slab is 30 percent finished. We project that the building will be ready for occupancy in the fall of 1972, with a public opening to follow within 6 to 9 months.

Also in April 1970, the first issue of the *Smithsonian* magazine appeared. We now have some 230,000 associate members and are very pleased by this new capability to diffuse knowledge. As Joseph Henry, the first Secretary of the Smithsonian, stated in 1852, "The worth and importance of the Institution are not to be estimated by what it accumulates within the walls of its building(s), but by what it sends forth to the world."

A special word should be said about the coming to the Smithsonian of the Archives of American Art in May 1970. This extraordinarily important archival resource will strengthen our position as a leading national center for the study of American art and civilization.

More than 750,000 persons were drawn to the Mall during the 5-day period including the Fourth of July to participate in the annual Festival of American Folklife. At the Festival 350 craftsmen and musicians demonstrated the survival of America's cultural heritage. Although drawing participants from many States, each year we highlight one or more regions—Pennsylvania in 1969, Arkansas in 1970, and Ohio and the Indians of the Pacific Northwest this coming summer.

With funds appropriated to the Institution we have initiated a special inter-bureau program pointing toward the celebration of the American Revolution Bicentennial in 1976 and a reappraisal of our national experiences. We have a similar Institution-wide effort underway to develop long-range ecological assessments critical to improving man's understanding of the physical and biological environment upon which human society depends.

The current and growing concern for the safety of the food we eat has, as in so many cases in the past, led scientists to the collections in the National Museum of Natural History for clues to the answers which are being sought. The determination of the levels of mercury found in seafood products is a good example of the service which our staff is able to render. Analysis of specimens in our collections shows that as far back as 1878 tuna contained levels of mercury similar to those discovered recently in canned fish which were subsequently withdrawn from the market. Specimens of tuna from the Gulf of Mexico and the Atlantic and Pacific Oceans taken as far back as 80 to 90 years ago show concentrations of methylmercury ranging from 0.04 to 0.64 parts per million. As you are aware, the present safety guideline established by the FDA is 0.5 p.p.m. and seafood containing a higher concentration is deemed unsafe for human consumption.

DDT had long been suspected as exerting a harmful effect on the reproduction of birds. Recent studies on specimens in the National Museum of Natural History have confirmed this suspicion. A comparison of pre-pesticide birds' eggs with eggs of the same species of birds today shows a dramatic reduction in shell thickness. This increased fragility results in breakage of eggs during incubation and, of course, a lower reproduction rate. One species thus seriously affected of great concern to biologists is the fish eating hawk, the Osprey. Specimen Osprey eggs in the Museum's collections, some of which date back as far as 100 years, demonstrate convincingly this change in shell thickness.

We are proud of the initiation during the past year of the first programs for the Woodrow Wilson International Center for Scholars. The opening in October 1970 of fellowship and guest scholar programs is a further realization of the Smithsonian's traditional international role. President Nixon and Senator Humphrey, the Chairman of the Center's Board of Trustees, honored us by dedicating the Center on February 18, 1971.

The Encyclopedia of North American Indians is well along toward development. Planning has been completed, writing assignments have been partially made, and we are very optimistic that this comprehensive set of standard reference works will be published by July 1976 as part of the Institution's contribution to the American Revolution Bicentennial.

Public Law 91-629, approved December 31, 1970, reauthorized appropriations for the National Museum Act in the amount of \$1 million each year, a portion of which would be made available by the Smithsonian to the National Endowment for the Arts and the National Endowment for the Humanities. This funding for training, conservation, and exhibits techniques is essential if the Nation's museums, now being visited by perhaps as many as 700 million persons a year, are to continue to offer educational and cultural opportunities.

Recently, we were pleased to announce the selection of a Director for our National Air and Space Museum after a long and intensive search. Astronaut Michael Collins will join our staff on about April 12 and immediately begin to help us develop our plans for the future.

Radio astronomers at the Smithsonian Astrophysical Observatory, coordinating research in the laboratory and at the telescope, have recently observed in space such surprising substances as methanol (wood alcohol) and formic acid (the agent that makes an ant bite painful) and are searching for still more complex molecules such as amino acids which are the building blocks of life.

On April 6, 1971, we will open a major exhibition in the National Museum of History and Technology featuring the music-making machines that have revolutionized the performance, reproduction, and dissemination of music in America. This will be an additional attraction for the more than 5 million persons who visit this museum each year.

These are but a few of the highlights of our activities during the past 12 months. Many more have been described in the recently issued *Smithsonian Year*, copies of which have been given wide distribution. We might add that this annual report has been revised and streamlined to make it a more useful document and to reduce the very substantial printing costs of previous editions.

PLANS FOR THE FUTURE

I would now like to identify in a summary way our 10 major objectives and guiding principles for the next several years. Additional details on our plans and requirements that will help us realize these objectives have been stated in our budget estimates and will be discussed during the course of the hearing.

(1) The central concerns of the Smithsonian represent national needs for the kind of sustained commitment that can be made only by an institution with a strong sense of continuity, tradition, and concentrated purpose. We believe that our first responsibility is to continue the general lines of endeavor that have marked the past 125 years: basic research in selected areas of national interest; development and maintenance of the national collections in science, history, and in the arts; and education of the public through exhibitions, publications, and lectures.

(2) An overriding concern must continue to be the quality of the professional staff effort within the Smithsonian in order to sustain the basic scholarly program. We cannot too strongly emphasize the achievement of an adequate level of technical and financial support for this effort.

(3) There are a number of courses we should avoid. We must decline requests to assume responsibilities which we believe to be too extensive. For instance, while cooperating with universities we should not seek to assume their distinctive functions. And, while cooperating with and assisting museums elsewhere, as, for instance, through the National Museum Act, we should provide guidance and expert training, not assume a policy or directional role.

(4) Without infringing upon the autonomy of our bureaus and their distinctive objectives, we shall try to emphasize the advantages of existence as a community of scholars. Our desire to maintain unity of outlook and professional endeavor suggests that the Smithsonian should select program developments that reinforce its existing activities.

(5) The museum as an institution for communicating with the public at large is one focus for Smithsonian concern. The other focus is on the vigorous prosecution of lines of laboratory studies which, if it were not for the Smithsonian and companion institutions, would not receive the attention that the national interest requires. Whenever we constitute a museum it is with due emphasis upon its scholarly responsibilities in adding to the store of man's knowledge. These two foci of concern should continue to determine the Smithsonian's course.

(6) Beginning this year, the observance of the Bicentennial of the American Revolution will become a predominant factor in the development of Smithsonian programs. Within the settings of our museums, members of the public may seek a reappraisal of our national experience with due reference to its international setting. Fresh insights of historians should be interwoven with superb offerings of objects and art works that portray our Nation's course over the past two centuries and suggest paths for our continued development.

(7) From the studies of the sources of energy and means for its use by living systems to the explanation of biological diversity, the Smithsonian represents an

unexcelled multi-disciplinary array of information resources and professional scientists. This puts the Institution in a unique position to improve our understanding of the physical environment upon which human society depends. We anticipate increasing demands upon our efforts in systematic biology, anthropology, astrophysics, and environmental studies as important resources in the national effort in environmental improvement.

(8) One of the most important unfulfilled hopes for the Smithsonian is that a great national museum might be developed on the Mall to recreate the experience of man's great adventure: flight and space exploration. We also aspire to present insights into significance of the space age for everyday life and to communicate an understanding of the scientific discoveries originating from space exploration.

Thus, we are coming to appreciate that it is not only machines, or relies of the past, or evidences of the skills of craftsmen that concern us, but man himself. Thus, we propose also to continue to study the idea of a museum of man which would convey additional knowledge about man and society.

(9) The birthright of today's citizen is an understanding of the forces shaping himself and his world. It is to museums that many people look for access to the works of artists, an appreciation of the past, an awareness of the scientific view of nature, and for portents of the future. All museums must experiment with new techniques of exhibition and embark upon research aimed at improving their effectiveness in popular education. The quality of our response to this democratic vista will continue to be a matter of overriding concern to the Smithsonian in years to come. We are hopeful that the programs under the National Museum Act can be implemented fully.

(10) From the amassing of great national collections have arisen difficult questions about how to guarantee access to the information they contain. This will call for innovative designs of indices, catalogs, and ways to manage these collections as information resources. Perhaps some of the techniques developed for the management of voluminous flows of data from satellite observations or oceanographic stations may be adapted to the needs of the future. If man is not to be engulfed by a rising tide of reports, paper, data, computer printouts, and memorabilia, organizations such as the Smithsonian must pioneer in winnowing and selecting from the spate of messages that now fill the communications channels of our advanced technological civilization. In our role as custodian of the Nation's collections we must try to serve the public interest in improved management of scientific and scholarly information. The Science Information Exchange is functioning in a related capacity.

BUDGET REQUIREMENTS FOR FISCAL YEAR 1972

Turning now to our budget requirements for fiscal year 1972, these are presented in four categories: "Salaries and Expenses" for the regular operating programs in our bureaus and offices and for special programs of an institutionwide nature; "Salaries and Expenses" for the operation of the Science Information Exchange; the special foreign currency program; and restoration and construction of buildings. In total, we are requesting fiscal year 1972 appropriations of \$58,751,000, an increase of \$12,794,000 over the estimated base of \$45,957,000 for fiscal year 1971 as shown in the President's budget. I would like to discuss each of our appropriation requests in some greater detail with appropriate reference to our planning guidelines and objectives.

SALARIES AND EXPENSES FOR REGULAR AND SPECIAL PROGRAMS

For regular and special programs, the Institution is requesting a "Salaries and Expenses" increase of \$8,672,000 on our estimated fiscal year 1971 base of \$36,332,000 for a total of \$45,004,000. The estimated 1971 base includes \$1,630,000 of essential pay supplemental funds to cover three pay raises affecting Smithsonian general schedule and wage employees in fiscal year 1971. It does not include a proposed pay supplemental of \$563,000 to fund the general schedule pay raise effective on January 10, 1971, which occurred too late to be reflected in the President's budget. These pay supplemental appropriations are an absolute necessity in order to avoid worsening a situation of already short support funds. We have absorbed this year approximately \$68,000 of higher costs of the health benefits program resulting from Public Law 91-418 which became effective on January

1, 1971. Absorption of this cost in fiscal year 1972 will amount to about \$140,000.

Included in the requested increase of \$8,672,000 is an amount of \$1,154,000 for necessary pay costs of current authorized staff, a portion of which is aimed at meeting the full-year costs of the pay raises. The balance of the requested increase, \$7,518,000, is for two broad purposes. The first is a phased elimination of shortages in technicians, very necessary library materials and services, instruments and other equipment for research, electronic data processing, and other support requirements. The second is for the continued development of programs entrusted to us by the Congress.

The increase of \$8,672,000 is distributed as follows:

An additional amount of \$3,791,000 is requested for the operations of the science bureaus and offices. This program increase will permit improved basic research, documentation, and education related to the Institution's traditional responsibilities in anthropology, astrophysics, biology, geology, and the air and space sciences. Activities will range from investigations that contribute to our understanding of the origin and mechanics of the universe, through investigations on microscopic organisms in the ocean depths, to the development of man as shown by artifacts and productivity, including his air and space achievements.

An amount of \$1,245,000 is sought as an increase for the Smithsonian's history and art activities to permit an understanding, illumination, and appreciation of our country's history through its material culture, its technology, and its art. No other institution has a greater opportunity to demonstrate what Americans have accomplished.

A funding increase of \$183,000 is requested for the United States National Museum activities, primarily for museum registration and conservation purposes.

Additional funding of \$118,000 is required for the Smithsonian's public service activities that enable it to expand its public reach beyond the walls of its centrally located museums and art galleries.

An increase of \$1,926,000 is sought in the special programs category of the Smithsonian's budget request primarily for the environmental science program of environmental assessment, monitoring, and prediction; for the National Museum Act; and for a major exhibition on the World of Living Things. Continued funding of our American Revolution bicentennial program also is being requested.

And, finally, \$1,409,000 are required to allow the administrative and central support services to give adequate technical and management assistance to the museums, galleries, and research laboratories and the Buildings Management Department to provide an acceptable level of maintenance, operation, and protection services to the physical plant and program activities.

SALARIES AND EXPENSES FOR THE SCIENCE INFORMATION EXCHANGE

Traditionally, the Smithsonian has been involved with the production and management of data required for research. Much of this effort, of course, has been directed at the information associated with our collections, but we have been involved in significant other ways. The Science Information Exchange was established in 1949 by a number of Federal agencies for the purpose of coordination and communication in research programing. Since 1953 the Exchange has been operated by the Smithsonian, first with funds provided by approximately a dozen agencies and since 1964 by contract from the National Science Foundation. This has been at the level of \$1,600,000 for the past 2 years primarily to meet the costs of data acquisition and storage. The cost of output services is now met by user charges. The Science Information Exchange provides the national research community with a comprehensive, computerized source of prepublication information about research programs that are planned or actually in progress in the biomedical, social, behavioral, physical, and engineering sciences. About 100,000 records of currently active research are received annually and thousands of inquiries are being answered to assist research investigators and administrators in the planning and management of projects and programs.

Over the past year, discussions with the National Science Foundation, the Office of Management and Budget, and with user agencies have concluded that centralized responsibility for funding and management makes sense. For fiscal year 1972, the Smithsonian is requesting an appropriation of \$1,400,000 for data input. We will make every effort to increase the income from users of the Exchange services in order to meet some portion of the trimmed budget requirements for data bank costs. This income amounted to \$211,000 in 1970 and is estimated op-

timistically at \$375,000 in the current year. If this effort is unsuccessful, the Exchange would be terminated in the latter part of fiscal year 1972.

SPECIAL FOREIGN CURRENCY PROGRAM

The requested increase for fiscal year 1972 for the special foreign currency program is \$3 million for a total appropriation of \$5,500,000. The increase is essential to support urgent field studies in the Smithsonian's traditional disciplines of astrophysics, systematic and environmental biology, and anthropology which today are recognized as basic to an understanding of man's environment and cultural change. The increase is important also to insure support for ongoing and new research which contributes to U.S. national programs under, for example, the International Biological Program under Public Law 91-438, the International Decade of Ocean Exploration, and the cooperative programs abroad under the Endangered Species Conservation Act.

Additional funds are needed to support pending and new research projects from some 22 U.S. institutions. Despite the slight increase provided in the fiscal year 1971 appropriation, this year's funding is sufficient only to support ongoing projects and these only at a reduced level. There will be no money for new research. And, finally, the increase is essential to permit multiyear obligation of funds for research in those "excess" currency countries, like Tunisia and Morocco, where the excess designation by the Treasury Department is subject to termination at any time because the excess accounts are small. Failure to obligate funds for a reasonable number of years for projects in such countries could prematurely terminate worthy studies by U.S. institutions without receiving full value from funds already expended.

This program has had many accomplishments. It has benefited more than 200 institutions in 25 States. More than 107 research publications, 214 postdoctoral research opportunities for Americans, and 220 training opportunities for American doctors of philosophy candidates have resulted.

The General Accounting Office has recently concluded that "considerable greater amounts (of U.S.-owned Indian rupees) than are now being spent could be beneficially used." India is one of the most important areas for the conduct of comparative ecological studies. Our request for Public Law 480 moneys in fiscal year 1972 reflects this and includes vital proposals to conduct studies in India comparable to those initiated in the United States under the International Biological Program and under the Smithsonian Tropical Research Institute.

CONSTRUCTION AND RESTORATION AND RENOVATION OF BUILDINGS, NATIONAL ZOOLOGICAL PARK

We have recently entered into contract with the architectural firm of Faulkner, Fryer, and Vanderpool, for a comprehensive revision and updating of the master plan for the physical development of the zoo including schematic drawings of all facilities. This will give us the most complete plan we have ever had with reliable cost estimates at today's construction cost levels. We will apply the very latest techniques in animal habitat design and construction as well as those for the accommodation of visitors to the zoo. This redesign will require 1 to 2 years. In the interim, an appropriation of \$200,000 is requested for fiscal year 1972 for repairs and continued maintenance on existing facilities in order to keep them in usable condition. This is the same level of appropriation as in the current year. Included in the necessary projects are repair and replacement of portions of the perimeter fence, the addition of water main lines, and repairs to buildings, cages, and sidewalks.

RESTORATION AND RENOVATION OF BUILDINGS

Our total request for restoration, renovation, and improvements to existing buildings amounts to \$1,050,000. Included in this request are four projects.

An amount of \$400,000 is required to complete the program of restoration of the Renwick Gallery. This gallery will serve the Nation as an exhibit center for American creative achievements in crafts, design, and the decorative arts. In addition to staging temporary exhibitions originating from outside the Institution, the Renwick will include presentations based on the Smithsonian's extensive collections. We hope to make this gallery an important national force in promoting the encouragement and understanding of American design. The re-

quested funds will be used to replace the sidewalk, install exterior lighting fixtures, restore the cast-iron grillwork on the roof and windows, replace damaged marble, install an essential bird-proofing system, and provide storage facilities and public gallery furnishings. This will complete our requests for the restoration of this building. With this requested funding, the total appropriations for the Renwick Gallery will amount to \$2,770,000. I might add that this is well under the 1965 estimate of restoration costs if that estimate is adjusted to reflect the very substantial inflation in construction costs over the past 6 years.

Funding of \$125,000 is requested to correct a serious sewer system problem in the Smithsonian Building, the Arts and Industries Building, and the Freer Gallery of Art by separating sanitary wastes and rainwater runoff. We have had serious flooding in the basements of these buildings during heavy rains.

We are also requesting \$25,000 to modify space at the Smithsonian's Lamont Street building to house essential library materials, space for which does not exist in the mall buildings.

And, as a very important request, we are seeking an appropriation of \$500,000 to prepare plans and specifications for Bicentennial facilities to be added to the History and Technology Building and to design exhibits for these facilities. The provision of these facilities, to be located on the terraces of the building, is central to this Museum's carrying out its planned twin themes of the Bicentennial celebration: what the nations of the world gave to the United States and what our Nation has given to other nations.

CONSTRUCTION

JOSEPH H. HIRSHHORN MUSEUM AND SCULPTURE GARDEN

An appropriation of \$3,697,000 is requested for fiscal year 1972 to liquidate the remaining contract authority. This appropriation, with the \$1,000,000 legally committed by Mr. Hirshhorn, will complete funding of construction contracts and supervision of construction.

PLANNING AND REDESIGN

NATIONAL AIR AND SPACE MUSEUM

We are asking for an appropriation of \$1,900,000 for planning and redesign of a building for the National Air and Space Museum. The object of this redesign from the authorized design of 1966 would be to apply the latest design, construction, and exhibit techniques to lower the cost of the building to some prudent ratio in today's expanding construction market between design and expectations and real dollars while still providing outstanding facilities to display the many unique aeronautical and astronautical items in the collections. We have the objective of opening this new museum building in July 1976 as a major element of our contribution to the commemoration of the Bicentennial of the American Revolution.

This completes an overview of the Smithsonian's budget requests for next year. For almost 125 years, the Institution has provided the American people with greater knowledge and appreciation of their common environmental, cultural, and technological heritage. This has only been possible by the support of the Congress. This support is deeply appreciated and with your continued involvement in our programs, we are confident of our ability to serve in the future.

Dr. RIPLEY. I do have a statement, Madam Chairman, and I would like to summarize it.

SIGNIFICANT GIFTS AND ACCESSIONS

In connection with our statement, I would like, if I may, to place in the record a list of some of the significant contributions that have been made to the Institution this year, on the private side, as a result of our own efforts.

It is only with the support of the general public on the one hand and donors on the other, that we are able to live up to our commitment

as an institution responsible for acquiring and caring for great collections.

This effort is largely subsidized, in effect, by the private sector, by donors who give us things for which we have never expected to ask the money from the Congress.

I think you would be greatly impressed and at an appropriate time, Madam Chairman, I have some objects which I would like to bring out which are rather striking and which will signalize the kinds of things that we have been receiving or acquiring during the year.

Mrs. HANSEN. Please insert in the record the significant accessions and gifts to the Smithsonian during the year.

(The information follows:)

SIGNIFICANT ACCESSIONS AND GIFTS TO THE SMITHSONIAN

NATIONAL MUSEUM OF HISTORY AND TECHNOLOGY

Six hundred pieces of English yellow-glazed earthenware dating from 1780-1830 (gift valued at \$400,000).

Political memorabilia including an equestrian statue of Washington exhibited at the Centennial Exposition of 1876, a life-size bust of Lincoln by Leonard Volk, and other objects (gift valued at \$5,500).

Ramsden telescope, ca 1775 (gift valued at \$7,000).

Collection of 9,000 classic and rare 16th-18th century philatelic library and literature items (gift valued at \$55,000).

Collection of 50 rare gold and platinum coins including items from ancient Rome, Western Europe, colonial Mexico, as well as the Far East (gift valued at \$67,000).

Memorabilia of the Honorable John W. McCormack, Speaker of the House of Representatives (gift by the Speaker) and memorabilia of the Honorable Everett M. Dirksen, Senator from Illinois (gift by family).

NATIONAL COLLECTION OF FINE ARTS

Watercolor "*Off York Island Maine*" by John Marin (gift appraised at \$20,000).
Painting "*Blessing of the Fleet*" by Helen Frankenthaler (gift valued at \$18,000).

Sculpture *Victory Torso* by William Zorach (gift valued at \$50,000).

NATIONAL PORTRAIT GALLERY

Self portrait *Thomas Sully* (gift appraised at \$20,000).

Portrait *Harry Truman* by Greta Kempton (gift).

Portrait *John Randolph of Roanoke* by John Wesley Jarvis (gift appraised at \$7,500).

NATIONAL AIR AND SPACE MUSEUM

Telegraph key used to send message of successful flight of Wright Brothers at Kitty Hawk.

Two lunar sample boxes used to carry Apollo 11 lunar rocks to earth (transferred from NASA).

Twelve varieties of Soviet Cosmonaut space food. Only examples known to be in United States (gift).

Apollo 11 Command Module to be transferred to NASM upon completion of U.S. tour.

ARCHIVES OF AMERICAN ART

Archival collection of some 5 million items; 3,000 rolls of microfilm comprising some 3 million documents; 30,000 photographs; 20,000 printed catalogues, pamphlets, etc.; all valued at approximately \$2,500,000. Plus about \$200,000 in cash and securities.

NATIONAL MUSEUM OF NATURAL HISTORY

A completely restored fossil skeleton of the dwarf mammoth, *Elephas falconeri*. This Pliocene mammal from Sicily is one of the smallest elephants known (gift from the donor who also presented the largest known African elephant to the museum in 1959).

Several hundred ethnological specimens with photographic documentation of disappearing crafts and arts collected for the museum under foreign currency programs in Ceylon and Pakistan as part of the Department of Anthropology's ancient technology and ethnotechnology program of studying disappearing technologies as a result of industrialization in South Asia. Cooperative research between National Museum of Natural History and University of New South Wales, Sydney, Australia.

The general collections of the cruises of the *Anton Bruun* and *Te Vega*, consisting of 60,000 specimens of marine mollusks from the Indian Ocean. These acquisitions form the data on which much mollusk research is based; as such, it is extremely valuable to countless scientists.

A collection of 2,000 specimen lots of "sea fans" (gorgonians) from the eastern Caribbean. A gift from the Rosenthal School of Marine and Atmospheric Sciences, University of Miami, Miami, Fla. The scientific value of this collection is beyond estimation.

More than 1,000 specimens of fossil ostracodes from several dozen cores were obtained from drilling into the deep ocean floor. (Deep-sea drilling project—NSF). These tiny animals which lived on the bottom during the time of ocean formation provide evidence supporting the theory of "continental drift" which postulates that North America, Europe and Africa were at one time during the Cenozoic a single land mass.

A 77 carat cut topaz gem of high quality (gift valued at \$20,000).

The gift of the personal herbarium of Dr. E. Lucy Braun, consisting of 13,000 plant specimens from the Eastern United States. The collection contains many rare flora species and represents an extremely valuable addition to the Museum Herbarium.

Land and freshwater mollusks collections of 1,200 specimens from Thailand. This acquisition will aid in making the collection from this earth region among the finest in the world. A gift from SEATO through Dr. Rolf Brandt.

SMITHSONIAN MAGAZINE

Dr. RIPLEY. Now, during this year, another private enterprise which has been initiated has been of great importance, we feel, to the development of understanding by the public of what the Institution is all about.

This is the National Associates magazine which appeared just a year ago this month in its first issue.

At the present time, we have some 230,000 associate members outside of the Washington area from all of the States of the Union. These are people who, first of all, receive the magazine as a token of our responsibility for the "increase and diffusion of knowledge" and who will eventually receive, we hope, additional educational materials as part of the Associates organization.

ARCHIVES OF AMERICAN ART

I should mention particularly the coming to the Smithsonian of the Archives of American Art this past year. This is an extraordinary important archival resource in American art. Its acquisition is implicit in the legislation which required us to set up the National Collection of Fine Arts, on the one hand, to study the history of American art

and the National Portrait Gallery, on the other, to study the development of American history through iconography.

FESTIVAL OF AMERICAN FOLKLIFE

The folklife festival was an even greater success this year. This seems to be an area in which we can bring the museums to life on the Mall.

We had some 750,000 visitors for the 4 days of the festival which was dedicated this past year to the crafts and arts of America's cultural heritage in Arkansas.

Many Members of the Congress from Arkansas came. The Governor from Arkansas came. We had an extraordinarily good turnout because Arkansas happens to be a place which has done a great deal for folklife revival and perpetuation.

This coming summer, Ohio is our featured State, and Indians of the Pacific Northwest also are coming.

Mrs. HANSEN. Isn't this the Makah Tribe?

Dr. RIPLEY. I am going to mention the Makah Tribe in a moment, Madam Chairman.

We have been in touch with them and, in connection with our National Museum Act budget request this year, we have had some very positive responses from the Makah who want us to help them train technicians to build their own museum for their own art artifacts. I will be mentioning that in due course.

We are particularly interested and particularly delighted that they have initiated requests to us for training under the provisions of this act.

BICENTENNIAL AND ENVIRONMENTAL SCIENCES PROGRAMS

With funds especially appropriated to us this year by the Congress, we have initiated a special interbureau program in the institution toward the celebration of the American Revolution Bicentennial in 1976 and a reappraisal of our national experiences. In the same way, with another special appropriation this year, we have started long-range research activities in the realm of ecological assessment for which we feel we have a special capability.

(Discussion off the record.)

Dr. RIPLEY. The word "ecology" is being used so much by the public or newspapers as either a panacea or a threat.

In connection with our environmental concern, we have been quite fascinated to find something that I have been feeling for a long time; and that is that in so-called basic research it is almost impossible to preserve any demarcations or lines.

MERCURY LEVELS IN SEAFOOD PRODUCTS

We have always had the reputation of being the great center of the Government for basic research. For instance, here are our collections, which tend now to prove one way or the other whether a certain mercury level is found in fish.

Mrs. HANSEN. I am interested in your comment in your general statement on mercury pollution. At the time mercury pollution in tuna became evident I called several Federal agencies and they said they were not aware of how much the level of mercury was in tuna, years ago.

I notice in your statement that an analysis of specimens in your collection shows that as far back as 1878, tuna contained levels of mercury similar to those discovered recently in canned fish.

Dr. RIPLEY. Unless we maintained these collections to work with, no one would have them for reference purposes today such as tuna comparison.

Mrs. HANSEN. Have you collected canned tuna specimens through the years? For example, there was a cannery in my own district in the 1880's that used to win the national prize at Copenhagen and at London. Did you make collections at that time of the canned product?

Dr. RIPLEY. Madam Chairman, I do not think we specifically made collections of canned tuna, but we were collecting fish in the field at that time because the second Secretary of the Smithsonian started the U.S. Fishery Commission and in addition to being Secretary was the U.S. Fisheries Commissioner for something like 6 years. His name was Spencer F. Baird.

We were collecting first along the Atlantic Coast because it was more accessible to us. The vessel we had was called the Albatross. We collected later on the west coast.

Right up through to the Alaskan Coast. It is these very specimens that we have been using to determine the real facts in contrast to, you know, the scare or the publicity.

Madam Chairman, I, too, find that a very interesting statement.

SOURCE OF THE MERCURY

Mrs. HANSEN. Can your scientists tell what the origin of that mercury or methylmercury was at that time?

Dr. RIPLEY. Assumedly, this is run off from nearby land masses and is not necessarily due at all to the use of agricultural chemicals, but results from the presence of mercury in various kinds of soil at that time.

Mrs. HANSEN. There were relatively few chemicals in use in those years.

Dr. RIPLEY. Yes; there is a natural runoff in contrast to the artificial runoff.

Mr. CLAWSON. Would it be a safe conclusion to say this is nature at work?

Dr. RIPLEY. Yes; but again it is very local, you see. You get different conditions.

Mrs. HANSEN. Doesn't this depend on the soil conditions?

Dr. RIPLEY. Depending on the geographical areas.

Mrs. HANSEN. Are you still collecting samples?

Dr. RIPLEY. We are still collecting for various reasons, but we do not have enough jars to go around and enough alcohol in cases to hold the specimens.

As Joseph Henry, the first Secretary of the Institution, pointed out, the important thing is to make collections and continue to maintain them. The sad thing is when you have not made the collections or when you have lost them before you have studied the gaps in knowledge. For example, the Lake Champlain fish collection was lost at the time of World War I. Now they have no way of checking against present rates of pollution or the occurrence or lack of occurrence of particular species of aquatic life in that huge inland lake.

Mr. CLAWSON. What I wanted to get to was, your statement indicates that you have a barometer measuring device for the presence of this metal in fish as far back as 1878.

Dr. RIPLEY. Yes.

Mr. CLAWSON. Are you currently with your samplings examining data for mercury back to 1878?

Dr. RIPLEY. In a random way, yes, as for instance at our Chesapeake Bay Center where we might attempt to determine the presence of metals or minerals in fish specimens. Generally, we would not undertake this task unless we were specifically asked to by the Bureau of Fisheries or some other organization. We would not do it automatically.

Mr. CLAWSON. Did your sampling commence back as far back as 1878? Did it delineate any geographical areas where there was more of an acuteness than in other areas?

Dr. RIPLEY. By having the collection, we are able to go back and in effect, sample for the first time.

In 1878, no one was checking on the presence of mercury unless it was for some specific experiment.

Having the collection is the important thing.

Once you have it, you can go back in time like going to the dictionary or to the encyclopedia for reference.

Mr. CLAWSON. My question is are you able to tell from those samples that were taken where there is a geographic area where the complexion of the soil or whatever causes this to occur?

Dr. RIPLEY. We have not followed that through yet. We would not, unless we were specifically asked to.

EXAMINATIONS FOR OTHER SUBSTANCES

Mr. CLAWSON. We had testimony here from the Bureau of Sport Fisheries that they are examining for some 11 metals.

Has the Smithsonian, using its old collection, examined for any of those others mentioned?

Dr. RIPLEY. Dr. Cowan, would you know anything about that?

Dr. COWAN. We were asked recently by that agency, I believe, to check our collection of eastern, coastal lobsters, for specimens collected in the late 1800's that could be assayed to determine the levels of not only mercury, but some of the others as well.

We responded to these requests from a sister agency for assistance by trying to find what we had in the collection.

In this particular case, you will be interested to know that of the eastern lobster we only had 20 lots and when we got through sorting these specimens, we had about three that were really useful.

This shows why these specimens have to be continually added to the national collections. Here is an example of a shortage of a local species that we could not provide.

Mr. CLAWSON. So you were not able to advise them.

Dr. COWAN. In only a limited way, because there were not enough specimens of this lobster to be statistically significant.

You need more than one or two examples to be able to help them very materially.

Dr. RIPLEY. For some specimens, like lobsters and shrimp, you have to be very determined with a very strong conscience to collect, especially nowadays.

EFFECTS OF DDT ON BIRDS EGGS

Well, this kind of thing is terribly useful and important. I have an exhibit also of the DDT problem.

Mrs. HANSEN. I notice you have specimens of the ospreys and I assumed that you have checked your collection of shells against today's shells.

Dr. RIPLEY. If you would like to look at them, I have two samples of eggs right here.

Thank you, Dick. This is a good, old-fashioned brown pelican egg from the west coast.

This is the specific pelican which is in very much trouble now. This set of three eggs was collected in 1894.

This is a nice kind of pelican egg that I should like to lay myself if I could do so. That is a proper pelican egg that you see.

Now, let me show you a 1969 specimen. It has to be encased in this box because it is so fragile. That is what the poor creatures are laying now. This thin-shelled egg is not capable of being sat on or incubated. It crushes under the weight of the bird.

Mr. CLAWSON. It was not that form when it was laid, was it?

Dr. RIPLEY. No, no; it is like tissue paper and no self-respecting pelican can produce a viable egg.

Mr. YATES. What is that attributable to?

Dr. RIPLEY. To the presence of DDT in the atmosphere which, as a result of its metabolite function, when it gets into its system, the bird has a chemical reaction in the egg duct and as the forming egg passes down the forming duct where it is encased with calcium, there is virtually no calcium left and as the egg is finally laid, it is the unviable thing you see here.

As a result, there is a terrific crisis. If you go to Monterey where the pelicans used to be nesting, you will see just a few old birds sitting around like an old geriatric rest home because there are no young to be born.

Mr. CLAWSON. Has this had any effect on other birdlife or peculiar to the pelican?

Dr. RIPLEY. This has had a particular effect on a species of birds at the end of a food chain. The DDT begins to concentrate with plankton and unicellular life and peaks in predators like sea birds which are part of the economy of nature—hawks, some owls, falcons, and so on, all now are laying unviable eggs in relative degrees.

Some species like our national bald eagle are becoming virtually extinct in the Southeast, although there is still a good population in Alaska.

The osprey, one of the most beautiful of the coastal fishing birds, is almost vanished, although we do have a colony in the Chesapeake Bay that for some reason or another continues to lay fairly good eggs. We have been robbing Peter to pay Paul.

We have been taking an egg or two out of their nests and putting them in colonies in Connecticut where for years they had been laying nothing but infertile eggs to see if the young retain the same effect or whether they will be able to lay a viable egg.

On pelicans, the State of Louisiana is in a terrible flap about this. They have a similar crisis.

MR. CLAWSON. You are completely convinced this is the DDT?

DR. RIPLEY. It has been proved over and over again. One of my graduate students when I was at Yale started working on this and found these metabolites. This was in the early 1950's and it is directly correlated with the massive use of DDT and pesticides beginning in those years.

MRS. HANSEN. The Bureau of Sport Fisheries and Wildlife testified a few years ago that there are very few birds that are not affected in some way. One, interestingly enough, which was not affected was the pheasant. Nothing seems to disturb the pheasant.

DR. RIPLEY. Well, it varies in certain areas. The kind of substances used in the South, for instance in the rice fields, are very hard on ducks and so on.

The advantage of having a collection of these eggs is that we can actually measure by a cross section of the thickness when the pesticide has begun to hit that population. For years, we were collecting eggs thinking that they were pleasant to have around, they did not take up too much room, and they were interesting as a kind of auxiliary to general studies or classifications of birds. Now, they have suddenly turned out to be very significant, because you have all kinds of historical chronologies and dates from them.

Some of these dangerous materials travel in the air and get dispersed all around the world.

DDT was brought from Africa to the Caribbean because of the use of chemicals. The blowoff with the constant winds caused many problems there.

MRS. HANSEN. And DDT was also used in the malaria control program.

DR. RIPLEY. Yes. Although the DDT may have to be used for malaria, it can be used locally in the house or just around the human habitations.

Mosquitos do not travel more than 100 feet. I am thinking of the tropics where you do not need to use blanket applications.

MRS. HANSEN. Yet, Federal technicians did go out and show them how to use it in mass application.

DR. RIPLEY. I could not agree more, and I am very sorry about that.

NATIONAL MUSEUM ACT

Mrs. HANSEN. The National Museum Act was just recently amended to allow additional appropriations annually of \$1 million. A portion of this total would be made available to the Endowments for the Arts and the Humanities.

What proportion is that?

Dr. RIPLEY. \$100,000 in the first year.

Mrs. HANSEN. Is this \$100,000 to each of the Endowments?

Dr. RIPLEY. Yes, \$100,000 to each Endowment for a total of \$200,000. This act embodies a sort of effectuation of what the Smithsonian has actually been doing for many years, and that is responding to inquiries across the country from other museums or burgeoning museums, growing museums. These museums ask us, how do you train a technician; how do you develop an exhibit case; what kind of techniques should be used in the preparation of the open part of the exhibit which the public comes to.

We are always being sought out as the father and mother of this kind of expertise, how to make exhibits, how to do them, how to develop technical reports.

Mrs. HANSEN. You remember this committee criticized you because you did not do more in this area.

Mr. RIPLEY. Yes, Madam Chairman; we find that we get it both ways. If we do not have the money, we cannot do it. We cannot do it without the support people and we get criticized because we do not have the money to do it with.

I thought it was interesting that the Makahs came to us this year in connection with the discussions being held by the Center for the Study of Man. The people had been having tribal councils as to the preservation of the cultural and archeological heritage of the Indians and asked us if we would support the concept of their building their own museum and said they wanted help from us on the technical facilitation of this.

This is just the kind of thing we want to hear. If an Indian tribe, tribal group, actually wants to do this, what could be better, what could be more self-respecting?

Mrs. HANSEN. I think the Makahs are extremely fortunate that they have more artifacts left than probably any of the other northwest Indian tribes. This is because they have been up on Cape Flattery by themselves and they were far more interested than the other tribes in preserving their own culture.

Dr. RIPLEY. We have been astonished at the depth and richness of their archeological sites. There is a vein several feet deep where Washington University has been working. They have promised the Indians that they will bring back the materials and help them arrange them chronologically if somebody else will help them train the technicians.

This is the kind of cooperation that we seek and we are just delighted when an opportunity comes along. Anything that we can do

to help the Indian tribes believe that it is important to be an Indian is, I think, part of our original mandate, going back to John Wesley Powell.

NATIONAL AIR AND SPACE MUSEUM REDESIGN

I mention the fact that Mr. Collins is here; and we are delighted that he has accepted the position of Director of the National Air and Space Museum. As you will note, Madam Chairman and members of the committee, we are asking for redesign funds this year.

Mrs. HANSEN. I am sure Senator Goldwater will be pleased to hear that.

Dr. RIPLEY. We have responded to Senator Goldwater very positively and cooperatively. We are delighted with his interest. I may point out that we reminded him that the report of the Senate Committee on Rules and Administration is what has been holding us back each year.

Mrs. HANSEN. I reminded the Senator when he wrote me that funds would have been appropriated if Senate Report No. 1344 dated June 28, 1966, hadn't contained the following language: "Appropriations should not be requested pursuant to H.R. 6125 unless and until there is a substantial reduction in our military expenditures in Vietnam."

Dr. RIPLEY. As long as we have had this holdup on the building, I am delighted with the idea of redesign, because I feel that it is prudent and appropriate.

If you are building a museum for the public which involves a great deal of expertise in design and installation, it is far better to redesign and keep up to date than just simply to take something that was the plan 4 or 5 years ago and try to build it in the presence of today's escalation of cost. We want to take advantage of the changing technologies involved. I am delighted that Dr. Whipple and his colleagues at the Astrophysical Observatory are also interested in this prospect because I think that with the conquest of space, we have a special challenge in this Air and Space Museum to develop various techniques for exhibiting space exploration and its history.

We have a chance based on a sophisticated instrument like the planetarium to develop also a spacearium so that people can visualize our presence and experience in space.

Now, we have been working recently with some very interesting breakthroughs in research at the Astrophysical Observatory and Dr. Whipple is here and will be able to answer further questions about that, but they are mentioned in our opening statement.

PLANS FOR THE FUTURE

I have summarized in the opening statement, Madam Chairman, our plans for the future. These will be efforts by the Central Administration of the Institution to develop consolidated goals; for example, to attempt to continue to develop the quality of our professional staff and the attempt, as a corollary of that, to develop the technical and financial support we need. There are many problems that we have to face as we go along this path. We have to decline certain responsibilities. We have to assess every opportunity that comes along the way, in terms of our overall goals and objectives. We continue to do this as carefully as we can.

One of our emphases is that our scientists and scholars will act as a community, as a group together, in broad, programmatic ways. In order to do this we must develop appropriate support from the Government and from private sources.

We find that a public institution such as the Smithsonian is one which depends on support of its basic research.

As I mentioned earlier, basic research so often has direct, applied, payoffs that it is difficult to assess whether it is basic or applied research.

In any case, even though the characterization of our research is basic, we must at the same time show how important it is for the public good.

AMERICAN REVOLUTION BICENTENNIAL

The bicentennial is coming up in 1976, and we find more and more that the Smithsonian is expected to participate and exercise a lead characteristic in Washington for the bicentennial.

Mrs. HANSEN. I notice that Dr. Boorstin is no longer a member of the American Revolution Bicentennial Commission. I am sorry to hear that.

Dr. RIPLEY. He is right here and I am sure he would be happy to answer that in case it is phrased as a question.

Mrs. HANSEN. My impression was that he resigned because he was so heavily involved with the bicentennial right here in Washington.

Dr. RIPLEY. I am still on the Commission and I hope he will push me.

Mrs. HANSEN. Wasn't Dr. Boorstin on the Advisory Commission?

Dr. RIPLEY. He was Presidentially appointed.

What do you say, Dr. Boorstin?

Dr. BOORSTIN. I am touched that the Congresswoman, Mrs. Hansen, should think it would be desirable for me to be there.

I was on that Commission for over 4 years and thought it was perhaps time for someone else to have a voice in it. I felt reassured by the presence of Secretary Ripley on the Commission and also by the fact I will have an opportunity right here in Washington to extend my energies in the celebrations of the bicentennial. I hope in an appropriate way.

Mrs. HANSEN. I may say I hope they appoint another historian to take your place.

Dr. BOORSTIN. I agree with you. In my letter to the President asking for release from the Commission, I did suggest that I hoped he would appoint a historian.

Mrs. HANSEN. I think it would be wise to have several historians on the Advisory Committee.

Dr. RIPLEY. We are very much concerned that we can, with the coordination of the Library of Congress and the other galleries and the National Archives, develop a very strong posture for Washington. We know that the city inevitably is going to be visited by an increased visitation over the period of the bicentennial. We are going to find ourselves holding the bag unless we develop a phased program, very conclusively directed toward the celebration with a dephasing after-

ward, as we explained last year in our request for the first appropriation toward this celebration.

This is not a permanent program.

Mrs. HANSEN. Your program should be a continuing effort after 1976 until at least 1987. Is this correct, Dr. Boorstin?

Dr. BOORSTIN. Well, it depends on how you conceive the celebration.

Mrs. HANSEN. Well, a revolution concluded with the successful establishment of a democracy has a meaning.

Dr. BOORSTIN. It would be our hope to make the occasion to celebrate the two centuries of American achievement. I would hope that would be our focus, not just the anniversary of the Revolution itself. That is our mission.

Dr. RIPLEY. We have sort of visualized building up to a height of observance in 1976, and then continuing it until 1983, 1984, and 1987, I forget the termination date, and then winding down.

Mrs. HANSEN. I think the celebration should continue until the anniversary of when the Constitution was adopted and ratified and the Government became operational. There should be some kind of commitment with the ideals, goals, and the problems of this Nation.

Dr. RIPLEY. That is right.

(Discussion off the record.)

MUSEUMS AS EDUCATIONAL INSTITUTIONS

Dr. RIPLEY. We, as you know, Madam Chairman, have been attempting to pioneer various ways of interesting the public in the learning processes.

We feel that the museums are the largest single source of study and experiment in the problems of how to make anybody interested in anything at all aside from self-preservation; how to make them interested in culture; how to make them behave in ways that we aspire human beings to behave.

The museum exhibit is open and unstructured. It does not have a teacher saying, "Now hear this, I am going to give you a 10-minute quiz next week on this subject." The museum environment is one of the best ways for sociologists and psychologists to learn what makes people interested in anything at all. We are continuing our studies on this, and we hope that eventually our museum activities will form an appropriate focus for this.

INFORMATION RETRIEVAL AND THE SCIENCE INFORMATION EXCHANGE

At the same time, within our own vast aggregation of collections, we continue the work on the problem of how to retrieve information. We need to develop automated systems so that information associated with our collections can be immediately accessible.

We want to develop ways by which we can find out what we really have and make this information useful and meaningful. We also need to develop additional and auxiliary systems which will tie into our oceanographic, biological, geological, astrophysical, and historical studies.

In this connection, we are making a separate appeal to you and your committee for the Science Information Exchange, which functions in

a related capacity as a part of the Smithsonian and which is critically faced with a year of decision in fiscal year 1972. We will be speaking about that during the course of these hearings.

As you know, the Budget Bureau has asked us to request this as a separate item, but has not approved funds for funding the exchange for what we estimate to be more than 10 months of the year. If we cannot make up the difference in user charges and user fees, then we will have to come to a likely termination of the Science Information Exchange.

I can summarize very briefly, if you care, Madam Chairman, our budget requirements for the year. We have an extraordinary number of line items.

Mrs. HANSEN. You always do.

Dr. RIPLEY. I might point out that over the past 10 years, the Congress itself has authorized and charged us with the execution of some 20 new obligations to those that we had prior to 10 years ago.

These additional responsibilities are one explanation of why we are here today with such a large group and why we are prepared to go into such detail on our line items.

Unless you have more questions, Madam Chairman, that concludes my opening statement.

SMITHSONIAN INSTITUTION POLICYMAKING PROCESS

Mrs. HANSEN. Thank you very much, Dr. Ripley.

Please review for the committee the general overall policymaking process currently in effect in the Smithsonian Institution.

Dr. RIPLEY. I would be very happy to do so, Madam Chairman.

We have, during the past year, had a thorough-going informal study of an experimental kind with the Civil Service Commission to assess how we conduct our policymaking processes, vis-a-vis, government agencies of various sorts and established groups.

We have prepared a report, informal in nature, which is accepted by the Civil Service Commission group and ourselves. As a result, we have once again reaffirmed our main administrative structure, consisting of the Secretary, the Under Secretary, and a group of Assistant Secretaries responsible in two ways for administration. In one way they are responsible for disciplines ranging from history through science, in other words, particular disciplines of expertise. They are responsible in another way, horizontally as it were, for services, personnel, management, fiscal affairs, and so on.

In this way, we have both the interwoven or interlocking mechanism of having immediate support for me in the form of a person like the Under Secretary who has direct authority over administration, supply management, personnel matters, and at the same time, Assistant Secretaries who are responsible for particular disciplines in groups of bureaus such as particular museums, galleries, research laboratories, and so on.

With this, we have an equivalent responsibility in the form of the Treasurer for direct oversight of our fiscal services. The Treasurer's Office has been of inestimable use to me in the Institution over the past 3 years in fitting together for the first time and creating a real understanding of what happens to every dollar. We have a unique

mix of dollars including federally-appropriated funds, grant funds, and private gifts and endowments.

As you know, we are uniquely chartered to administer this complex application of dollars of which the Smithsonian bequest was a kind of precursor, 125 years ago. This is our 125th anniversary year.

Under these offices on my immediate staff is the direct line authority of the bureau and office directors, of which a number are here present this afternoon. We interact constantly at several levels of liaison.

First, I and my principal staff officers meet once a week in the executive committee and lay out or discuss matters of policy as they may develop or matters of long-range programs and planning.

Second, we meet at frequent intervals, about every 2 weeks, with roughly the same group, plus the budget officer, to discuss exactly how we are meeting our obligations month by month during the fiscal year and living within our budgets, both private and Federal.

And, third, our Assistant Secretaries meet about every 2 weeks with all their bureau directors; that is, the Assistant Secretaries meet within their own realm. I meet with them about monthly to discuss policy matters that affect the bureaus.

In this way, we have attempted to refine and sharpen our direct liaison function.

Now, each bureau director on his own behalf is urged by the Assistant Secretary or myself to have equivalent meetings with the chairmen of the science or history departments of the bureau for the same kind of filtering of information both upwards and downwards.

At all times, we attempt to be appropriately coordinated.

Mrs. HANSEN. Thank you.

The committee will adjourn until 1 p.m.

AFTERNOON SESSION

ADMINISTRATION OF PRIVATE FUNDS

Mrs. HANSEN. The committee will come to order. Your operations are funded both by direct appropriation and private funds. Describe fully for the committee how the private funds are administered.

Dr. RIPLEY. Mr. Wheeler is our treasurer. Would you like to answer that?

Mr. WHEELER. We have endowment funds of some \$40 million. Most of those are for restricted purposes like oceanography and so forth.

Mrs. HANSEN. When an endowment is given is it usually for a specific purpose?

Mr. WHEELER. Yes; they specify exactly what the purpose is. There are some unrestricted funds from which we may use the income for any institutional purposes. The total we receive overall in income from endowment funds is around \$1.5 million.

Mrs. HANSEN. Is this per year?

Mr. WHEELER. Per year, yes. Only about \$400,000 of that from the endowments is unrestricted which is not very much in relation to our total budget. We are trying to increase these endowment funds through a fund-raising campaign.

Now, as to how they are administered, we have each year a budget which is drawn up in advance specifying how much each of our administrative offices or activities will receive throughout the year hopefully achieving at least a balance of income and expenditures.

Mrs. HANSEN. Who approves this budget?

Mr. WHEELER. Secretary Ripley approves it.

Mrs. HANSEN. Does it also have to be approved by the Board of Regents?

Mr. WHEELER. Yes, it is then submitted to the Board of Regents for approval. I am wondering what other phases of the private funds you are especially interested in.

Mrs. HANSEN. There have been various accusations, some by your own employees, that some of your private funds are being misused. May we have your comments?

Mr. WHEELER. I think this refers to the use of certain of our restricted funds. At least I assume that because we had a meeting recently with some of the scientists who inquired very closely about those restricted funds.

About 3 years ago we stopped publishing in our *Smithsonian Year* the balances of each of these restricted funds and the annual income from each fund as we had done previously. I believe we are now going to resume this practice. There is no particular reason not to publish this information except the annual report had gotten so long that it seemed like information which could be omitted without harm. However, if this means a great deal both to the scientists and to people who leave bequests to the Institution, we certainly are going to put it back in. I have been talking to Secretary Ripley about putting it in the next year's edition.

In addition to that, we intend to furnish to our scientists this week the status of these restricted funds through the end of last fiscal year, and we will bring them up to date within the next couple of weeks on the current status of all of these restricted funds.

So I might say that as far as the funds being misused, that is absolutely not correct. Before we make any expenditures from these funds on which there is the slightest doubt as to propriety of use, we check the legality, and also of course the permission to use the funds is checked with Secretary Ripley.

Mrs. HANSEN. Before you expend funds do you also verify that the funds are being spent according to the deed of the gift?

Mr. WHEELER. Yes, the deed of gift. It is all spelled out and we have to adhere to that very closely.

ACTIVITIES FUNDED BY PRIVATE FUNDS

Mrs. HANSEN. Please give us your comments on how you determine what activities are funded by private contributions and what activities are funded by direct appropriations.

Dr. RIPLEY. Would you like to answer that, Mr. Bradley?

Mr. BRADLEY. Madam Chairman, the largest single item of private funding is the Freer Gallery of Art. In that case, the fund was given to the Smithsonian for the specific purposes of the Freer.

Traditionally, and this is more a matter of tradition than it is of law, the Secretary and I are on the private payroll. The Treasurer also tra-

ditionally has been a privately-funded position. So we find that there is a mix of Federally-financed activities and privately-financed activities. But it is much more a matter of tradition than it is a matter that you can define precisely.

I think it makes sense that the Secretary should be privately-funded. In the absence of full control by the Board of Regents, the Smithsonian with over \$30 million of endowment might assume a Federal character that would not be in keeping with the real roots of the Institution. It is that small cadre of privately-funded positions that is directly or through the Secretary responsive to the Board of Regents that recognizes its non-Federal character.

PERSONS DIRECTLY RESPONSIBLE TO REGENTS

Mrs. HANSEN. Please insert in the record a list of the people who are directly responsible to the Board of Regents.

Mr. BRADLEY. I would be very glad to.

Dr. RIPLEY. The legislation going back to 1846 says that the Secretary is the officer for the Board of Regents and that the Secretary with the consent of the Regents may appoint such assistants as he needs to carry out the business of the institution. That is the original phrasing of it.

The National Gallery's charter was modeled directly on this when the gallery was completed. The non-Federal officers of the gallery paid from the trust funds of the gallery are paid the same way and to the same effect as the principal officers of the institution.

(The information follows:)

PERSONS RESPONSIBLE TO THE BOARD OF REGENTS

While all employees are responsible to the Regents through the Secretary, the following employees are those who are paid from the endowment:

The Secretary; Under Secretary; special assistant to the Secretary; treasurer; assistant treasurer; Director and Assistant Director of the Freer Gallery of Art; curators, research assistants, and administrative officers of the Freer Gallery of Art; Director and several administrative clerks of the Smithsonian Press; and the Director of the Museum of History and Technology.

AUDITS OF PRIVATE FUNDS

Mrs. HANSEN. How often and by whom is the administration of your private fund contributions audited?

Dr. RIPLEY. The auditing process is done by privately employed auditors, and under the original rules of the Institution the audit may be performed by the Executive Committee of the Board of Regents. The Executive Committee then appoints or approves of the appointment of an auditor just as a corporation appoints or approves the setting up of an auditor. We have an auditing firm. Also, as of the last 2 years we have instituted an internal audit apparatus so that we not only have our funds externally audited by a formal auditing firm but we also have a unit of internal audit.

Mrs. HANSEN. So you have two audits performed?

Dr. RIPLEY. Yes; we have. So, now we have consulted with the Comptroller General's Office about the propriety of having audits from time to time or to a greater or lesser extent performed by the

GAO. It appears from the statutory authority of the GAO as well as the authority of the Smithsonian this is not appropriate. The GAO is required by the Congress to audit Federal funds. These funds which are private funds are not Federal funds in that sense, and, therefore, they have stated their opinion that they are not legally entitled to audit. But we have volunteered that we would like to have them suggest ways of having our private audits conducted or presented in a more informative manner. They are currently conducting a sample study to see whether they would be able to do this. But this is under active discussion at the present time. Our audit is done, of course, annually, Madam Chairman.

BALANCE SHEET OF PRIVATE FUNDS

Mrs. HANSEN. Please insert in the record a balance sheet as of the last reporting date of private funds available for use by the Smithsonian Institution.

Dr. RIPLEY. We would be happy to do so, and point out that of course this appears in our "Smithsonian Year" which you, as well as all interested persons, receive.

Mrs. HANSEN. But some of the interested persons do not always read the "Smithsonian Year."

Dr. RIPLEY. One of our problems is that people do not read and do not communicate.

(The information follows:)

Smithsonian Institution Private Funds—Balance Sheet, June 30, 1970

ASSETS	
Current funds:	
Cash:	
In U.S. Treasury.....	\$49, 599
In banks and on hand.....	168, 225
Total cash.....	217, 824
Receivables:	
Accounts	349, 484
Advances, travel and other.....	146, 269
Reimbursements, grants and contracts.....	1, 536, 516
Total receivables:.....	2, 032, 269
Inventories at net realizable value.....	544, 413
Investments, stocks and bonds at cost (market value \$2, 900, 264).....	3, 409, 426
Prepaid expense.....	39, 541
Deferred magazine subscription expenses (note 2).....	267, 300
Equipment, museum shops (less accumulated depreciation of \$49, 932).....	64, 115
Total current funds.....	6, 574, 888
Endowment and similar funds:	
Cash	77, 533
Note receivable.....	96, 934
Investments, stocks and bonds at cost (market value \$29, 456, 568).....	30, 213, 145
Loan to U.S. Treasury in perpetuity.....	1, 000, 000
Real estate (at cost or appraised value at date of gift) (note 3).....	1, 760, 448
Total endowment and similar funds.....	33, 148, 060

LIABILITIES AND FUND BALANCES

Current funds :		
Accounts payable-----		968, 933
Accrued liabilities-----		63, 986
Deferred magazine subscription income-----		1, 030, 115
Unrestricted fund balance-----		1, 869, 941
Restricted fund balances :		
Gifts -----		1, 566, 028
Grants -----		108, 330
Contracts -----		177, 814
Total restricted fund balances-----		1, 852, 172
Unexpended income :		
Freer -----		434, 873
Other -----		354, 868
Total unexpended income-----		789, 741
Total current funds-----		6, 514, 888
Endowment and similar funds :		
Mortgage note payable (note 3)-----		310, 697
Fund balances :		
Endowment funds, income restricted :		
Freer -----		13, 188, 994
Other -----		13, 214, 651
Total endowment, income restricted-----		26, 403, 645
Current funds reserved as an endowment, income unrestricted-----		6, 433, 718
Commitment (note 4)-----		
Total endowment and similar funds-----		33, 148, 060

NOTES TO FINANCIAL STATEMENT—JUNE 30, 1970

1. *Basis of accounting.*—The accounts for unrestricted funds are maintained on the accrual basis of accounting. Accounts for other funds are maintained on the basis of cash receipts and disbursements, except that reimbursements for work performed pursuant to a grant or contract are accrued and certain real estate is carried at cost or appraised value as explained below.

Except for certain real estate acquired by gift or purchased from proceeds of gifts which are valued at cost or appraised value at date of gift, land, buildings, furniture, equipment, works of art, living and other specimens, and certain other similar property, are not included in the accounts of the Institution: the amounts of investments in such properties are not readily determinable. Current expenditures for such properties are included among expenses. The accompanying statements do not include the National Gallery of Art, the John F. Kennedy Center for the Performing Arts, nor other departments, bureaus, and operations administered by the Institution under Federal appropriations.

2. *Deferred magazine subscription expenses.*—This amount represents promotional and other expenses incurred in connection with the introduction of the Smithsonian magazine. Amortization is over a period of 12 months which commenced in March 1970, the month of the first issue.

3. *Mortgage notes payable.*—The mortgage notes payable are secured by first deeds of trust on property acquired in connection with the Chesapeake Bay Center. Funds for the curtailment of these notes will be transferred from restricted funds—gifts, designated for the development of the Chesapeake Bay Center. The details of the mortgage notes payable are as follows:

a. A \$266,000 note on property acquired for \$376,000. The note is payable in twenty consecutive semiannual installments of \$13,300, plus interest at the prevailing prime rate on the due date of payment but not less than 8 percent.

b. A \$44,697 note on property acquired for \$118,533. The note is payable in monthly installments of \$451.02, including interest at the rate of 6 percent, with the final payment due on November 1, 1989.

4. *Commitment.*—Pursuant to an agreement dated October 9, 1967, between the Institution and the Cooper Union for the Advancement of Science and Art, the Institution acquired, on July 1, 1968, all funds belonging to the Cooper Union

for use exclusively for museum purposes, and certain articles of tangible personal property as defined in the agreement.

The agreement provides, among other covenants, that the Institution will maintain a museum in New York City and has pledges in excess of \$800,000 for the support of such a museum. Pledges in the amount of \$500,000 have been collected to date.

CONCESSIONLIKE ARRANGEMENTS

Mrs. HANSEN. The Smithsonian operates various concessionlike arrangements. Please describe your operations in this connection.

Dr. RIPLEY. I would like to ask Mr. Wheeler and Mr. Bradley to answer that.

Mr. WHEELER. Madam Chairman, these deal with what we call our private activities for the most part. One Smithsonian concession is the restaurant in the National Museum of History and Technology which is operated by the Hot Shoppes organization. They pay us a percentage of the gross revenues of this restaurant so that is a concession from which we derive some income.

Mrs. HANSEN. Is the percentage you receive of the gross revenues reviewed from time to time?

Dr. RIPLEY. Yes. It is a contractual arrangement.

Mrs. HANSEN. Do you have the authority to audit their operations?

Mr. WHEELER. Yes, we do, to the extent that we are involved, namely with sales because our revenues are derived strictly from sales which is a better arrangement for us since we don't have to go into their accounting operations.

Mr. BRADLEY. We also have gift shops in most of our museums. We have a carrousel on the Mall from which income is derived. We have a press operation in which we publish learned publications, and we have a puppet theater in the Museum of History and Technology. Annually, when we have the Folk Life Festival on the Mall we are able to sell food and gain some income from that. On the whole I am forced to disclose that it is not a very profitable business that we find ourselves in. Usually we have to subsidize through private funds these various public service activities all of which in one way or another are related to what we are trying to do for the public.

Mrs. HANSEN. Do you have to subsidize your restaurants?

Mr. BRADLEY. No, that is a profitmaking affair.

Mrs. HANSEN. But your gift shops are subsidized?

Dr. RIPLEY. The press, the gift shops, and the associates activities which are partially supported by associates fees and their corollaries are all things in which we run a slight deficit. We do not actually make money out of these things with the exception of the restaurant and perhaps the carrousel where we make a few thousand dollars or so net at the end of the year, but it is very minimal. In fact, as we were able to point out in consideration of these private concessionlike activities with the GAO, we are running an overall deficit of about \$200,000 as I recall. That is money made up from our private resources.

Mrs. HANSEN. Are federally appropriated funds used for any of these activities?

Dr. RIPLEY. No.

Mrs. HANSEN. Explain for the committee the disposition of proceeds from these various concessionaire activities.

Dr. RIPLEY. The proceeds help to underwrite the loss. Madam Chairman.

PRICES OF ITEMS FOR SALE

Mrs. HANSEN. I have a letter sent to Congressman Mahon from a gentleman in Arlington, Va.:

I am in receipt of your December 29 missive.

I have just spent some fascinating hours in the new Smithsonian Museum of History and Technology. It's well kept up and many of the displays are interesting. This, however, is not what I am writing to you about.

I live on a practically totally disabling U.S. pension. When I spend what money I have for recreation, I have to count my pennies. The coffee in that place is 19 cents a cup. I also noted a "bedspread (in the "gift" shop) from Appalachia for \$250.

Would you please ask Secretary Dillon to look into this price structure.

Dr. RIPLEY. Madam Chairman, I am sure that the lady who made the bedspread and sent it up from Appalachia essentially determined the price.

Mrs. HANSEN. When you have crafts that are for sale isn't the price usually determined by the person who made them?

Dr. RIPLEY. As far as I know, there is a minimal inventory or institutional overhead fee that must be added to the price. So I think one could say that that price was very definitely negotiated by the seller rather than by the purchaser or by the stores.

Mrs. HANSEN. Why is the price of a cup of coffee so high?

Dr. RIPLEY. The cup of coffee is, of course, under the contract which provides to the Hot Shoppes the right to determine their own overhead and inventory costs.

Mrs. HANSEN. Does the Hot Shoppes have to pay rent for the facility?

Dr. RIPLEY. No.

Mr. WHEELER. They pay a percentage of their gross revenues in lieu of rent.

Mrs. HANSEN. Do they provide the utilities themselves?

Dr. RIPLEY. They install the utilities themselves as part of the contract.

Mr. WHEELER. I believe they carry their share of the utilities cost in the limited quarters which they occupy, and the same would apply to cleaning too.

Mrs. HANSEN. Why is a cup of coffee 19 cents in your cafeteria?

Dr. RIPLEY. Well, Madam Chairman, I don't know. I will have to go out and try pricing some cups of coffee in a cafeteria. It seems to me the prices of all these things have gone up, and the question is the veteran's pension rather than the comparable price of a cup of coffee.

Mrs. HANSEN. You are not going to sell many bedspreads at \$250.

Dr. RIPLEY. I don't think we would either. I notice that some of those bedspreads are a great deal more than that, and I am sure they represent many thousands of hours of work.

Mrs. HANSEN. Are the bedspreads crocheted and handwoven?

Dr. RIPLEY. Yes. The bare fact that anybody is willing to, makes it a matter of such pride to us to be able to exhibit it and help them to sell it. This is the most important factor I think as far as our handling those articles is concerned.

MEMBERSHIP OF BOARD OF REGENTS

Mrs. HANSEN. Please insert in the record a listing of the current membership of your Board of Regents.

Dr. RIPLEY. We will do so, Madam Chairman.

(The information follows:)

SMITHSONIAN INSTITUTION—BOARD OF REGENTS

The Chief Justice—Hon. Warren E. Burger
 The Vice President—Hon. Spiro T. Agnew
 Dr. John Nicholas Brown—Citizen Regent
 Dr. William A. M. Burden—Citizen Regent
 Dr. Crawford H. Greenewalt—Citizen Regent
 Dr. Caryl P. Haskins—Citizen Regent
 Mr. Thomas J. Watson, Jr.—Citizen Regent
 Mr. James E. Webb—Citizen Regent
 Vacant—Citizen Regent
 Vacant—Citizen Regent
 Vacant—Citizen Regent
 Hon. Clinton P. Anderson—Congressional Regent
 Hon. J. W. Fulbright—Congressional Regent
 Hon. Hugh Scott—Congressional Regent
 Hon. Frank T. Bow—Congressional Regent
 Hon. George H. Mahon—Congressional Regent
 Hon. John H. Rooney—Congressional Regent

SMITHSONIAN MEMBERSHIP ON GOVERNMENT ADVISORY BOARDS

Mrs. HANSEN. Because of its varied activities the Smithsonian Institution is represented on several advisory boards and other panels of the Federal Government either by the Secretary or his designate. Please insert in the record all of these agencies or activities on which you are so represented in the capacity whereby the Smithsonian Institution could be said to have a "supervisory or policy making influence."

Dr. RIPLEY. We will do so, Madam Chairman.

(The information follows:)

REPRESENTATION ON FEDERAL ADVISORY BOARDS AND COMMISSIONS SECRETARY OR DESIGNATE

American Revolution Bicentennial Commission.
 Federal Council on the Arts and Humanities.
 Federal Council for Science and Technology.
 National Council on Marine Resources and Engineering Development.
 National Visitor Center Study Commission.
 President's Temporary Commission on Pennsylvania Avenue.

SMITHSONIAN INSTALLATIONS

Mrs. HANSEN. The activities of the Smithsonian Institution are diversified and to some extent are becoming quite widespread. For ready

reference in the record I think it would be well for you to insert at this point a listing of all your installations, indicating the location and the type of activity administered in each instance.

Dr. RIPLEY. We will be happy to do so, and if I may say so we will supplement that by pointing out the particular items of legislation which are involved in the creation of these things.

Mrs. HANSEN. Please do. I think that is very important.

Dr. RIPLEY. Essentially what we are doing here is following the will of the Congress in having voted through such legislation.

(The information follows:)

LOCATION, PURPOSE, AND AUTHORIZATIONOF SMITHSONIAN ACTIVITIES

<u>Building or Facility</u>	<u>Location and Purpose</u>	<u>Legislative Authorization</u>
Air and Space Building	Washington, D. C. Located behind the Smithsonian building, this temporary structure displays various objects related to air and space flight. Other exhibits are in the Arts & Industries Building, while collections are stored at the Silver Hill facility in Silver Hill, Md.	20 U.S.C. 77
Anacostia Neighborhood Museum	The Museum is located in an old theatre building in Anacostia, D.C. It develops exhibits and pursues educational programs as an inner-city community cultural center.	20 U.S.C. 41
Archives of American Art	Headquartered in Washington, D.C. in the Fine Arts and Portrait Galleries Building with branch offices in Detroit, New York City and Boston, the Archives is the largest single collection of art history related materials in the U.S., numbering several million items, and is used by students and scholars for basic research and documentation purposes.	20 U.S.C. 76
Arts and Industries Building	Washington, D.C. Exhibits objects related to air and space flight, and special temporary exhibitions. Also houses portions of central administrative services such as the Personnel Office, Office of Museum Programs, and Buildings Management Department.	20 U.S.C. 41

Barney House	Washington, D. C. Situated off Sheridan Circle, this house is administered by the National Collection of Fine Arts for traveling exhibits purposes.	20 U.S.C. 76
Belmont Conference Center	Howard County, Maryland. The facilities are utilized by a variety of government and private organizations for meetings and conferences.	20 U.S.C. 41
Chesapeake Bay Center for Environmental Studies	Edgewater, Maryland. Located on 1,344 acres of forest and marshland, the Bay Center maintains laboratory space and facilities for basic estuarine and terrestrial research conducted by Smithsonian and university-based scientists interested in ecological change.	20 U.S.C. 41
Cooper-Hewitt Museum	New York, New York. This Museum serves as a museum and study center of arts, crafts, and design, and will be located in the Carnegie Mansion. Supported by nonappropriated funds.	20 U.S.C. 41
Fine Arts and Portrait Galleries Building	Washington, D. C. This contains the exhibit and research activities of the National Portrait Gallery (American Portraiture), and the National Collection of Fine Arts (American Art). The National Collection is also responsible for developing the Renwick Gallery.	20 U.S.C. 75 20 U.S.C. 76
Freer Gallery of Art	Washington, D. C. The Freer Gallery exhibits, curates, and performs research on oriental art and special collections.	20 U.S.C. 41

Hillwood	<p>Washington, D. C. A gift to the Smithsonian subject to a life estate, Hillwood will become a public art museum devoted to major collections of Imperial Russian and French art works.</p>	20 U.S.C. 41
History and Technology Building	<p>Washington, D. C. This is the principal location for the National Museum of History and Technology, which exhibits and curates collections relating to America's heritage and technological development. It also houses the Office of Exhibits offices, the Conservation Analytical Laboratory, and a portion of the Smithsonian Libraries.</p>	20 U.S.C. 41, 60
Joseph H. Hirshhorn Museum and Sculpture Garden	<p>Currently in New York City. Collections and administrative offices will be located in Washington, D. C. after building is completed. The museum exhibits and conducts research on contemporary painting and sculpture.</p>	20 U.S.C. 76 aa-ee
National Gallery of Art	<p>Washington, D. C. Administered by a separate Board of Trustees, the Gallery houses the Mellon collections, and is recognized as one of the world's great art museums.</p>	20 U.S.C. 71-75
Natural History Building	<p>Washington, D. C. The National Museum of Natural History is located in this building. This is the Federal repository for natural history collections, and conducts broad research investigations utilizing the collections, principally in taxonomics and systematic biology. The building also houses portions of the Smithsonian Libraries, Exhibits Office, Supply Division, as well as units of other agencies collaborating with the Museum.</p>	20 U.S.C. 41, 50, 59

National Zoological Park	Washington, D. C. The Zoo's basic purposes are to provide for the advancement of zoological science and the recreation of the citizenry.	20 U.S.C. 81-85
Radiation Biology Laboratory	The Laboratory's headquarters are in Rockville, Maryland. It studies the responses of living organisms to various qualities and intersites of radiant energy. Solar radiation and atmospheric monitoring stations are located in Jerusalem, Israel and Point Barrow, Alaska.	20 U.S.C. 41
Renwick Gallery	Washington, D. C. The Renwick will be located in the original Corcoran Gallery of Art building (currently being restored) and will exhibit American design and decorative arts. It is currently being administered by the National Collection of Fine Arts.	20 U.S.C. 76
Silver Hill Facility	Silver Hill, Maryland. This area contains several temporary buildings for storing artifacts and collections related primarily to the activities of the National Air and Space Museum.	20 U.S.C. 77
Smithsonian Astrophysical Observatory	Cambridge, Massachusetts. The Astrophysical Observatory pursues a broad program of research in astrophysics and related earth and space sciences. In addition to scientists and supporting staff employed in Cambridge, the Observatory maintains scientific	20 U.S.C. 41

facilities elsewhere in the United States and overseas. Field installations include: Mt. Hopkins Observatory (Tucson, Arizona); meteorite recovery stations (located in six midwestern states); satellite tracking stations (in nine foreign countries) and a meteor radar/high altitude wind installation (Havana, Illinois).

Smithsonian Oceano-
graphic Sorting Center

Washington, D.C.

20 U.S.C. 41, 51

Located in the Washington Navy Yard, the Sorting Center is operated as part of the Smithsonian's Office of Environmental Sciences. It is responsible for coordinating collections of marine specimens gathered by governmental and nongovernmental scientists, and insuring that collections are processed for the benefit of science.

Smithsonian Tropical
Research Institute

Canal Zone, Panama.

20 U.S.C. 41, 79

The Institute conducts and supports basic research on tropical marine and terrestrial environments; maintains Barro Colorado Island as a natural preserve; and operates laboratory facilities for national and foreign scientists.

Smithsonian Institution
Building

Washington, D.C.

20 U.S.C. 41

This original building houses the Institution's administrative offices and is the current headquarters for the Woodrow Wilson International Center for Scholars.

DECLINING PRIVATE FUND INCOME

Mrs. HANSEN. Several months ago it was reported in several instances that available cash for Smithsonian activities was severely limited. I understand the situation was attributable partly to the fall-off of income from your private funds. What is your current situation in this respect?

Dr. RIPLEY. Any institution which has any endowment at all, just as an individual who holds any securities, is certainly aware over the passage of the last 2 years since the fall of 1969 of the condition of suspended or diminishing dividends. That is true, Madam Chairman.

Mrs. HANSEN. Appropriations for the Smithsonian Institution have accelerated at what some consider a rapid rate. For fiscal year 1965, your total appropriations were \$25,950,000. The budget you are presenting today would provide \$58,751,000. Considering the increased cost of doing business the past several years, this is still a relatively sizable increase in your appropriated funds. For example, the 1972 budget estimates you are presenting today reflects an increase of \$14,424,000 over funds appropriated to date to your agency for fiscal year 1971. This is an increase of about 33 percent over your current appropriation. Please discuss for the committee the general thrust of your activities budgeted for 1972 giving special consideration to those areas where your activities are budgeted for the greatest expansion.

Dr. RIPLEY. I would like to give first of all if I may, Madam Chairman, in response to that very comprehensive question, some pertinent statistics. The "salaries and expenses" operations of the Institution have increased since 1968 by approximately \$8,800,000 or at a rate of about 11 percent per year. This excludes the Zoo and the Science Information Exchange for comparative purposes which have been funded under other arrangements during part of that time. These figures assume also that the requested pay supplemental this year is approved. We estimate that about 70 percent of this increase which I have just described has been eroded by inflationary price increases and the necessity of improving the competitive salary situation in the Federal Government.

Mrs. HANSEN. What has been your inflation rate?

Dr. RIPLEY. The inflation rate has been running throughout the Nation at 12 to 15 percent a year in construction alone and 5 percent a year or better in other costs. If you take about 70 percent of that increase, which is essentially our estimate of our inflationary rate including wage increases plus about 6 percent devoted to costs associated with working into new building space already approved gives a total of 76 percent. That leaves us with a real increase out of that \$8,800,000 that I mentioned of \$2 million to \$2,300,000, or an average amount usable for program development each year of well under \$1 million. We estimate we have had between \$700,000 and \$800,000 for program development in each one of these years in which our overall net "Salaries and Expenses" appropriation increased by 11 percent.

Thus the apparent appropriation increases received since 1968 reduce to real annual growth of about 3 percent. In other words, the 11 percent apparent whittles down to 3 percent actually or 8 percent is swallowed up by inflation.

GROWTH OF VISITORS AND INFORMATION INQUIRIES

Mrs. HANSEN. Since 1965, what has your visitor load been?

Dr. RIPLEY. I have those figures right here, Madam Chairman. Our visitor load went up very high and peaked in 1967. In 1965, it was 13,154,000; in 1966, it was 12,151,000; in 1967, again high, 13,313,000. Then after the riots it suffered a very significant decrease, in 1968 to 11,524,000, and in 1969, to 10,431,000. In 1970, it was 13,584,000 and our estimate for 1971 is about 14 million.

Mrs. HANSEN. So your visitations are now over your crest of 1967?

Dr. RIPLEY. We are back up and over our crest of 1967.

Mrs. HANSEN. What has been the increase of requests for information to the Institution? As you know, you have many people who come to you for advice on your museum operations. You have people who come to you on advice about art.

Dr. RIPLEY. This shows a very marked increase and I would have to produce the figures for the record.

(Information follows:)

Professional and Public
Inquiries Directed to Smithsonian
Bureaus and Offices

The Institution has recorded a marked increase in inquiries directed to its various bureaus and offices from the general public and scientific community. Scientific visits to the Smithsonian, including all museums, galleries, and field stations, for research and scholarly purposes (ranging from a few hours to several weeks) numbered about 10,000 in fiscal year 1970. This represents about an 8 percent increase over the previous year. Mail inquiries from both the general public and the scientific or museum community is, of course, much higher and is estimated at about 122,000 in 1970; and represents an increase of around 20 percent over the previous year.

Selected information from bureaus and offices follows:

General Inquiries and Assistance (including technical and scientific visits)	FY 1970
Joseph H. Hirshhorn Museum	2,000
National Collection of Fine Arts	3,000
National Museum of History and Technology	3,000
National Museum of Natural History	15,000
National Portrait Gallery	3,000
Office of Museum Programs	5,000
Office of the Registrar*	70,000*
Smithsonian Astrophysical Observatory	4,000
Smithsonian Tropical Research Institute	9,000
Miscellaneous	18,000
Total	<u>132,000</u>

*Receives and distributes most of the mail inquiries directed to the Institution in general. To the extent possible to separate, these do not include inquiries going directly to the individual Bureau or Office.

ASSISTANCE TO OTHER MUSEUMS AND INSTITUTIONS

Mr. GALIFIANAKIS. Madam Chairman, if I may ask this question, do you have a program where you help other state institutions to build up comparable exhibitions that you have?

Dr. RIPLEY. We have it in two ways. We have it with the Travelling Exhibition Service which we maintain and which is again essentially on our private side. This consists of a series of anywhere up to 120 exhibitions circulating at all times throughout the nation, and which can be booked or subscribed to and so on. And we have it also under our National Museum Act with exchanges of information or offers to conduct seminars in technical museum presentation techniques.

Mrs. HANSEN. Do you conduct seminars in Washington, D.C. and in regional areas of the country?

Dr. RIPLEY. Here in Washington or in a regional area. For example, the museum conferences in the southeast, in the northeast, in the northern states, central states and so on. We have been providing visiting teams of technical experts to go to these conferences and give seminars on various aspects of exhibition and presentation and restoration of objects. The field of conservation of objects is becoming of enormous importance as we discover how few objects we have left and we become more concerned about conservation of the objects that we do have.

Mrs. HANSEN. Does the same exhibition service policy apply to the National Zoo?

Dr. RIPLEY. The zoo has the same kind of relationship with other zoos although they don't have an exhibition service. They are currently considering some exchanges of animals which would be an extension perhaps of that, but they do have the same policy of trying to give counsel and advice to people in other zoos.

Of course, this we feel is part of our mandate. Since we are chartered here in Washington in the Federal District it has become an assumption on the part of the rest of the states in the nation that somehow or other we are supposed to be doing these things. We are supposed to be offering advice and technical counsel in the same way as a person might write to the Department of Agriculture or the Department of Commerce for a pamphlet on how to grow apples or how to make some carpentry device.

We get the same kinds of questions because we are known to be in the museum field and thought to be able to provide a similar kind of expertise. The only thing is no one pays us for it. So our problem is that we simply lack the resources for these consultation services that the Agricultural Department and the Interior Department and others have. It is these resources that we are trying to obtain under the National Museum Act so that we too could fund the answers to the kinds of questions that we receive automatically because we are here in Washington.

JUSTIFICATION MATERIAL

Mrs. HANSEN. Please insert justification pages i through vi in the record at this point.

(The pages follow:)

SMITHSONIAN INSTITUTIONFISCAL YEAR 1972 ESTIMATES OF APPROPRIATIONSGENERAL STATEMENT

This past year has been one of measured progress for the Smithsonian Institution. Where many of the prospects of the nation seem fraught with dissent and division, where the path of education has become obscured by the divisiveness which has beset the academies, the smaller private institutions of learning seem to have survived so far relatively unscathed. Like other institutions concerned with research and study, however, the Smithsonian suffered in the past year from the general decline in support for science as well as to related areas of study. Our problem with the declining government budgets for the support of basic science has been compounded by the tax reform act which produced a serious paralysis of will on the part of the foundations. In addition, the steadily worsening effects of inflation on the costs of personnel, research equipment, objects for the collections, as well as on the everyday supplies and materials for general museum and laboratory operations further threaten the Smithsonian's ability to carry out its traditional responsibilities.

One encouraging development has been a widening awareness that the Smithsonian's activities represent a kind of unity. In spite of the many bureaus, some of them incorporated in large buildings on the Mall and others located in laboratories in Washington and elsewhere, there are a series of unifying themes which run through the Institution's activities. Our concerns remain united around the general subject of history: history of art, science, and technology including the history of air and space flight, and the delineation of these histories through public exhibition. In addition, our science activities revolve generally around the compilation of statistics, information, and research about the biosphere and space. Our classical concerns in natural history and in astrophysics have come full circle so that today we can proudly claim our work to be of vital importance in the new sciences of the study of the environment on the one hand and of outer space on the other.

Within these common themes there are overriding considerations for the public good. Education and public exhibition are of paramount concern for all our main buildings and for the curators and the research staff who inhabit them. Education through research and publication remains paramount in the other bureaus whose activities are not contained in the large public buildings. In addition, Joseph Henry's initial concern with bringing scholars together with colleagues in foreign countries continues to be developed and encouraged through our foreign currency program as well as research activities both here and abroad.

In Joseph Henry's view the Smithsonian existed to stimulate research in pursuit of new truths and to make these available to both the public and to professionals, in the arts, sciences, and cultural history. His favorite phrase to describe the Institution's ultimate aim was a "College of Discoverers." This is still the unifying force, the common factor in all the diverse bureaus and museums of the Smithsonian--the Institution as a "College of Discoverers" which:

- First, keeps records of knowledge through its collections;
- Second, serves as a stimulus to research largely through its collections;
- Third, and perhaps most important, uses the collections and the results of research for public education.

These three elements may be found to a greater or lesser degree in all the bureaus of the Smithsonian, as they are today.

Increasingly, the Institution's bureaus and offices are engaged in common efforts. Notable among these are the contributions that will be made in the national celebration of the American Revolution Bicentennial and in studies of the environment. We have begun to lay-out long range plans for ecological assessments in both the New World temperate and tropical zones and in the Old World. We are uniquely equipped through processing and working with the National Collections to contribute to solutions, but we are pitifully undersupported financially to make our contributions effective.

In spite of appropriation increases each year, which have averaged somewhere between 6 and 8 percent, costs have continued to escalate so much that our scientists' work and our research and exhibits potential have been seriously undermined. Little has been allowed for growth, expansion and change, so necessary for a healthy concern, be it a corporation, university, or a research and museum complex. Examples of such needs are continuing additions to art, history, and science collections, modern inventory computerization for these collections, and development of new experimental ideas and fields of study.

While vigorously seeking additional federal fund support for these purposes, we are at the same time carrying out a program of self-examination of the use of our total resources with the objective of reducing or eliminating outmoded or low-priority activities.

Planning is of the utmost importance in all Smithsonian activities. Growth must be brought into effective relation to the availability of resources, especially for an establishment such as ours with more than forty line items in our federal budget, each of which could very readily be expanded to meet some external or internal need. We are strengthening the planning function within the Institution to maintain a balance between our pattern of commitments and the resources we may expect. It has been our judgement, however, that the Institution would have to inaugurate some new programs and achieve order-of-magnitude increases in some support activities in order to function successfully for the 1970s. With inflation, the requirements for new tools and techniques, and the ever-increasing demands placed on our staff, our budget meets no more than one-half of our requirements. The elimination of remaining shortages is a priority objective in our planning, for the next several years.

The central concerns of the Smithsonian represent national needs for the kind of sustained commitment that can be made only by an institution with a strong sense of continuity, tradition, and concentrated purpose. We believe that our first responsibility is to continue the general lines of endeavor which are traditional with the Institution: basic research in selected areas of national interest; development and maintenance of the national collections in biology, anthropology, history, and the arts; and enlightenment of the public through exhibitions and related activities.

In order to meet this responsibility, an overriding concern must be the quality of the professional staff effort within the Smithsonian. We cannot too strongly emphasize the achievement of an adequate level of support of that effort. We have repeatedly appealed for the remedy of deficiencies in support of research and scholarly programs. Virtually half of the growth in appropriations since 1964 has been devoted to staffing and operating new facilities authorized by the Congress. Much of the rest has been negated by inflation. A strong effort must now be made to sustain the basic scholarly program: support for fieldwork, instruments, libraries, conservation, automatic data

processing, technician support, related higher and elementary and secondary education activities, better access to colleagues through scholarly publishing, and unremitting emphasis on the professional character of staff appointments, all against a background of increasing costs. Our budget henceforth will proceed on two tracks, the first a phased elimination of these shortages and the second to provide for the continued development of programs entrusted to us by the Administration and the Congress. Several of these are identified in the following paragraphs.

Beginning this year the observance of the Bicentennial of the American Revolution will become a predominant factor in the development of Smithsonian programs. Within the settings of our history and art museums members of the public may seek a reappraisal of our national experience with due reference to its international setting. Fresh insights of historians should be interwoven with superb offerings of objects and art works that portray our nation's course over the past two centuries and suggest paths for our continued development.

From the studies of the sources of energy and means for its use by living systems to the explanation of biological diversity, the Smithsonian represents an unexcelled multidisciplinary array of information resources and professional scientists which bear upon critical needs to improve our understanding of the physical environment upon which human society depends. We anticipate increasing demands upon our efforts in systematic biology, anthropology, astrophysics, and environmental studies as important resources for the national effort in environmental improvement.

One of the most important unfulfilled hopes for the Smithsonian is that a great national museum might be developed on the authorized space on the Mall to recreate the experience of man's greatest adventure: flight and space exploration. We also aspire to present insights about the significance of the space age for everyday life and to communicate an understanding of the scientific discoveries originating from space exploration.

The birthright of today's citizen is an understanding of the forces shaping himself and his world. It is to museums that many people look for access to the works of artists, an appreciation of the past, an awareness of the scientific view of nature, and for portents of the future. All museums must experiment with new techniques of exhibition and embark upon training and research aimed at improving their effectiveness in popular education. The quality of our response to this democratic vista will continue to be a matter of overriding concern to the Smithsonian in years to come. Implementation of the National Museum Act through adequate funding will greatly strengthen the capability of all museums.

From the amassing of great national collections will arise difficult questions about how to guarantee access to the information they contain. This will call for innovative designs of indexes, catalogs, and ways to manage vast resources of information. Perhaps some of the techniques developed for the management of voluminous flows of data from satellite observations or oceanographic stations may be adapted to the needs of the future. In our role as custodian of the nation's collections we must try to serve the public interest in improved management of scientific and scholarly information.

The fiscal year 1972 appropriation estimates are designed to help correct many of the problems identified and to improve the Institution's capabilities in other areas. We are convinced that only by obtaining the requested additional resources can the Smithsonian meet the future of the decade.

The estimates are presented in four sections:

- A. "Salaries and Expenses"
for regular operating programs in the museums,
galleries, research laboratories, and program
support units.....\$41,529,000
- for special programs of an Institution-wide nature
and of unusual importance for national research and
public education needs 3,475,000
- B. "Salaries and Expenses" for Science Information
Exchange as a separate appropriation account in
recognition of the unique service nature of this
organization..... 1,400,000
- C. Special Foreign Currency Program in archeology and
related disciplines, systematic and environmental biology,
astrophysics, and museum programs..... 5,500,000
- D. Restoration and construction of Smithsonian buildings and
facilities..... 6,847,000

Each of these requests is summarized below. The estimates of the Woodrow Wilson International Center for Scholars are separately presented by its Board of Trustees.

A. "Salaries and Expenses"
Regular Operating Programs

1970 Actual	1971 Estimate	1972 Estimate
\$28,993,000	\$34,783,000	\$41,529,000

The total increase requested for "Salaries and Expenses" for regular operations is \$6,746,000. Included in this amount is \$1,154,000 for mandatory pay and related benefits commitments, largely for current staff, that will fall due in fiscal year 1972 and are relatively uncontrollable. This increase is distributed as followed:

<u>Science</u>	(In thousands of dollars)		
	1971	Requested	1972
	<u>Base</u>	<u>Increase</u>	<u>Estimate</u>
	\$12,306	\$3,791	\$16,097

To correct serious deficiencies in the availability of technicians and other supporting staff, scientific equipment, laboratory supplies and materials, and key professional research staff in order that the Institution can continue its traditional basic investigations and educational services in anthropology, biology, geology, and the space sciences which are fundamental to a better understanding of the environment. Includes requests for the National Museum of Natural History, the Smithsonian Astrophysical Observatory, Smithsonian Tropical Research Institute, Radiation Biology Laboratory, Office of Environmental Sciences, National Air and Space Museum, Center for the Study of Man, Center for Short-Lived Phenomena, and the National Zoological Park.

	1971 Base	Requested Increase	1972 Estimate
	(In thousands of dollars)		
<u>History and Art</u>	\$4,801	\$1,245	\$6,046
To provide essential support staff and the routine services, supplies, and equipment required for basic operations in order that the established and developing museums and art galleries of the Smithsonian can effectively tell the story of American civilization to millions of visitors annually. Includes the budgetary requirements of the National Museum of History and Technology, National Collection of Fine Arts, National Portrait Gallery, Joseph H. Hirshhorn Museum and Sculpture Garden, Freer Gallery of Art, Archives of American Art, and the National Armed Forces Museum Advisory Board.			
<u>United States National Museum</u>	3,120	183	3,303
To improve the documentation and conservation of the National Collections. Includes requests for the Office of Museum Programs, Office of Exhibits, Conservation Analytical Laboratory, and the Office of the Registrar.			
<u>Public Service</u>	807	118	925
To furnish additional capabilities to certain of those Smithsonian's activities which reach out to serve a wide public. Requests are included for the Anacostia Neighborhood Museum, the Office of International Activities, International Exchange Service, Division of Performing Arts, and the Office of Public Affairs.			
<u>Program Administration and Support</u>	4,478	602	5,080
To allow the central services to give adequate administrative and technical support to the museums, galleries, and laboratories. Includes requests for the Offices of the Secretary, General Counsel, Treasurer, and Personnel, and for the Smithsonian Press, Libraries, Information Systems Division, and other important support units.			
<u>Buildings Management</u>	9,271	807	10,078
To provide adequate maintenance, operation, and protection services in support of the Institution's research, collections' management, and public education services.			
Totals	<u>\$34,783</u>	<u>\$6,746</u>	<u>\$41,529</u>

Special Programs

<u>1970 Actual</u>	<u>1971 Estimate</u>	<u>1972 Estimate</u>
\$972,000	\$1,549,000	\$3,475,000

This request is aimed at strengthening the Smithsonian's abilities to perform ecological research of national significance, present important and timely exhibitions, and extend its public education services. Included are requests for program funding for the Environmental Sciences, the American Revolution Bicentennial, the National Museum Act, a Major Exhibition on the World of Living Things, Academic and Educational Programs, and the Research Awards Program.

B. Science Information Exchange

<u>1970 Appropriation</u>	<u>1971 Appropriation</u>	<u>1972 Estimate</u>
\$ <u>1/</u>	<u>1/</u>	\$1,400,000

A separate appropriation account is requested to enable the Institution to both manage and fund the Science Information Exchange as a national information service to the federal and nonfederal research community.

1/ Funded under contract with the National Science Foundation at an annual rate of \$1,600,000

C. Special Foreign Currency Program

<u>1970 Appropriation</u>	<u>1971 Appropriation</u>	<u>1972 Estimate</u>
\$2,316,000	\$2,500,000	\$5,500,000

The need is to provide adequate support, without any dollar drain to the nation, for overseas archeological work, systematic and environmental biology, astrophysical studies, and museum programs of benefit to American institutions of higher learning. Ongoing research, based on a broadened authority to employ these excess foreign currency funds, now consumes the entire appropriation (funding for many ongoing projects has had to be reduced). New demand, however, spurred by diminishing dollar support of basic research and by greater research opportunities abroad is steadily climbing.

D. Restoration and Construction

<u>1970 Appropriation</u>	<u>1971 Appropriation</u>	<u>1972 Estimate</u>
\$4,625,000	\$7,125,000	\$6,847,000

Included in this request are \$200,000 to continue to make essential repairs to existing buildings and facilities at the National Zoological Park; \$1,050,000 for the restoration and renovation of Smithsonian buildings, including completing the Renwick Gallery of Art, providing Bicentennial facilities on the National Museum of History and Technology, and other projects; \$3,697,000 to liquidate the balance of the Hirshhorn construction authority; and \$1,900,000 for the redesign of the National Air and Space Museum.

Total 1972 Appropriations Requested \$58,751,000

SALARIES AND EXPENSES

Mrs. HANSEN. Salaries and expenses. Please insert pages A1 through A142 of the justifications in the record.
(Pages follow :)

SMITHSONIAN INSTITUTION

"Salaries and Expenses"Summary Statement

Appropriation Act, Fiscal Year 1971	\$34,702,000	
Anticipated Supplemental.....	<u>1,630,000</u>	<u>1/</u>
Total Available, Fiscal Year 1971.....	36,332,000	
Budget Estimate, Fiscal Year 1972.....	<u>45,004,000</u>	
Increase, Fiscal Year 1972.....	\$8,672,000	

1/ This supplemental covers the costs of the general schedule raise effective December 27, 1969, the wage board raise effective November 1, 1970, and the guard raise effective November 15, 1970, but does not cover any part of the general schedule pay raise effective January 10, 1971.

SMITHSONIAN INSTITUTION
"Salaries and Expenses"
Summary of the 1970 Appropriation and 1971 and 1972 Estimates

Page No.	Unit	1970 Approp.		1971 Approp.		1972 Estimate		Analysis of Increases Necessary		Program Amount
		Pos.	Amount	Pos.	Amount	Pos.	Amount	Pay	Pos.	
I Science										
A-11	National Museum of Natural History...	258	\$3,912,000	271	\$4,205,000	349	\$5,676,000	\$163,000	78	\$1,308,000
A-22	Smithsonian Astrophysical Observatory	57	2,086,000	57	2,076,000	57	2,630,000	21,000	0	533,000
A-25	Smithsonian Tropical Research Institute	40	522,000	45	560,000	46	796,000	60,000	12	176,000
A-30	Radiation Biology Laboratory	36	676,000	40	916,000	46	1,285,000	17,000	6	352,000
A-35	Office of Environmental Science	23	565,000	34	584,000	42	827,000	18,000	8	225,000
A-38	National Air and Space Museum	41	486,000	41	626,000	44	731,000	15,000	3	90,000
A-40	Center for the Study of Man	6	83,000	7	152,000	10	220,000	3,000	3	65,000
A-43	Center for Short-Lived Phenomena	0	11,000	1	37,000	4	127,000	1,000	3	89,000
A-46	National Zoological Park	0	11,000	0	3,150,000	297	3,805,000	70,000	48	585,000
	Total, Science	461	\$8,341,000	745	\$12,306,000	906	\$16,097,000	\$368,000	161	\$3,423,000
II History and Art										
A-60	Museum of History and Technology	158	2,149,000	158	2,209,000	157	2,507,000	68,000	-1	230,000
A-63	National Collection of Fine Arts	59	1,015,000	70	1,137,000	72	1,245,000	46,000	2	62,000
A-65	National Portrait Gallery	30	768,000	37	831,000	38	902,000	21,000	1	50,000
	Joseph H. Hirshhorn Museum and Sculpture Garden	13	308,000	18	416,000	21	1,017,000	14,000	3	587,000
A-72	Freer Gallery of Art	7	45,000	7	56,000	8	80,000	3,000	0	21,000
A-73	Archives of American Art	0	0	0	0	11	175,000	0	11	175,000
A-75	National Armed Forces Museum Adv. Bd.	8	182,000	8	152,000	6	120,000	5,000	-2	-37,000
	Total, History and Art	275	\$4,467,000	298	\$4,801,000	313	\$6,046,000	\$157,000	15	\$1,088,000
III United States National Museum										
A-77	Office of Museum Programs	7	233,000	9	304,000	9	308,000	4,000	0	0
A-78	Exhibits	167	2,354,000	167	2,361,000	164	2,426,000	67,000	-3	0
A-79	Conservation Analytical Laboratory	11	134,000	11	154,000	14	209,000	5,000	3	50,000
A-81	Registrar	29	327,000	29	301,000	30	358,000	7,000	1	50,000
	Total, United States National Museum	214	\$3,048,000	216	\$3,120,000	217	\$3,303,000	\$83,000	1	\$100,000

Page No.	1970 Approp.		1971 Approp.		1972 Estimate		Analysis of Increases Necessary	
	Pos.	Amount	Pos.	Amount	Pos.	Amount	Pay	Program Amount
A-140 VII	748	\$8,067,000	768	\$9,271,000	793	\$10,078,000	\$382,000	25 \$425,000
VIII	8	91,000	0	0	0	0	0	0
Total		\$29,965,000	2,373	\$36,332,000	2,608	\$45,004,000	\$1,154,000	235 \$7,518,000

1/ Presented in a separate appropriation.

SMITHSONIAN INSTITUTIONNECESSARY PAY INCREASES, FISCAL YEAR 1972

An increase of \$1, 154, 000 is required for personnel compensation and personnel benefits. The operations of the Smithsonian Institution have been carefully reviewed and the following have been absorbed in our existing base for salaries and benefits. Recent legislation increased the agency's contribution to the employees' health benefits. The agency's share was increased, on the average, from 24 percent to 40 percent of the cost of each employee's health insurance. This Public Law 91-418 became effective January 1, 1971. The Smithsonian is absorbing the cost of this increase which is estimated to cost \$120, 000 in fiscal year 1972.

The Smithsonian Institution is also absorbing part of the cost of the Wage Board increase effective November 1, 1970. The amount of the absorption in 1972 is estimated to be \$87, 000 and affects the Buildings Management Department and the National Zoological Park. No further absorption is possible without adversely affecting the operations of the Smithsonian.

The above increase will be used to finance the following items:

a. Periodic step increases in accordance with Government Employees Salary Reform Act of 1964 and with prevailing practices in the wage scales	\$623, 000
b. To finance the cost of promotions	185, 000
c. To finance an extra work day in fiscal year 1972	100, 000
d. Guard raise	163, 000
e. To finance the cost of housing allowance for United States citizen employees of the Smithsonian Tropical Research Institute	21, 000
f. Full-year costs of wage adjustments for wage employees at the Smithsonian Tropical Research Institute	13, 000
g. To finance a new holiday--Columbus Day--as authorized in Public Law 90-363	10, 000
h. Full-year costs of the wage board increase granted on November 1, 1970	<u>39, 000</u>
	\$1, 154, 000 ¹

In fiscal year 1966, the Smithsonian Institution account obligated 68.9 percent of the total "Salaries and Expenses" budget for personnel compensation and benefits. In fiscal year 1971, we anticipate obligating 74.5 percent of our funds for personnel compensation and benefits. We are striving to achieve a better balance in our funds between those for salaries and benefits and those for other objects of expense. Much of this imbalance has been caused by absorbing portions of legislated salary and wage increases. In order not to have to reduce other objects further, this requested increase is of high priority. People are the Smithsonian Institution's most important asset provided by the budget process, but as modern techniques and equipment are coming into use, we must also be in a position to provide the professional research staff as well as the administrative and technical support staff with such tools as advanced equipment and computer

¹ This amount is distributed in the fiscal year 1972 column of the individual budget requests.

services. This can only be done if we have some flexibility in other objects. Currently this is not the situation. After we have provided for the other essential costs in other objects, i. e., electricity, steam, gas, air conditioning, rent, and communications, there are extremely limited amounts of funds left.

Periodic step increases are made in accordance with the Government Employees Salary Reform Act of 1964 and prevailing practices in the wage system. This amount includes the additional portion of the fiscal year 1971 step increases to be paid in fiscal year 1972 and the new amount to be paid to employees in fiscal year 1972. The apparent cost was determined through a position-by-position study and has been reduced to real cost by offsets resulting from employees being separated or promoted before receiving step increases and from filling some positions at a lower grade step than the former incumbents held. Experience in 1970 showed that we paid \$191,000 in new costs which on an annual basis would have cost \$388,000. We are requesting \$623,000 for these costs in 1972. This is based on our higher employment in 1971 over 1970 and on the fact that 50 percent of 1970's experience was based on lower pay scales, and the wage system's experience was based on pay that will have been increased twice and will probably be increased again in early 1972.

In order to hold its eminent professional research and curatorial staff, the Smithsonian Institution must be in a position to offer promotions as these men gain experience and professional competence. Within the Smithsonian Institution, the historians and scientists are rated by their peers. Certain criteria have been established by these two groups in order to assess rates of professional advancement in order to obtain promotions. There are two groups known as Professional Accomplishments Evaluation Committees. One group is composed of curators and historians in history and the arts. The other group is made up of scientists and curators in the natural sciences. These groups have to recommend a scientist's promotion to the bureau directors before any action can be taken. Even then the bureau directors and the personnel staff have to apply the standard regulations before these promotions are accomplished. In order to keep this program going and to maintain the staff of qualified researchers that have been gathered, the Smithsonian Institution is requesting \$65,000 to pay for the additional part-year cost of fiscal year 1971's promotions in fiscal year 1972 and the additional costs in that year for new promotions. We are also requesting \$120,000 to help finance the upgrading of the rest of our staff.

In fiscal year 1972, there will be an extra workday since February will have 29 days in that year. This will cost \$100,000 in additional salaries and benefits.

The Civil Service Commission was requested and granted authority under 5 U. S. C. 5303 and Executive Order 11073 to establish the special new higher salary rates for all guards GS-085 which is the category of the Smithsonian Institution's special policemen. These guards possess full police power within their jurisdiction including the power of arrest, and are qualified to bear arms under the authorizing statute. The increased salaries were deemed necessary to give them parity with other similar protective forces in the District of Columbia and enhance the ability to recruit suitable personnel and to retain those already on the force who possess the required training and experience. These factors became all the more important in light of the government's security crackdown because of the many recent bomb threats, and the alarming increase in demonstrations, protests, and crimes. The special guard raise gave the guards in GS-3, 4, and 5 an average increase of \$1,500 per year. This increase became effective November 12, 1970. We are seeking \$163,000 to annualize this raise in fiscal year 1972 for our Buildings Management Department.

The Smithsonian Tropical Research Institute is the only U. S. federal activity in the Canal Zone or in Panama whose employees are not offered low-cost Canal Zone housing, Government-leased quarters in Panama, or quarters allowances.

All STRI families must reside in Panama where high costs in comparison with District of Columbia costs provide the basis for State Department surveyed Foreign Quarters Allowances. STRI's U.S. staff members, however, now receive only a 15 percent pay differential as do all other U.S. employees working in the Canal Zone. This differential is approximately three-fifths the value of the Foreign Quarters Allowances received by all U.S. employees working in Panama. The requested funding of \$21,000 would make up the difference by enabling the agency to lease quarters in Panama and sublease these to staff members on a partially subsidized basis. This will rectify a hardship on the STRI's employees. Authorization for a longer-term solution will be sought whereby full Foreign Quarters Allowances may replace the differential.

The Smithsonian Institution's Tropical Research Institute has manual employees who are maintained on a separate pay system from other employees within the Smithsonian. We are requesting \$13,000 to finance the wage adjustments for these employees. This covers \$9,000 for adjustments effective July 12, 1970, and an increase effective October 1, 1970, at \$4,000 to raise the minimum wage paid in the Canal Zone from \$1.45 to \$1.60 per hour.

Public Law 90-363 provided a new holiday--Columbus Day--which will occur for the first time in fiscal year 1972. We are requesting \$10,000 for this holiday since our museums and zoo are open every day of the year except Christmas. This is the holiday pay for the guards, policemen, animal keepers, custodians, and certain mechanics needed to keep the buildings open.

The Smithsonian Institution employs over 700 wage board employees. These employees received a pay increase on November 1, 1970. We are requesting \$39,000 to finance the additional cost of this increase in fiscal year 1972. While most government agencies depend upon the General Services Administration to provide maintenance, operation, and protection services, the Smithsonian Institution because of the uncommon feature of our buildings being not only office space, but museums, galleries, and laboratories, maintains its own Buildings Management Department. At the National Zoological Park, we have the additional feature of having live exhibits. Animal keepers are required to maintain these live exhibits. It is not possible to further absorb pay increases in these two groups of employees by abolishing positions in order to finance wage increases from base resources. Additional building spaces and exhibits are creating needs for more, not fewer, such positions.

Necessary Pay Increases
Fiscal Year 1972

<u>Organizational Unit</u>	<u>Periodic Step Increases</u>	<u>Promotions</u>	<u>Extra Day</u>	<u>Other*</u>	<u>Total</u>
National Museum of Natural History	\$108,000	\$ 44,000	\$ 11,000		\$ 163,000
Smithsonian Astrophysical Observatory	16,000	3,000	2,000		21,000
Smithsonian Tropical Research Institute	20,000	4,000	2,000	\$ 34,000	60,000
Radiation Biology Laboratory	14,000		2,000	1,000	17,000
Office of Environmental Sciences	14,000	3,000	1,000		18,000
National Air and Space Museum	10,000	3,000	2,000		15,000
Center for the Study of Man	3,000				3,000
Center for Short-Lived Phenomena	1,000				1,000
National Zoological Park	35,000	4,000	11,000	20,000	70,000
National Museum of History and Technology	51,000	11,000	6,000		68,000
National Collection of Fine Arts	29,000	14,000	3,000		46,000
National Portrait Gallery	17,000	2,000	2,000		21,000
Joseph H. Hirshhorn Museum and Sculpture Garden	9,000	4,000	1,000		14,000
Freer Gallery of Art	2,000		1,000		3,000
National Armed Forces Museum Advisory Board	3,000	2,000			5,000
Office of Museum Programs	3,000	1,000			4,000
Office of Exhibits	52,000	8,000	7,000		67,000
Conservation Analytical Laboratory	4,000	1,000			5,000
Office of the Registrar	6,000		1,000		7,000
Anacostia Neighborhood Museum	3,000	3,000	1,000		7,000
Office of International Activities	5,000	4,000			9,000
International Exchange Service	3,000				3,000
Division of Performing Arts	3,000	2,000	1,000		6,000
Office of Public Affairs	15,000	1,000	1,000		17,000
Academic and Educational Programs	7,000	3,000	1,000		11,000
Office of the Secretary	3,000	7,000	2,000		12,000
Office of the General Counsel	2,000	2,000	1,000		5,000
Office of the Treasurer	9,000	3,000	1,000		13,000
Office of Personnel Administration and Health Units	9,000		1,000		10,000

Necessary Pay Increases
Fiscal Year 1972
 (continued)

	Periodic Step Increases	Promotions	Extra Day	Other*	Total
Organizational Unit					
Smithsonian Institution Libraries.....	\$ 15,000	\$ 4,000	\$ 2,000		\$ 21,000
Smithsonian Institution Press.....	9,000	1,000	1,000		11,000
Information Systems Division.....	6,000	1,000	1,000		8,000
Smithsonian Archives.....	2,000	1,000			3,000
Photographic Services Division.....	6,000	1,000	1,000		8,000
Supply Division.....	6,000	1,000	1,000		8,000
Administrative Services Division.....	3,000				3,000
Duplicating Section.....	2,000	1,000	1,000		4,000
Other Central Support.....	4,000	1,000			5,000
Buildings Management Department.....	114,000	45,000	32,000	\$191,000	382,000
Total.....	\$ 623,000	\$ 185,000	\$ 100,000	\$ 246,000	\$ 1,154,000

* Other:

- Guard Raise--BMD \$163,000
- Housing--STRI 21,000
- Wage--STRI 13,000
- Wage--NZIP 17,000
- Wage--BMD 21,000
- Columbus Day--BMD 7,000
- Columbus Day--NZIP 3,000
- Wage--RBL 1,000
- \$246,000

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SCIENCE

Discovering the history and development of natural phenomena and the characterization of natural events, especially as they relate to the evolution of man in response to his physical and sociological environment, represents the major scientific goal of the Smithsonian. If there is a single scholarly bond of interest among all the activities of the Institution, it is a common concern with history, the history of art, the history of technology, the history of science, and indeed natural history. Our staff of scientists is concerned with elucidating the interrelationships between organisms (including man), communities, and populations with the physical, chemical, and geological factors which play a role in forming the ecology of the earth now and in past ages. More than seventy specialties are represented by the Smithsonian's community of scientists. Activities range from astrophysical investigations that contribute to our understanding of the origin and mechanics of the universe, through investigations on microscopic organisms in the ocean depths, to the development of man as shown by his artifacts and productivity.

There is a major change occurring now in the nation's general scientific effort. This change regards the type of input information more and more investigators view as necessary to further research on problems which are biological or physical in nature. While the change is a contemporary one, it is related in an important way to the basic and long-term activities of the Smithsonian and similar research institutes across the nation, and indeed the world. The change, simply stated, involves the following.

Ecological investigations concerned with identifying long-term factors affecting environmental balance increasingly are becoming dependent on analysis and information constructed around collections of objects. Systematic collections of biological and geological specimens contain standards for describing and measuring ecological changes. Unfortunately, as of now, not enough historical information has been extracted to create "bench-marks" of change which would give scientists accurate indices for speculating about ecological trends, and about man-made solutions to problems which would be in keeping with the natural evolutionary process.

This, however, is the type of work which the various scientific laboratories and museums of the Institution have been involved in for a century and a quarter. In recent times, systematics has not been considered one of the more fashionable of sciences. Even during the hey-day of federal support for scientific research, systematics did not receive the measure of support needed to maintain a level of involvement adequate to the nation's best environmental interests. But now the demands for taxonomic information are increasing rapidly as our national programs of science and technology are redirected to cope with environmental deterioration.

The requests contained in this budget are pointed to rectifying certain support shortages in Smithsonian scientific endeavors in biology and to strengthening certain areas of the physical and anthropological sciences. The increases requested for this Science program amount to \$3,791,000 or 44 percent of the total Institutional requested increase. It will permit improved technical assistance for our scientists to permit them to produce at their optimum level of professional competence.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

NATIONAL MUSEUM OF NATURAL HISTORY

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions . . .	<u>271</u>	<u>78</u>	<u>349</u>
11 Personnel Compensation	\$3,806,000	\$ 654,000	\$4,460,000
12 Personnel Benefits	286,000	51,000	337,000
21 Travel & Transp. of Persons	13,000	86,000	99,000
22 Transportation of Things	0	3,000	3,000
23 Rent, Comm. & Utilities	17,000	4,000	21,000
24 Printing & Reproduction			
25 Other Services	44,000	150,000	194,000
26 Supplies & Materials	24,000	90,000	114,000
31 Equipment	15,000	433,000	448,000
41 Grants			
TOTAL	<u>\$4,205,000</u>	<u>\$1,471,000</u>	<u>\$5,676,000</u>

Analysis of Total

Pay Increase	\$221,000	\$163,000	\$384,000
Program	\$3,984,000	\$1,308,000	\$5,292,000

Specification of Increase (Program):Correct Museum Support Deficiencies (34 positions, \$576,000)

A serious imbalance exists between the professional research and curatorial efforts and the technical support available for these efforts (museum technicians, assistants, equipment, supplies, etc.). This needs to be corrected over the next few years. The increase requested will more nearly reflect the support ratios as recommended by the President's Science Advisory Committee and the Panel on Systematics and Taxonomy, and allow a shift of professional attention to important contemporary environmental problems.

Environmental Studies (28 positions, \$532,000)

The Museum has a major national role to play in producing baseline information and research related to environmental problems. This increase is directed at strengthening the Museum's ability to fill this role and will involve studies of deteriorating freshwater habitats, sea animal populations, the origin of oceanic ecological systems and terrestrial change.

Collections Information and Electronic Data Processing (16 positions, \$200,000)

If this Museum is to serve as a base for important environmental research, it must make its collections and accompanying data more accessible to researchers and scholars. Data processing provides the only means by which this can be done. This request would expand current efforts to include fishes, marine mammals, and mineral sciences.

NATIONAL MUSEUM OF NATURAL HISTORY

1970 Actual	\$3,912,000
1971 Estimate	\$4,205,000
1972 Estimate	\$5,676,000

This Museum serves as a national and international center for the natural sciences. It maintains the largest reference collections in the Nation and conducts a broad program of basic research on man, plants, animals, fossil organisms, rocks, minerals, and materials from outer space. Its research is concerned with classification, distribution, analysis, and environmental and ecological relationships. Its fundamental studies in systematics and biology are providing new information required for the solution of major national problems of conservation and pollution, food production, improvement of medical knowledge, and for planning national and international programs leading to predictive ecology and environmental management. It engages in joint educational programs with universities by teaching courses, training graduate students, conducting science seminars, and providing leadership in the improvement of museum techniques, collections management, and the training of technical assistants for cooperating institutions.

The NMNH has the legal responsibility (20 U.S.C. 59) to serve as the ultimate Federal repository of all collections and objects of natural history, archeology, and ethnology made by agencies of the Government when no longer needed for investigations in progress. Additionally, the NMNH has become the repository for numerous extremely valuable collections obtained from other sources, such as the scientific community, academic institutions, as well as many private individuals. Because the Museum is the national repository, it has responsibilities far beyond the research of its own staff. It assists both the layman and the scientist with identification, lends specimens for research, and safeguards the tangible results of research. As the National Museum, it has inherent responsibility to provide leadership for other museums and institutions. In this latter role through use of its collections, NMNH is a vigorous scientific organization devoting an increasing share of its resources of professional staff and unrivaled collections to research which is "locked into" understanding, explaining, and coping with the multitude of environmental problems which beset humanity.

For fiscal year 1972, the Museum is requesting an additional \$1,308,000 to help correct imbalances that exist between the levels of professional scientific effort and support effort necessary for proper curation of the collections (\$576,000), and to strengthen the Museum's ability to respond to national problems by expanding and intensifying its research efforts, which are directly associated with its collections interests in ecological and biological areas (\$532,000). An additional \$200,000 is being requested to strengthen the Museum's capability to extract and automate collections information related to the environmental research effort. An increase of \$163,000 is needed to cover necessary pay increases.

Need for Increase1. Museum Support Deficiencies (34 positions, \$576,000)

With the enlarged emphasis on research on the collections, which is basic to explaining the many mysteries of how man must manage his environment, many internal imbalances have resulted. Within the limited resources available to NMNH in the past, it is impossible to perform adequately both the identification and care of the collections and undertake research. In this regard the efforts of the limited subprofessional staff are almost entirely devoted to performing

curation and collection maintenance in the face of ever increasing numbers of specimens which seriously tax the ability of the staff to keep abreast of the workload.

The scientific staff is deeply involved in research, but lacks the necessary support required to provide for daily routine functions. This is clearly most undesirable from both the scientific and the economic standpoints.

Several typical examples will serve to illustrate the nature of this problem:

a. The lack of sufficient technicians requires that highly skilled and compensated professionals must routinely perform such menial tasks as preparing thin sections for microscopic analysis. This task could be performed competently by subprofessional personnel, freeing the scientist to apply his expertise to meaningful research.

b. The shortage of technicians precludes the timely and proper provision of routine identification services to numerous requesters. Presently all departments have sizable backlogs of requests which cannot be processed without redirecting personnel efforts from other activities. Frequently, when these services are provided the scientists must do the work so that the curation responsibilities can continue uninterrupted. The professional staff does not do this because of preference, but rather in an attempt to continue the cooperative atmosphere which such consultant work promotes. This routine work can also be effectively performed by technicians.

c. The shortages of such subprofessionals as illustrators often forces scientists to prepare their own art work in order that research publications can go to press. This is a gross misdirection of scientific expertise. This work could more properly be done by lower-graded employees.

d. The lending of specimens to other museums and research laboratories is a time-consuming but essential process which requires the selection, withdrawal, packing, and processing of collection material both in the sending and receiving operations. Often this service is provided only by redeploying personnel from other more essential tasks. This is done to discharge the responsibility of the National Museum and to maintain close working relations with the requesters who are engaged in complementary research and who cooperate with SI in the solution of scientific problems. These services could be rendered effectively by technicians if adequate staff were available.

e. Clerical personnel are also inadequate in numbers to keep pace with the workload. This frequently forces the scientist to type answers to public inquiries, his own reports, memoranda, manuscripts, and do other routine office work.

As far back as 1953 a conference sponsored by the National Research Council called attention to the fact that "the active taxonomists are overwhelmed by the ever-increasing flood of collections crying for attention, to say nothing of the great accumulations of unworked, undetermined materials piled up in years past" and stated that the greatest needs to meet this problem were "increased manpower--more trained and experienced personnel--greater productivity on the part of active systematists and taxonomists."

In May 1969 the President's Science Advisory Committee and the Panel on Systematics and Taxonomy recommended a ratio of three support personnel (technical and clerical) to each professional employee as the optimum level for

research endeavors. As shown in Table 1, the NMNH is able to provide far less than this level of support. Support deficiencies other than those which involve personnel also result in less than truly effective utilization of Museum staff and facilities.

The Smithsonian Council, an Institutional advisory body composed of twenty of the Nation's leaders in art, science, and history, at its spring 1970 meeting adopted the following resolution:

"In view of the present need to protect and appreciate the diversity of the environment, the Council is deeply concerned with the present trend relating to systematic biology as it affects the Museum of Natural History and strongly urges the allocation of additional resources to the Museum to promote this field."

These men, in their present capacities as research scientists, foundation directors, and university scholars, are used as a sounding board by the Institution to help integrate national needs with Institution activities.

Recently many special support services which had been provided by the Institution at no cost to the Museum have been discontinued by the support units because of budgetary constraints. This has required the Museum to redirect funds from other higher priority areas to provide these essential services. Some examples of this follow.

- a. The SI Library now finds it necessary to require NMNH to fund many of its purchases of reference books for the various departments as it is unable to sustain former levels of this support.
- b. The Administrative Systems Division, which formerly provided cataloging forms, labels, and other items essential to systematic and logical curation, is no longer able to furnish this service. The departments must finance their own needs which in some cases represent sizable dollar amounts.
- c. The Supply Division, which in the past stocked most items normally required for departmental operation, has discontinued some 400 items with the result that the various Smithsonian operating units must now purchase these from their own already reduced funds.
- d. The Buildings Management Department now requires the Museum to purchase supplies and materials used in performing many special projects requested. In the past, these materials were routinely supplied.

Other financial problems are present in support areas. For instance, the shortage of specimen storage cases and specimen bottles is acute. In past years it was possible to maintain adequate inventories of bottles for specimens but the financial constraints in the last several years have prevented the replenishment of these stock levels. Specimen storage cases and drawers which in some cases represent the largest single expenditure of a department are no longer purchased on a routine annual basis but rather whenever and to whatever extent funds can be assembled from all available sources. This is neither efficient nor economical since these are not available commercially and must be constructed to exact specifications. Larger volume purchases, such as were possible in the past, would result in lower unit costs. Further, despite selectivity in acquiring specimens, accessions have grown at a rate which outstrips the availability of cases in which to house them. This often means that valuable additions to the

Table 1

NATIONAL MUSEUM OF NATURAL HISTORY
Ratios of Man-Years of Effort Between Technicians/Scientists

	(1) Sub- Prof. Man-yrs.	(2) Clerical Man-yrs.	(3) Sub- totals Man-yrs.	(4) Prof. Man-yrs.	(5) (3) ÷ (4) Ratio Man-yrs.	(6) Departmental 2/ Other Supp. (nonpers.) FY 1970	(7) Scientist Share 2/ Other Supp. (nonpers.) FY 1970
Anthropology	14	9	23	17	1.35:1	\$35,800	\$14,800
Botany	9	6	15	17	0.88:1	36,700	14,400
Entomology	12	5	17	11	1.55:1	24,000	9,600
Invertebrate Zoology	13	6	19	18	1.05:1	32,000	12,100
Mineral Sciences	7	3	10	10	1.00:1	28,300	11,200
Paleobiology	18	6	24	18	1.33:1	37,900	15,300
Vertebrate Zoology	15	6	21	13	1.62:1	34,900	13,900
TOTAL	88	41	129	104	1.24:1	\$229,600	\$91,300

1/ Note: The President's Science Advisory Committee and the Panel on Systematics and Taxonomy recommended a ratio of three support personnel to each professional employee.

2/ Travel for field work, equipment, laboratory supplies, etc. Excludes \$22,000 for general museum support items in fiscal year 1971.

collections are subjected to improper storage, possible damage, and, most importantly, the inability to locate specimens readily when required for study by Museum and other scientists. Immediate relief is essential to curate incoming specimens in a timely manner, to facilitate proper collection management and provide the research information when needed.

The foregoing are but a very few of the examples of conditions which would be eliminated by additional funding for support shortages. There are many areas in need of increased financial support which individually constitute problems of great magnitude and which when taken collectively represent major deficiencies preventing the Museum from carrying out effectively both its curation and research activities. (See accompanying photograph for deficiency example.)

In order to correct these support shortage imbalances, an additional \$576,000 is being requested. Shortages of museum technicians and museum aids constitute the greatest need and are largely concentrated in the areas of botany, zoology, and paleobiology (34 museum subprofessionals and \$205,000).

The current Museum ratio of support personnel to scientific professionals is only slightly better than 1:1. The requested increases, while falling short of the standards selected by the President's Science Advisory Committee and the Panel on Systematics and Taxonomy, would serve to improve this ratio to approximately 1.6:1. In addition, \$371,000 are requested to provide needed support for equipment, supplies and materials, and travel. In this latter amount, \$200,000 are in nonrecurring costs involved in major equipment and storage items. The balance of \$171,000 is urgently needed to raise the current annual amount available for expenditures per professional from an average of \$900 to an amount approaching \$2,000, a figure which would permit efficient utilization of the Museum's professional expertise.

2. Environmental Sciences (28 positions, \$532,000)

A total of \$532,000 is requested to initiate or expand present exploratory research projects related to our environment. These projects include studies of the interactions of organisms with each other and with their surroundings--soil structure, temperatures, water supply, day length, available nutrients, and many others. A plant grows where it does, just as an animal feeds or it, because of a complex interrelationship between the non-living and the living parts of the total environment. The development of basic information on these interactions is critically important to establishing environmental standards and to the intelligent management of natural resources in a world increasingly threatened by man's activities. Table 2 presents a program breakdown of the Museum's request.

Concern for environmental matters and the research it engenders currently pervades all of national life, but the National Museum of Natural History has a unique role that has been poorly recognized and supported. The National Collections of natural history objects, now more than 50 million, are the largest data base in the Nation for information on the chemical makeup, structure, geography, and ecology of the world's plants and animals.

Much of this material was collected prior to the first atomic explosion and before pollution from pesticides, heavy metals, and other sources reached anywhere near their present levels. Consequently, it constitutes an irreplaceable base line resource available for analysis which cannot be duplicated. There is no other more reliable, documented source for determining what lived where and when and how. Therefore, the identification and protection of the specimens in the National Collections and the increased availability of information concerning them must be of the highest priority in the development of our Nation's efforts in this vital area. The research based on these collections which is conducted by the Museum's scientific staff is likewise a unique resource available to the entire

Table 2

NATIONAL MUSEUM OF NATURAL HISTORY

Program Category	1970		1971		1972 Shortages ^{1/}		1972 New Prog		1972 Estimate	
	Pos	Amount	Pos	Amount	Pos	Amount	Pos	Amount	Pos	Amount
I. Research and Scholarship	156	\$2,386,000	156	\$2,571,000	21	\$451,000	28	\$532,000	205	\$3,554,000
II. Nat'l Collections Mgmt & Use	83	1,251,000	94	1,349,000	11	236,000	16	200,000	121	1,785,000
III. Education of the Public	19	275,000	21	285,000	2	52,000	0	0	23	337,000
TOTAL	<u>258</u>	<u>\$3,912,000</u>	<u>271</u>	<u>\$4,205,000</u>	<u>34</u>	<u>\$739,000^{1/}</u>	<u>44</u>	<u>\$732,000</u>	<u>349</u>	<u>\$5,676,000</u>

^{1/} Includes \$163,000 necessary pay increases; requested program increase to help correct shortages is \$576,000.

scientific community. The Nation's research in the environmental sciences, to be successful, must depend increasingly on the collections, data, and intellectual resources of the Museum.

Two Science Advisors to the President have emphasized the significance of these relationships. Dr. Donald Hornig, testifying before a Congressional committee on environmental quality, pointed out

"the increasing attention being given ecological effects of man's activities calls for additional scientists capable of identifying the multiplicity of biological constituents of an ecosystem as a prerequisite to assessing changes."

More recently, Dr. Lee DuBridge stated in a letter

"Certainly the Smithsonian Institution can play a unique role in meeting our future environmental needs, particularly in the areas of systematics and basic ecology. ... Undoubtedly the taxonomic and systematics capability of the Smithsonian will have to be utilized if we are to know the character of changes occurring in the natural environment."

The new research projects for which increased funds are requested in fiscal year 1972 are designed to permit the Museum to play its "unique role" and provide the services and information needed by all those who are or who will be engaged in these scientific investigations.

The destruction of natural ecological communities all over the world is proceeding at an accelerating rate as technology improves, as population pressure increases needs for space, food, shelter, etc. The effects of clearing large, previously undisturbed areas for housing, industry, and agriculture, and the building of dams and highways, canals and other large public works all pose urgent problems of proportions never before faced by man. It is necessary now to develop a better understanding of what constitutes the "communities" of interdependent plants and animals before disturbances alter them forever. Similarly, such studies permit the protection of organisms against destruction, so that their chemistry, behavior, genetic constitution, and other aspects of their biology, which may be important to man's survival, can be studied. The following projects are those which are most urgently needed.

Study of Deteriorating Freshwater Habitats (3 positions, \$50,000)

Ongoing research on aquatic insects and crayfish will be expanded in order to meet growing needs for basic information by Federal agencies and research organizations investigating environmental quality problems. Both groups of organisms which are abundant naturally in freshwater habitats are quite sensitive to water pollution. Their presence or absence in a particular stream or lake can be an indicator of water quality. In addition, both larvae and adults of aquatic flies, the specific group to be studied in this project, are vital elements in the freshwater food chain.

Animals of the Sea (7 positions, \$121,000)

Information on the identity, distribution, environmental requirements, and behavior of marine animals is fundamental to an understanding of the world-ocean ecological system. A very important international effort was made toward closing this information gap in the International Indian Ocean Expeditions during which large numbers of invertebrate animals were collected. This project includes studies of these materials, the results of which will permit fisheries, biologists, and others to frame rational plans for exploitation of the sea.

The coastal areas and estuaries are particularly critical ecologically because they are the breeding grounds of so many forms of marine life and they are among those most threatened by discharge of industrial/urban wastes. Data which would be developed in this research on bottom-dwelling, microscopic worms and small crustaceans, important food for fishes, will aid scientists in many fields to develop and increase the economic value of foods from the sea.

Marine mammals (seals, dolphins, and whales), in spite of over exploitation, still constitute a valuable natural resource for furs, oil, and food. In addition, the study of their physiological mechanisms (such as their deep-diving adaptations, highly discriminant sonar, and underwater communication) would provide clues to new techniques for ocean exploration and exploitation. The NMNH has the world's largest collection of both fossil and living marine animals and the finest library pertaining to them. The scientist who would be hired on this project would strengthen the Museum's research competence in the field of marine mammals and provide leadership in planning the projected new National Marine Mammal Research Center which will provide facilities to government and university scientists and will be capable of housing the collections, thus permitting adequate study of these outsized specimens.

One has only to have read recent newspaper accounts of pollution of fishes by mercury, pesticides, and petroleum residues to realize that these animals are highly useful indicators of environmental contamination. It is essential that natural populations of fishes be studied now while relatively undisturbed marine habitats are still available. Fishes are an important source of human food, and their number and diversity provide a wide variety of indicators for monitoring local contaminants. The National Museum of Natural History houses one of the world's largest collections of Indo-Pacific reef fishes; however, much of this material remains unsorted and unidentified. As part of this project, these collections will be put into order and provide a starting point for a basic inventory of the species. These specimens will also provide material for chemical analyses to establish the base line information on the amounts of heavy metals and other possible pollutants which they contain. Subsequent analysis of recently caught individuals will permit comparisons with a standard from an environment relatively unaffected by man.

Origins of Oceanic Ecological Systems (9 positions, \$104,200)

Analyses of the rocks and fossils will provide data on the kinds, rates, and causes of natural environmental changes so critical to interpreting the modern situation. With such information, planners will be in a better position to predict the effects of environmental disturbances, whether natural or man-made.

The Atlantic Coastal Shelf is one of the most threatened areas of North America. As a model of the role that geology and paleobiology can play in the interpretation and prediction of environmental changes, the origin and development of the natural environments of the Shelf will be studied in detail. A complete, well-exposed physical record and rich fossil strata are available along the Atlantic Coast. These biological studies will be concentrated on mollusks, one of the most dominant and environmentally sensitive of the marine shelf organisms.

Coral reefs which contain communities of plants and animals which are so easily destroyed by changed environments would also be studied. An evaluation of the origin of the changes which are occurring cannot be made without a thorough understanding of reef ecology. Basic to this knowledge is the origin, structure, and history of the rock framework of the reef. This project is designed to provide these fundamental data.

Studies in Terrestrial Biology (6 positions, \$74,400)

Environmental change affects organisms wherever they occur, from the upper layers of soil to thousands of feet above sea level. Rich soils may contain more than ten million insects and their relatives per acre. These tiny animals are critical links in the total ecological chain of the interrelationships of the soil because many break down plant and animal remains so that the nutrients can be recycled to the living plants. Many insects and plants are sensitive to insecticides and herbicides, and thus can be used as indicators of soil pollution; but in spite of their abundance, little is known of their identity and behavior. This project will develop such information for application to existing problems of land productivity and soil pollution.

The proposed study of birds and mammals would provide clues necessary for solutions to environmental and health problems. Because birds and mammals are closely tied to their habitats, they also are good indicators of environmental change.

Most of what we know about migrations, breeding cycles, population structure, and ecological interrelationships has been derived from investigations on birds and mammals of the Temperate Zone. However, many tropical species, which still live in relatively undisturbed situations and from which the temperate species have evolved, remain poorly known. Many of these species either migrate into the Temperate Zone themselves or come into contact with temperate zone migrants in the tropics and may therefore act as long-distance carriers of disease. Consequently, research in this project will concentrate on the identity, distribution, and ecology of these animals in tropical Asia and Africa.

Changing Climates and Man's Adaptations (3 positions, \$124,400)

By constantly adapting himself, man has survived severe environmental changes throughout his history. Today, and in the foreseeable future, he faces challenges to his survival of a magnitude not dreamed of earlier. But the basic problems are not new, and the more we learn of the adaptations that were successful in earlier periods, the better guidelines we have for current decision-making.

One of the most useful techniques for assessing past conditions in a particular site is the study of the pollens in the various soil layers. Pollen grains of wet-land plants at one soil-horizon followed by grains of desert plants provide important clues to man's life and activities in those periods. Similarly, the origin of cultivated plants in various cultures can be studied by pollen research coupled with archeology. Throughout history, man has had a profound effect on his surroundings, and it is essential that these interdisciplinary studies be initiated now to provide a better understanding of his relationships with the environment and its impact on his cultures, civilization, and ability to survive.

Crystallography Laboratory (\$58,000)

Included in the amount for new program activities is the sum of \$58,000 needed to begin equipping a much-needed crystallography laboratory, through the purchase of a single-crystal diffractometer. The extremely capable crystallographer in the Department of Mineral Sciences could then greatly extend the Smithsonian's research capabilities. The diffractometer is a highly versatile instrument, and yields valuable structural data on virtually any crystalline material. Minerals, meteorites, deep-sea basalts, lunar rocks, and even man-made materials can be studied in minute detail, thus greatly strengthening the analytical power of existing Museum facilities, and adding new dimensions to current and proposed investigations. This sum is a substantial fraction of the total that would be required for a complete laboratory, yet would secure the best instrumentation currently available.

3. Improvement in Collection Management and Availability of Data Through Electronic Data Processing (16 positions, \$200,000)

Improved access for the scientific and museum communities to the data in the National Collections is urgently needed, and is a project of the highest priority of the National Museum of Natural History. Funds appropriated by Congress in fiscal year 1971 for the initial application of electronic data processing to natural history collections are being used in four projects. These projects will make available information on important collections in the Departments of Paleobiology, Botany, Invertebrate Zoology, and Vertebrate Zoology. Each data preparator can prepare for computer entry 8,000 to 12,000 records per year. Computer processing of these records, and the production of listings for internal use and publication, costs approximately fifty cents per record. It is estimated that during fiscal year 1971 a total of approximately 30,000 specimen records will be prepared and computerized for all four projects. The results already achieved in this program include three cross-referenced catalogs, containing information on over 4,000 specimens, which are soon to be published. Two more catalogs covering an additional 10,000 specimens will be completed in the current fiscal year.

The increase of \$200,000 being requested for fiscal year 1972 would be used to expand current efforts to cover new groups of organisms and to initiate new programs in two departments. These projects would make information associated with specimens of animals, plants, and minerals in the National Museum of Natural History collections more readily available to all who need these data. In addition, the volcanic activity file will provide historical perspective and current awareness data on behavior of the world's volcanoes. Users of information produced in these programs include personnel connected with research and academic institutions, industry, and government, as well as other scientists, students, and the staff of the Museum itself. It is estimated that the increase requested would permit the preparation and computer input, manipulation, and output of information on approximately 150,000 specimens per year. Of this number, about 75,000 will be new specimens comprising about one-tenth of the yearly inflow of specimens to the Museum. A major goal for the future is to capture data on the 300,000 to 500,000 most important yearly additions to the collections while continuing work on the major collections already on hand.

Introduction of modern data management methods and computer technology into the control of specimen holdings at the National Museum of Natural History has the immediate benefit of assuring more accurate and permanent capture of information, while at the same time improving the efficiency of highly skilled personnel. However, it is already apparent that a more important benefit is the ability to obtain, through the computer, any of the stored items of data in any desired combination rather than in only the very few categories possible through traditional indexing procedures. Thus, the limiting factor becomes the ingenuity and interest of the researcher rather than the restrictions presently placed on him by conventional paper filing systems. This flexibility is becoming increasingly important for investigation of the complex interrelationships of variables affecting the distribution, genesis, and evolution of minerals, animals, and plants.

Two environmental research proposals, for which funding is also requested, offer examples of the integration of computer data storage and the broader aims of scientific study. Data collected in both the Comparative Faunistic Inventory of Indo-Pacific Coral Reef Fishes and the Development of National Marine Mammal Research Center will be entered into the computer. Study of migration patterns, habitat preferences, population densities, and other important environmental parameters will be made much easier through computerization of the data from these programs.

The tremendous volume of information already in hand in the Museum, but largely in undigested form, and the increasing mass of information currently being collected, poses a staggering challenge. The proposed projects would attack discrete, select segments of this information mass to provide scientific results of the greatest immediate value, and would serve as a base for analyses and future investigations. Over the next several decades this progressive approach would result in the preparation of information about a significant proportion of specimens in the collections, largely as a by-product of other short-term studies which have scientific merit in their own right. The insights which can be gained by the use of the computer for such highly organized data cannot all be predicted, but it is clear from man's growing awareness of environmental interactions that such insights are already very badly needed. Because of the volume of data which must be organized, we must begin now the task of putting into order our knowledge about organisms, environmental phenomena, and the changes which have been and are now taking place.

To summarize, the National Museum of Natural History is requesting \$576,000 (34 positions with \$205,000 for associated personnel costs, plus \$371,000 for equipment, supplies and materials) to correct operating support deficiencies; \$532,000 (28 positions with \$241,000 for associated personnel costs, plus \$291,000 for equipment, supplies and materials, and information processing) for program development in the environmental sciences; \$200,000 (16 positions, with \$96,000 for associated personnel costs) for improving its ability to automatically handle environmental information associated with the collections; and \$163,000 for necessary pay increases in the fiscal year.

SMITHSONIAN ASTROPHYSICAL OBSERVATORY

1970 Actual.....	\$2,086,000
1971 Estimate.....	\$2,076,000
1972 Estimate.....	\$2,630,000

The Smithsonian Astrophysical Observatory (SAO) pursues a broad program of research in astrophysics and related earth and space sciences. Established in 1890, the SAO was reorganized in 1955 and moved to Cambridge, Massachusetts. In addition to some 50 scientists and supporting staff currently employed in Cambridge, SAO maintains scientific facilities elsewhere in the United States and overseas. Included in these facilities are a multipurpose observatory on Mt. Hopkins, Arizona; a worldwide network of Baker-Nunn camera and laser tracking stations; camera and radar networks in the mid-western United States for meteor studies and meteorite recovery; and joint use with Harvard College Observatory of an 84-foot radio telescope in Massachusetts.

An appropriation increase of \$533,000 is requested to continue the development of a large telescope to provide the kind of instrumentation essential to further scientific achievement and to correct research support shortages. An additional \$21,000 are requested to cover necessary pay increases.

Need for Increase--The professional staff working at SAO has been unable to achieve its full potential because of severe budgetary restrictions. The results of the Observatory's research have established standards for other scientists engaged in similar investigations. Included in these accomplishments are the publication of the 1969 Smithsonian Standard Earth (II), the most accurate representation of the earth's size, shape, and gravitational field ever produced; a determination, through observations, of limits on the frequency and number of micrometeoroids as hazards to space flight; the production of the Smithsonian Astrophysical Observatory Star Catalog and Star Atlas as standard references; and studies of the maser process to help measure the motions of the earth, to test the theory of relativity, and to investigate those areas of the universe where vast natural hydrogen masers operate.

The Observatory has always emphasized pioneering research. For example, SAO recognized even before the first Sputnik was launched that artificial satellites would provide a means for studying the earth and its atmosphere in more detail than ever before possible. The continuing role of SAO as a scientific pioneer depends upon timely, systematic acquisition of new instrumentation. Scientific inquiry is dynamic, and yesterday's tools are seldom sufficient for tomorrow's problems.

From year to year, the Observatory has applied a significant fraction of its funds to acquiring new research capability. The eminent scientific position of the Observatory is closely associated with the capabilities represented by its instrumentation. This necessary policy of instrumentation advancement was unfortunately broken in fiscal year 1971. Inflation and a relatively static budget have made any major equipment purchases impossible. This unhealthy situation must be remedied in 1972 if SAO is to survive as a productive research organization.

In an effort to select the most useful new instrumentation for SAO, the scientific staff evaluated the existing national instrumentation capabilities, the requirements of the world astronomical community, and the goals of SAO's own research program. It was clear that an appropriate step forward would be the construction of a large optical telescope designed for a broad range of applications from infrared astronomy and spectral photometry to observations complementing the capabilities of instruments detecting high-energy radiation.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

SMITHSONIAN ASTROPHYSICAL OBSERVATORY

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>57</u>	<u>0</u>	<u>57</u>
11 Personnel Compensation....	\$ 1,157,000	\$ 19,000	\$ 1,176,000
12 Personnel Benefits.....	92,000	2,000	94,000
21 Travel & Transp. of Persons	50,000	0	50,000
22 Transportation of Things	12,000	0	12,000
23 Rent, Comm. & Utilities	152,000	10,000	162,000
24 Printing & Reproduction	30,000	0	30,000
25 Other Services	274,000	160,000	434,000
26 Supplies & Materials	85,000	0	85,000
31 Equipment	224,000	363,000	587,000
41 Grants			
TOTAL.....	<u>\$2,076,000</u>	<u>\$554,000</u>	<u>\$2,630,000</u>

Analysis of Total

Pay Increase	\$ 68,000	\$ 21,000	\$ 89,000
Program	\$2,008,000	\$533,000	\$2,541,000

Specification of Increase (Program):Phased Development of Large, Low Cost Telescope (\$ 533,000)

Since its establishment, the Observatory has been one of the leading organizations in the field of astrophysics. The Observatory's eminent scientific position is closely associated with its instrumentation capabilities. Recent years' budgeting constraints have jeopardized these capabilities. In conjunction with the University of Arizona and the Department of Defense, the Observatory has a unique opportunity to develop a large astronomical telescope for the nation with new techniques at very low cost. A scientific evaluation of existing national instrumentation capabilities, the requirements of the world astronomical community, and the goals of SAO's own research program, makes it clear that this opportunity should not be neglected. The telescope represents a break-through in instrumentation. A three-year phased plan for development requires \$1,500,000 for engineering design, construction of facilities, and installation. To implement the first year's activity, \$533,000 are requested.

To overcome the immense difficulties and expense inherent in the manufacture of a single mirror, studies at SAO and elsewhere indicate that design advances lie in the direction of multielement mirror arrays. A telescope of this new design can be relatively lightweight, inexpensive, and extremely accurate--incorporating provisions for small adjustments of the mirrors so that all the images fall upon each other with sufficient precision. Less than a decade ago, such a technique would have been impossible. Changes in temperature and flexure caused by repointing the telescope to observe a different sky section would have caused the delicate alignment of the individual mirrors to go awry. Modern electronics, however, now make it possible to readjust continuously and automatically the alignment of the mirrors to ensure a single image.

SAO has a unique opportunity to undertake a cooperative project with the University of Arizona to build such a large multielement telescope. This pioneering effort will not only produce an instrument with resolving power equal to a 240" conventional telescope but will pave the way for the scientific community to build even larger, more powerful telescopes at remarkably modest costs. A photograph of the planned telescope follows; additional detail related to its development is being separately transmitted in the supplement A Large Astronomical Telescope at Low Cost. The Optical Sciences Center of the University of Arizona has acquired six 72" mirrors. With assistance from the Department of Defense (DOD), they plan to build six systems that will be tied together optically and electronically to function as a single but stationary optical system. The technology developed through this phase of the program will satisfy DOD's requirements. The Smithsonian, a cooperating agency with complementary objectives, plans to work with the University to design and construct a control system, mounting, and shelter so that the instrument can then be used as an astronomical telescope. If this is not done, the nation may lose an opportunity to convert an experiment in technology into a powerful operational scientific instrument at modest cost. An amount of \$1,500,000 spread over three fiscal years will be required for engineering design, construction of facilities, and installation of the telescope. For the first phase of the project, \$533,000 is requested for fiscal year 1972.

SAO RESEARCH PROGRAM

SAO's activities for 1972 will be grouped under three major program headings: 1) THE EARTH AS A PLANET, 2) THE SOLAR SYSTEM, 3) ENERGETIC PHENOMENA in the universe.

The Earth as a Planet

SAO's investigations of THE EARTH AS A PLANET are centered on the dynamics of the earth and its atmosphere. The Observatory applies the most precise laser and electronic techniques now available to monitor geophysical changes by observing the motions of artificial satellites in the earth's gravitational field. This can lead toward better understanding of processes within the earth and may eventually result in practical benefits such as the prediction of earthquakes. Employing techniques developed for measuring satellite orbits, SAO uses its worldwide observing stations to monitor temperature and density variations in the upper atmosphere caused by solar activity.

Man lives in a small and extremely fragile environment close to the surface of the earth; SAO scientists are making major contributions to an understanding of the physical processes that have such a important effect on man's environment.

The Solar System

Studies of THE SOLAR SYSTEM include the near-space neighbors of the earth--the moon, planets, comets, asteroids, and meteoroids--as well as the sun itself and its relationship to other members of this complex system. SAO's research program incorporates theoretical, laboratory, and observational studies of extraterrestrial bodies, their history since the formation of the solar system, and the sea of radiation to which they have been exposed.

Energetic Phenomena

ENERGETIC PHENOMENA studies are concerned with the sources of radiation, including the nature of newly discovered and largely unexplained sources of radiation far outside the solar system. For many scientists, these new astronomical sources present some of the most intellectually challenging problems in science today. More energy is being emitted from the centers of galaxies and from quasars than can be explained by any processes now understood. Most likely, the answers to these newest mysteries will be provided by the newest astronomical tools--radio, infrared, ultraviolet, gamma-ray, and advanced optical instrumentation.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

SMITHSONIAN TROPICAL RESEARCH INSTITUTE

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>45</u>	<u>12</u>	<u>57</u>
11 Personnel Compensation.....	\$ 409,000	\$ 147,000	\$ 556,000
12 Personnel Benefits.....	25,000	9,000	34,000
21 Travel & Transp. of Persons	20,000	9,000	29,000
22 Transportation of Things	4,000	6,000	10,000
23 Rent, Comm. & Utilities	26,000	6,000	32,000
24 Printing & Reproduction	0	0	0
25 Other Services	32,000	24,000	56,000
26 Supplies & Materials	32,000	16,000	48,000
31 Equipment	12,000	19,000	31,000
41 Grants			
TOTAL.....	<u>\$ 560,000</u>	<u>\$ 236,000</u>	<u>\$ 796,000</u>

Analysis of Total

Pay Increase	\$16,000	\$60,000	\$76,000
Program	\$544,000	\$176,000	\$720,000

Specification of Increase (Program):Support to Professional Research Efforts (3 positions, \$34,000)

The environmental research programs have suffered because of a lack of back-up support activity. The greatest shortages are two field aids and a launch operator (\$17,000) and additional direct support for the scientific operations (\$17,000).

Support to Facilities Operations (5 positions, \$64,000)

A large portion of the Institute's annual budget is used to keep the facilities in reasonably good shape; this is a difficult task because of the tropical climate, the growing use of facilities, and condition of some buildings and equipment. A manager and a janitor are needed for the marine station's facilities, a maintenance laborer for Barro Colorado Island, and an electrician and a messenger for all facilities (\$25,000). Additional funding for facilities maintenance and equipment is also requested (\$39,000).

Environment and Behavior Research (2 positions, \$44,000)

A marine ecologist and a forest ecologist are needed to allow a measured step of progress in the research program (\$33,000). Direct support funding is requested for laboratory and office needs, travel and household transportation, and supplies (\$11,000).

Administrative Support and Interagency Research (2 positions, \$34,000)

With the growing utilization of STRI's facilities, administrative support is urgently needed; one office administrator and one technical typist are requested (\$21,000), along with support funding for central administrative functions (\$13,000).

SMITHSONIAN TROPICAL RESEARCH INSTITUTE

1970 Actual	\$522,000
1971 Estimate	\$560,000
1972 Estimate	\$796,000

Established 25 years ago to foster understanding of the tropical environment as preserved on Barro Colorado Island, the Smithsonian Tropical Research Institute has become a center of excellence for advanced studies by staff, advanced students, associates, and visiting scientists on the processes of survival and their relationship to the environment--ever more essential questions for which the tropics are uniquely suited. In the tropics, diversities are greater, competitive processes and interactions more complex, new lines of adaptive radiation more pronounced, and year-round field study and experimental opportunities richer by far than in other climes.

Panama, easily accessible, offers an array of terrestrial and marine study habitats within immediate reach. The Isthmus is a land bridge for the biotic interchange of two continents and, at the same time, a continuing barrier to the biota of two oceans--separated by several millions of years, but only 50 miles apart. This affords an observational and experimental potential which cannot be matched elsewhere. The interdependence of ocean and continent is beginning to be publically recognized. STRI has one of the few teams of scientists in the world organized jointly to pursue the biology of both realms.

Questions on survival, importance of diversity, the critical role of communications, mapping and influence of environmental change, invasions by new populations, partitioning of environmental resources on land and in the oceans--on these and many other fronts STRI progress is recognized by leaders in biology from around the world. Last year, ten STRI staff biologists gave 25 seminars at leading universities and prepared 53 contributions in research for publication. More than 100 other contributions were made by visiting scientists based on work at STRI.

The great growth in visitor demand from across the United States is testimony to the key value of STRI's role. In the last twelve months alone, 624 men and women from sixty-two universities and 33 agencies and institutions in 28 states and 22 countries spent 8,757 work days mining the combined intellectual and environmental resources at STRI. STRI harbors five laboratories for studying tropical marine and terrestrial ecology from forest and lake to seashore and mountain. Work is underway in forty different habitats on interactions between hundreds of different organisms and their environment. STRI provides a base of operations for pursuing fundamental questions in biology and for understanding the tropics--habitat for one-half of mankind. Concurrently, comparative studies elsewhere in the New and Old World tropics are magnifying the value of efforts at any one locale.

Other recent sources of testimony include the following comments by a prominent scientist and past president of the National Academy of Sciences:

"It is terribly impressive to me and most encouraging that in recent years STRI has expanded into such a first rate and significant institution. Most of the scientists whom I met and talked to at some length are from good to excellent. The program of bringing young people in for substantial working periods is really justifying itself according to my first-hand impressions. The whole organization is gaining immensely from the effect of having a critical mass with genuine group interaction and intellectual intercourse on a high plane.

"In addition to my congratulations on the existence of such a scientifically significant group as that represented by your staff and invited fellows, I must also speak to the value and importance for the total biological community of the excellent facilities you maintain for transient visitors like ourselves."

An increase of \$176,000 is requested to provide a balanced program of research and research support, facilities management, and administration adequate to keep pace with the accelerating demands on the activity. An additional \$60,000 are requested for necessary pay increases, compulsory benefits' cost hikes, and to rectify a housing benefit inequity.

Need for Increase

1. Research Support (3 positions, \$34,000)

During the past year 43 long-term research projects have been conducted by STRI's ten staff biologists, 18 projects ranging between one and two years by visiting postdoctoral and predoctoral fellows, and 40 projects of shorter term by visiting scientists.

Typical staff highlights included:

--the first explorations of Eastern Pacific shores of Western Panama discovering previously unknown large constructional coral reefs, nine species of fishes new to science and eleven new to the region, hydrocorals new to the Eastern Pacific and the first reported stable populations of the coral predator, the Crown of Thorns starfish. The STRI expeditions laid the basis for a new dimension of comparative Atlantic and Pacific analysis, as well as for uncovering natural controls for the predatory starfish that has been highly destructive elsewhere.

--behavior among animals is often critically affected by the success of their communication systems. Major advances were made at STRI in understanding the ways in which "messages," whether simple or highly specialized, mediate among organisms, and with the environment.

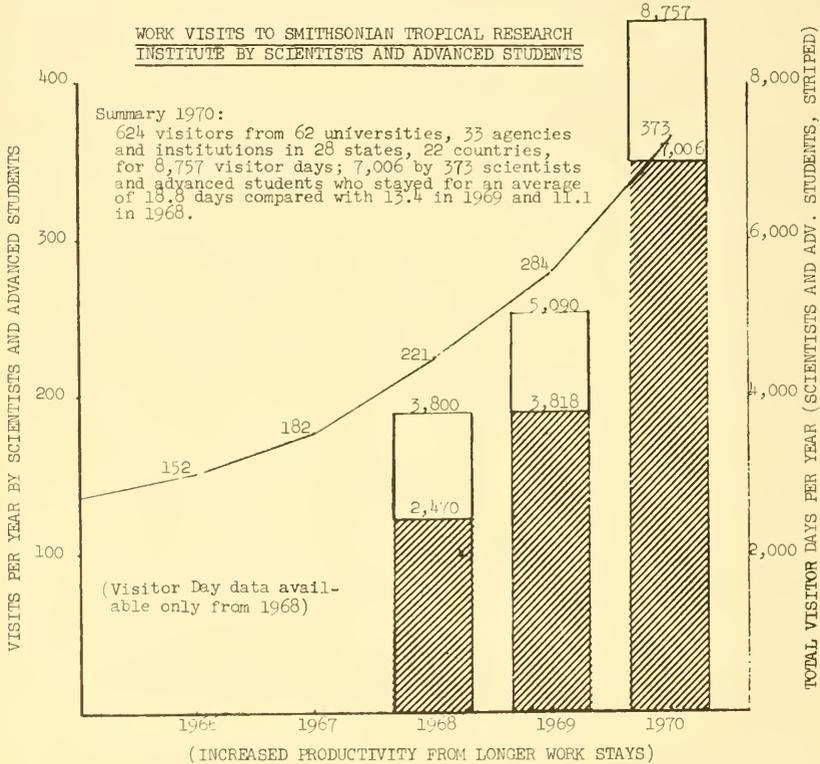
--survival patterns were charted of a highly venomous sea snake widespread in the Pacific but nonexistent in the Western Atlantic in order to predict the colonization and distribution success of the animal should it gain access to the Atlantic through construction of a sea-level canal.

--on Barro Colorado Island, which has housed hundreds of separate studies for four decades, an accelerating recent effort including 16 long-term studies is laying the basis for the development of new methods, with possible broad applicability, for predicting the effects of environmental change on the survival of organisms.

The common denominator on these and nearly all promising efforts is that their productivity has been hampered greatly by the lack of reasonable support. Levels of support are far below national standards. Scientists and staff often work around-the-clock to substitute for support. Immediate needs include two field aides (marine, Barro Colorado) and one marine research launch operator, for \$17,000 in salaries; partial make-up of travel shortages (\$3,000); rectifying a practically zero consulting and computations funding capacity (\$4,000); supply funding deficit of \$400 per scientist (\$4,000); essential equipment needs for balances, drying ovens, freezer, and one four-wheel drive research vehicle (\$6,000); for a total of three positions and \$34,000.

2. Facilities Operation Support (5 positions, \$64,000)

World-wide biology is being enriched importantly by a belated but increasing focus on the tropics. STRI provides a base of operations for tropical research unique in this hemisphere and is acting increasingly as a work-ground and interchange point for collaborators from around the world (e.g., over the last twelve months, 23 leading biologists from the U.S. and Europe conducted advanced seminars at STRI). The following table shows the increased demands on STRI operations.



This demand is greatly welcome and offers promise of concerted advances on urgent biological problems of the Seventies. The effect is that STRI is crammed literally to the rafters with staff, fellows, and visiting scientists. Immediate needs include a marine station chief (the burden for planning and coordinating the greatly increasing number of complex marine laboratory and field visits must fall on the scientists--an inefficient and very costly solution. The marine stations have immediate need for a counterpart to BCI's station manager), one marine station janitor (none now), one general maintenance laborer for BCI, one electrician (none now) for all facilities, one messenger (only one on board now), for \$25,000 in salaries; make-up of shortages in utilities, supplies and fuel (\$7,000); work bench construction, and equipment maintenance

contract support (\$3,000); partial replacement (20% of that needed) of ancient furnishings (e.g., main hall chairs on BCI were surplus 15 years ago), messenger vehicle, new and replacement air conditioners, mechanical maintenance tools (\$4,000); for a subtotal of five positions and \$39,000.

In addition, essential building repairs previously shown under the Restoration and Renovation appropriation must now be grouped here. Thirty-six structures with 69,760 square feet of space must be maintained. Repair budgets of \$25,000 over each of the past two years have let STRI narrowly keep pace with some of the most rudimentary of building needs, i.e., replacements of heavily used and rotting floors, completely depreciated air conditioners, etc. Although this level of funding will not permit any substantial projects of renovation, i.e., dock replacement, electrical wiring replacement on BCI, tramway replacement, it is absolutely essential to safeguard present housing space, laboratories, and the people using them. The \$25,000 requested includes \$14,000 in contract services, \$8,000 in supplies and materials, and \$3,000 in equipment. The total increase required for proper facilities operation support is, therefore, five positions and \$64,000.

3. Environment and Behavior (2 positions, \$44,000)

Additions to the STRI staff of a marine ecologist and a forest ecologist will permit progress in comprehending the relationships between ecology and behavior in these two realms. Current studies will incorporate research of wide ecosystem scope including analysis of processes such as energy flow, productivity, nutrient cycling, and food webs. The increase would enable group attacks on key questions and would contribute to the foundation of fundamental research on which to build productive collaboration with others on determining the biological costs of climatic and other physical environmental changes. In addition to fitting precisely within STRI's overall research plan, both scientists would assist in helping STRI to meet the increased calls for advanced training guidance in the subject fields. At the heart of STRI's success has been the slow but steady and deliberate assembly of an outstanding corps of young scientists. The addition of these two positions would allow a measured step of progress in servicing an area of growing need in biology. Salary needs are \$33,000; travel, households transportation, supplies, lab and office needs (\$11,000); for a total of two positions and \$44,000.

4. Administrative Support and Interagency Research (2 positions, \$34,000)

An example of interagency joint research interest is STRI's present contract with the Federal Water Quality Administration. FWOA is concerned over the effects of oil pollution on shoreline habitats. STRI, with its Galeta Point Atlantic field station and professional resources, is interested in analysis of the shoreline ecology and in changes upon it. The concerns merge under the contract to permit a study of the effects of oil pollution on a tropical shore, and natural corrective factors. Many other areas of STRI capability could be brought into mutually beneficial contract relationships with the needs of other agencies (e.g., natural controls of mosquitoes, models for crises resolution, special advanced training programs, etc.).

Proposal drafting, contracts negotiation and administration, however, require capabilities that the small hard-pressed administrative staff at STRI does not possess. The same sized work staff has handled a two-fold increase in workload only because of its devotion, energy, and efficiency. In addition to the several hundreds of research visitors per year, the administrative section now services a total of 72 full-time persons, including, on the permanent staff, ten scientists, three research aides, two librarians, three wildlife aides, and 21 facilities support personnel (game wardens, launch operators, kitchen crew, etc.), in addition to eight contract scientists, eight contract support staff, and eleven

full-year fellows. In many cases, clerical employees substitute as well as they are able for the present lack of middle management. Relief is urgently needed. Investment in an office chief and one technical typist (technical typing for the entire staff and fellows is in the hands of one person only) would be repaid many times over, and would permit STRI's small management corps to pursue a greatly increased opening of STRI's resources to cooperating agencies.

The two positions would cost \$21,000 in salaries. Administrative travel increases are necessary to permit continued progress in tying in STRI programs with those centered in Washington (\$3,000); transportation, utility and communications, rental, supply and office equipment shortages must be met (\$7,000); duplicating machinery rental contracts and administrative equipment service contract needs require increased funding (\$3,000); for a total of two positions and \$34,000.

RADIATION BIOLOGY LABORATORY

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>40</u>	<u>6</u>	<u>46</u>
11 Personnel Compensation.....	\$ 443,000	\$ 72,000	\$ 515,000
12 Personnel Benefits.....	34,000	6,000	40,000
21 Travel & Transp. of Persons	8,000	2,000	10,000
22 Transportation of Things			
23 Rent, Comm. & Utilities	306,000	2,000	308,000
24 Printing & Reproduction.....	3,000	1,000	4,000
25 Other Services	25,000	6,000	31,000
26 Supplies & Materials	39,000	4,000	43,000
31 Equipment	58,000	276,000	334,000
41 Grants			
TOTAL.....	<u>\$916,000</u>	<u>\$369,000</u>	<u>\$1,285,000</u>

Analysis of Total

Pay Increase	\$ 20,000	\$ 17,000	\$ 37,000
Program	\$896,000	\$352,000	\$1,248,000

Specification of Increase (Program):Environmental Biology and Solar Radiation Monitoring (6 positions, \$352,000)

The requested increase will permit the reestablishment of Laboratory activity in the highest priority area of its operations-Environmental Biology. Facilities and controlled growing areas at the Mall location are being phased out; \$275,000 are requested for the completion and equipping of five environmentally controlled rooms at the new Rockville location. This amount will cover the shell installation, controls for light quality, intensity, duration, the relative humidity, gas content, and temperature equipment. Six positions are requested (\$61,000 personnel costs) cogent to the Environmental Biology Program, a radiation physicist, environmental physiologist, a laboratory technician, two aides, and a refrigeration mechanic. In addition, direct support funding (\$16,000) is sought to cover related program costs.

RADIATION BIOLOGY LABORATORY

1970 Actual.....	\$ 676,000
1971 Estimate....	\$ 916,000
1972 Estimate....	\$1,285,000

From the initial charge that it be concerned with the effects on the sun's energy on earth's life, the program of the Radiation Biology Laboratory has been devoted to the study of the responses of living organisms to various qualities and intensities of radiant energy. The research of the Laboratory consists of three principal areas: 1) Regulatory Biology, 2) Environmental Biology and, 3) Carbon-14 Dating.

Light has been recognized as the key controlling environmental factor for the development and growth of biological systems. The storage of solar radiation as chemical energy in photosynthesis is basic for all life on earth. However, the utilization of radiant energy and stored chemical energy is regulated by subtle changing signals of light quality, duration, and intensity. A primary objective of the Laboratory's efforts has always been to explain the influences of the various factors in the environment--light, temperature, humidity, and atmospheric content--on the growth and development cycles of plants and to characterize the mechanisms through which environmental signals eventually manifest their effects on the developmental processes in living organisms. This is accomplished by studying the problems in the Laboratory under controlled conditions using biochemical, biophysical, and physiological techniques and then verifying the importance of these processes in nature by monitoring the natural, dynamic environment. Such programs of research by their very nature are long-term and require the concerted team efforts of many scientific disciplines. (See the following newspaper extract).

From shortly after its inception in 1928 the Laboratory has occupied a position at or near the forefront of research on the effect of the spectral quality of visible light on plant growth and development. The existing experimental programs encompass a greater number of projects under study than in any other single laboratory in the country and perhaps in the world. The complexity of the problems studied is demonstrated by the number of disciplines encompassed within the program, which has a range through physiology, cytology, biochemistry, biophysics, physics, engineering, electron microscopy, and morphology. The Laboratory has been credited with major contributions in the field of photobiology.

The Laboratory has a phased plan of research development and for fiscal year 1972, an increase of \$352,000 is requested to correct shortages in the current Environmental Biology Research Program. The appended chart shows the past and current distribution of resources and indicates that the research program has remained relatively static in funding except for increases for legislated pay increases. An additional \$17,000 are requested for necessary pay increases.

Need for IncreaseShortages in Research Programs

In the area of Regulatory Biology, the research is primarily concerned with the photoregulatory mechanisms through which small and large changes in radiant energy trigger biochemical, physiological, and morphological changes

in living organisms. A major effort has been devoted to the isolation and physiochemical characterization of the photoreceptor "phytochrome", the pigment system responsible for regulating such diverse responses as seed germination, gross morphological development, and flowering.

Also under the program of the Radiation Biology Laboratory is a Carbon-14 Dating Unit that has a research function in addition to its operation as a service facility. The unit plays a significant role in the Institution's program of dating geological and archeological artifacts of cultural and scientific importance. Its research program includes efforts toward refinement of techniques and new instrumentation.

Although there are serious shortages in staffing for carrying on these programs, for maintenance of the building, for acquisition of sufficient laboratory furniture and adequate equipment to make the new laboratories functional at a reasonable level, and for the refrigeration capacity for providing controlled temperatures in laboratory areas, there is a critical and basic need for Environmental Biology staffing, and for establishment and equipping of environmentally controlled areas for growing plant material.

Environmental Biology and Solar Radiation Monitoring

This area of Radiation Biology Laboratory's activities is concerned with the development of instrumentation and data acquisition systems for continuously monitoring the visible solar spectrum at various stations at different latitudes. At present, two monitoring centers are operating in the Washington area, and one in Israel. Other stations are in the planning stage. Significant data have already been acquired demonstrating the presence and effects of pollutants in the atmosphere.

In conjunction with measuring the spectral quality and duration of sun and sky radiation incident to the earth's surface, studies are being carried on to correlate biological responses (such as flowering, fruiting, and other morphological characteristics) with daily and seasonal fluctuations in the color composition of sunlight. Greenhouse facilities and environmentally controlled growth rooms (until recently, located behind the Smithsonian Building) are used in the studies in determination of correlation between measured solar radiation changes and responses in plant development. A new greenhouse and environment chambers, interference filter monochromators, and other instruments have been designed and developed by the Laboratory.

When the Laboratory was relocated from the basement of the original Smithsonian Building to the facility in Rockville, there were no funds for completing the research facilities. The Environmental Biology program of the Laboratory is dependent upon controlling the major physical factors of the environment, maintaining some at constant levels and varying others to determine the comparative influence of each on plant growth. The influence of atmospheric pollutants can be analyzed under these controlled conditions, as well as influences of varying combinations of temperature, humidity, different wavelengths of light, and nutrition. Installation and equipping of the five environmental control rooms at the new Rockville location could not be undertaken. Facilities now at the Mall location are now being phased out to make room for other Smithsonian purposes. Each of the rooms projected, approximately 100 square feet of floor space, requires precision control of light quality, intensity, duration, relative humidity, gas content and temperature. Current estimates come to approximately \$35,000 each for the shell of each room, including temperature control, humidity and gas exchange equipment, for a minimum total of \$175,000. The lighting units, capable of simulating subtle changes in spectral quality, as well as the natural photoperiod of daylight,

are presently estimated at \$20,000 each, for a total of \$100,000. The requested amount for the five environmental control rooms, with provision for the required lighting equipment, is \$275,000.

In addition, the most critically understaffed area in the Laboratory's research program is Environmental Biology, which consists of about one-third of the total program in work projected and in emphasis. The correlation of solar energy measurement data with biological growth and development is dependent upon the study of plant material grown under controlled conditions that are identical to those produced by the daily and seasonal fluctuations of the sun's light. The six major staff shortages in Environmental Biology research are a radiation physicist, an environmental physiologist, a laboratory technician, two laboratory aides and a refrigeration mechanic. The total sum requested for these positions is \$61,000. At the present time, the Director of the Laboratory is the only PhD-level scientist engaged in research in this program facet, and it can well be realized that administrative and other duties preclude a major part of his time being spent in directing and carrying on a research function. In five object categories (travel, rent and utilities, publication costs, contractual services, and supplies) a total of \$16,000 is requested to offset rising costs.

EXTRACTED FROM WASHINGTON POST, JUNE 5, 1970

AIR POLLUTION DIMS SUNLIGHT HERE BY 16 PERCENT
By Thomas O'Toole

"Air pollution has reduced the amount of sunlight reaching Washington by 16 percent in the past half century."

"This dramatic change probably took place fairly recently. It was discovered when the Smithsonian Institution compared findings from the last two years with two similar studies of sunlight conducted 50 and 60 years ago."

"The decline could have some far-reaching effects, since it is the "quality" of sunlight that regulates the growth of plants and crops, controls the manner in which birds migrate and even dictates such things as the sex lives of some animals, like rodents and fowl."

"The Smithsonian has no direct evidence that air pollution has caused the decline in sunlight, but it has eliminated the weather as a possible cause and by doing so has concluded that it must be air pollution."

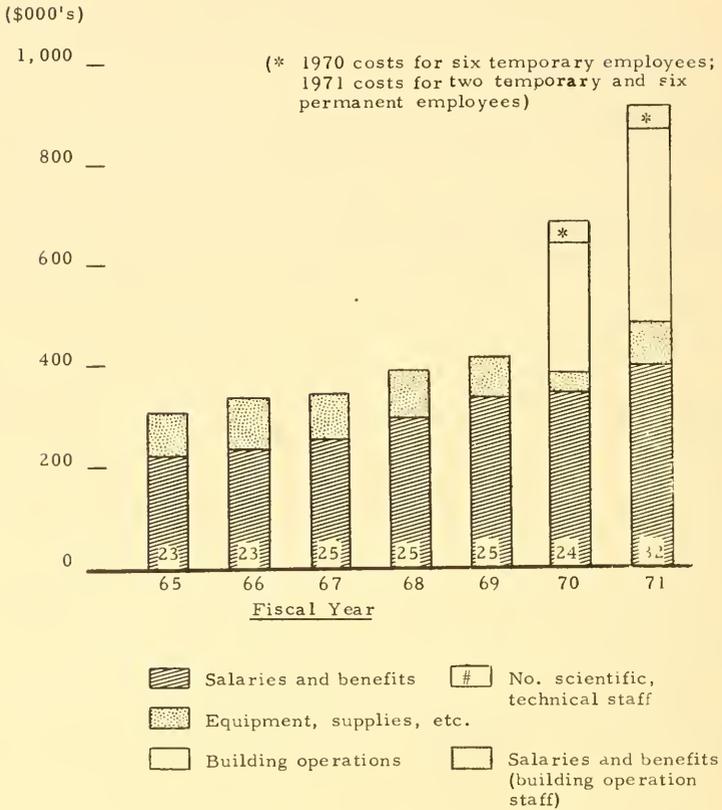
"The weathers not a factor since we've carefully compared sunlight readings on clear days," said Dr. William Klein, head of the Smithsonian Radiation Biology Laboratory, which directed the study. "The only thing that can change the amount of sunlight is the air, so it's got to be aerosols, dust particles, water vapor and hydrocarbons in the air that's doing it."

"The Smithsonian has taken readings of the sunlight reaching Washington from sunrise to sunset on almost every day since September, 1968. It missed about 20 days, either because its instruments needed maintenance or because the building where the instruments were housed needed renovating."

"The experiment has been conducted from the tower of the Smithsonian's administration building on the Mall, where instruments recorded the amount of sunlight striking the tower every three minutes. Instruments also measured the amount of light filling the sky from horizon to horizon."

"These readings were compared with readings from similar instruments put in the tower in 1909 by Dr. Charles Abbott, a Smithsonian physicist who later became the institution's fifth secretary."

Radiation Biology Laboratory:
Funding Distribution, Fiscal Years 1965 through 1971



Using the numbers of scientific and technical staff, and monies available for equipment, supplies and other support, the figure demonstrates that there has been no major increase in operational funds for the research program since 1965. The small annual increases from that date represent primarily salary adjustments and inflation. Although the total appropriation for 1970 and 1971 appears to have doubled over previous years, more than half represents costs associated with the operation of the new building. It should be noted that space, utilities and services were previously supplied from BMD budget. The increase in scientific staff for 1971 is primarily in non-professional technical and non-technical support.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

OFFICE OF ENVIRONMENTAL SCIENCES

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>34</u>	<u>8</u>	<u>42</u>
11 Personnel Compensation.....	\$ 503,000	\$ 79,000	\$ 582,000
12 Personnel Benefits.....	38,000	4,000	42,000
21 Travel & Transp. of Persons ..	6,000	6,000	12,000
22 Transportation of Things			
23 Rent, Comm. & Utilities	4,000	4,000	8,000
24 Printing & Reproduction.....			
25 Other Services	22,000	40,000	62,000
26 Supplies & Materials	5,000	60,000	65,000
31 Equipment	6,000	50,000	56,000
41 Grants			
TOTAL.....	<u>\$ 584,000</u>	<u>\$ 243,000</u>	<u>\$ 827,000</u>

Analysis of Total

Pay Increase	\$ 28,000	\$ 18,000	\$ 46,000
Program	\$556,000	\$225,000	\$781,000

Specification of Increase (Program):Smithsonian Oceanographic Sorting Center (6 positions, \$81,000)

Emphasis in fiscal year 1972 will be on achieving urgently needed capabilities in Smithsonian Sorting Services. Several thousand samples of fresh-water organisms have been sent for sorting in connection with water quality standards. The International Decade of Ocean Exploration, the Cooperative Investigations of the Mediterranean, the International Studies of the Caribbean have regular requirements for marine sorting. The Sorting Center urgently needs four sorters, an assistant supervisor, and a registrar (\$45,000), and funds for operational support (\$36,000).

Chesapeake Bay Center for Environmental Studies (2 positions, \$144,000)

The establishment and utilization of natural areas has become very important to public and private interests in the United States and in the world. The development of principles for the evaluation of alternative land uses lags far behind the requirement for use of such concepts in decision-making. Through the Chesapeake Bay Center for Environmental Studies, the Smithsonian is developing a model watershed study of the Rhode River estuary. Together with the University of Maryland, Johns Hopkins University, Georgetown University, and several Maryland and U.S. agencies, we expect to establish rates and processes of environmental change which will be incorporated in land use management and contribute fundamental data important to the development of urban and suburban areas. To strengthen the services of the Chesapeake Bay Center, a botanist and a security officer are requested (\$20,000), and additional support funds for supplies, materials, and equipment (\$124,000).

OFFICE OF ENVIRONMENTAL SCIENCES

1970 Actual	\$565,000
1971 Estimate	\$584,000
1972 Estimate	\$827,000

The Office of Environmental Sciences was established in order to integrate the Smithsonian programs in ecology and oceanography and limnology, and to strengthen the Chesapeake Bay Center for Environmental Studies. In this establishment, it was recognized that there must be increased concern with the interface between land and water. Knowledge of land use practices as they affect waters, and of the water cycle as a vital contribution to land, becomes of first importance in environmental studies, especially of pollution.

During fiscal year 1971, a study was initiated of the environmental relationships of the Chesapeake Bay Center. Aimed at providing baseline information which could be used in planning, predicting, and evaluating the results of development of the megalopolis, this study will involve many public and private agencies and individuals in sociological, economic, and scientific investigations.

The ecology program has embarked on a series of studies designed to gain insights regarding the management of development projects. Guidelines are being developed to identify the ecological consequences of river basin development, highway construction, growth of cities, and establishment of large biological preserves. The oceanography and limnology program, working especially with offices of the U.S. Antarctic Research Program, the International Cooperative Investigations of the Mediterranean, the International Decade of Ocean Exploration, and other national and international programs, coordinates the participation of scientists of several Smithsonian bureaus and of scientists associated with the Smithsonian in exploration of the oceans. The Office also provides impartial sounding boards for public and agency examination of such issues as pollution in New York Harbor, underwater archeology, Chesapeake Bay research, and marine natural preserves. Through its sorting centers in Washington, D. C. and in Tunisia (the latter principally supported by the foreign currency program), the Office supplies marine biological and geological specimens and related data to scientists around the world.

A program increase of \$225,000 is requested for fiscal year 1972 primarily for the support of the Oceanographic Sorting Center and the Chesapeake Bay Center as national resources. An additional \$18,000 are requested for necessary pay increases.

Need for Increase1. Smithsonian Oceanographic Sorting Center (6 positions, \$81,000)

The Sorting Center processes marine specimens from United States and international expeditions for use by more than 300 scientists from 27 countries in specimen-related research. The Center provides marine biological and geological identification services and operates as a national referral service for all kinds of specimen-based activities, from field collecting to the disposition of identified species in permanent repositories.

The Center has made concerted efforts to improve its productivity. An automatic data processing system for specimen records has been started. Many instruments and scientific devices have been acquired or fabricated to improve efficiency. When possible, items have been procured through government surplus sources to save funds.

Despite improved productivity, the Center is unable to meet the increasing demand from colleges, universities, and federal agencies for specimens. Backlogs of unsorted samples now exist for specimens gathered from the Great Lakes and several important oceanic expeditions. The backlog results primarily from the inability of the present staff to process and sort the more than 10,000 samples being received annually. Unless these samples are sorted soon, many will deteriorate to the point of being useless for research.

In order to alleviate this backlog, \$45,000 are requested for four sorter-technicians, an assistant supervisor, and a registrar. Support funds in the amount of \$36,000 also are requested for contract services, supplies, and equipment needed to sort, package, and distribute specimens, and for travel and rental of equipment.

2. Chesapeake Bay Center for Environmental Studies (2 positions, \$144,000)

The Chesapeake Bay Center is a 2,000 acre natural and semi-natural area located seven miles south of Annapolis, Maryland, about equidistant from Baltimore and Washington. It was established in 1966 and a formal open-ended consortium with Johns Hopkins University and the University of Maryland was created to promote a program of research and education designed to develop ecological knowledge with emphasis on populations, communities, and ecosystems. This program demands the preservation of the land in a natural state, the development of a model watershed research and management program, and the use of the Center as a focal point for educational activities.

A major difficulty that impedes the study of natural systems is the shortage of adequate field stations and research facilities. Ecology is an outdoor science. Although important studies have been done in the laboratory, with few exceptions these have been inspired by observations made in the field. The most effective starting point for the development of ecosystem science is the establishment of natural areas to be used for research and education, with a guarantee of administrative continuity so that long-range research programs can be initiated confidently. The fundamental importance of the Center is the fact that it constitutes the primary mechanism for both teaching and research on complex living systems.

Together with collaborating universities, federal and state agencies, the Center can be used for a model watershed program for the Rhode River. The Center has 12 miles of shoreline and occupies nearly one-half of the shoreline of the Rhode River estuary. Yet the Center has no resident capability for the study of this estuary. It is proposed that such a capability be established. A scientist would be employed and support provided for studies of the estuary. The monitoring of rates and processes of change in this environment is especially vital as the development of suburbs begins to encroach on the Rhode River watershed.

Data on land use history, ecosystem function, and socioeconomic trends and attitudes will be used in a way that will result in optimal wise use of the land and water resources of this small watershed and its adjacent estuary. This model community action program is being developed in conjunction with the Anne Arundel County Office of Planning and Zoning, the Maryland Department of Natural Resources, the Soil Conservation Service, the U.S. Geological Survey, the Department of Housing and Urban Development, and other agencies. A constructive interaction will be established with the people of the area. Such interaction will demonstrate land use planning that offers tangible environmental benefits while avoiding the undesirable elements of a rapidly urbanizing complex. The movement of fertilizers, herbicides, and pesticides, and the effects of soil erosion and estuarine sedimentation, as well as the role of marshes as filter mechanisms, and the influences of these phenomena on the land, living systems, and estuary are studies that may result in suitable control measures applicable to other areas.

The maintenance of the Center as large natural area serves educational purposes and contributes to the esthetic quality of the region. As the area between Washington and Baltimore becomes increasingly populous, the Center increases in importance as a training ground for pre and postdoctoral students, undergraduates, visiting scientists, and others. The use of the Center as a major interpretive facility for young people is rapidly increasing in volume and importance. A museum and nature trail, visual aids, lectures, and "in the field" presentations assist in instilling the individual ecological perspective necessary for our future existence.

For fiscal year 1972, funds are requested for a botanist to survey the vegetation of the watershed, and a security officer to protect the land and water areas (\$20,000). An additional amount of \$124,000 is requested for travel, utilities, services, supplies, and equipment in support of the watershed program and other community-related services of the Center.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

NATIONAL AIR AND SPACE MUSEUM

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>41</u>	<u>3</u>	<u>44</u>
11 Personnel Compensation.....	\$ 462,000	\$ 47,000	\$ 509,000
12 Personnel Benefits.....	37,000	4,000	41,000
21 Travel & Transp. of Persons	13,000	2,000	15,000
22 Transportation of Things	22,000	5,000	27,000
23 Rent, Comm. & Utilities	3,000	0	3,000
24 Printing & Reproduction.....	7,000	0	7,000
25 Other Services	43,000	20,000	63,000
26 Supplies & Materials	19,000	12,000	31,000
31 Equipment	20,000	15,000	35,000
41 Grants			
TOTAL.....	<u>\$ 626,000</u>	<u>\$ 105,000</u>	<u>\$ 731,000</u>

Analysis of Total

Pay Increase	\$22,000	\$15,000	\$37,000
Program	\$604,000	\$90,000	\$694,000

Specification of Increase (Program):Preservation and Restoration of Collections and Exhibits Planning (3 positions \$90,000)

The target year of 1976 has been selected for the opening of the new National Air and Space Museum building as an important contribution to the national celebration of the American Revolution Bicentennial. A request for planning and redesign funds for this building appears in the construction section of the Smithsonian's budget estimates. This lends impetus to what is already a major institutional need; that is, preserving and restoring our air and space collections. Most of these items are located at the Silver Hill, Maryland, storage facility. About 60 aircraft require conservation and restoration to prevent deterioration. An amount of \$81,000 is requested for three curatorial assistants, contractual restoration services, replacement parts and equipment, and related needs. Also requested are \$9,000 to initiate planning of new exhibits for the building.

NATIONAL AIR AND SPACE MUSEUM

1970 Actual.....	\$486,000
1971 Estimate.....	\$626,000
1972 Estimate.....	\$731,000

By Act of August 12, 1946, the Congress established the National Air Museum as part of the Smithsonian Institution and later by Act of July 19, 1966, added the memorialization of space flight to its responsibility and changed its name to the National Air and Space Museum. The functions of the Museum are to memorialize the national development of aviation and space flight; collect, preserve, and display aeronautical and space flight equipment of historical interest and significance; and serve as a repository for documents pertaining to the development of aviation and space flight. The same Act of July 19, 1966, authorized and directed the Regents of the Smithsonian Institution to prepare plans and to construct a suitable building for the National Air and Space Museum. The target year of 1976 has been selected for the opening of this new building as an important part of the Smithsonian Institution's program for celebration of the American Revolution Bicentennial. A request for planning and redesign funds for this building appears in the construction section of the Smithsonian's budget estimates.

An additional \$90,000 are requested for the preservation and restoration of the Museum's collections and the initiation of exhibits planning. Funding of \$15,000 for necessary pay also is requested.

Need for Increase--The staff of the National Air and Space Museum in carrying out the Museum's functions has selectively acquired the world's most comprehensive collection of historically significant aircraft, spacecraft, engines, instruments, components, and accessories. At the same time there has been assembled a large and valuable collection of documents, photographs, drawings, and publications recording experimentation, research, and development of aircraft and spacecraft together with the history of the aerospace industry.

The museum exhibits a small quantity of historical aircraft, spacecraft, and memorabilia in a 1917 steel shed called the Air and Space Building and in the Arts and Industries Building which was built in 1879-81 for the United States National Museum. These temporary quarters are both inadequate and inappropriate for exhibit of the history and development of this country's aviation and spaceflight. Nevertheless these temporary displays are among the most popular at the Smithsonian museums. In fiscal year 1970 over two and one-half million visitors were counted entering the Arts and Industries Building.

The Museum currently has on loan to other museums some 25 aircraft and 30 engines and propellers. Spacecraft and spacesuits are loaned to the U.S. Information Agency and U.S. Department of Commerce for display in U.S. overseas exhibitions, but the majority of most significant spacecraft are displayed in Washington and many locations throughout the United States.

Most of the aircraft, engines, and spacecraft are located at the Smithsonian storage facility at Silver Hill, Maryland. About 60 of the aircraft are unassembled and inadequately protected from deterioration. A program of conservation and restoration of these historic aircraft is being conducted. On following pages, are photographs showing the U.S. Navy NC-4, first transatlantic airplane, undergoing restoration and restored. The restoration of aircraft is slow and costly, however, and it is necessary to accelerate this program to arrest deterioration and prepare the collections to memorialize the nation's

flight accomplishments in an effective and dignified manner. Among the first aircraft scheduled for restoration are the XC-35 (the first pressurized, high altitude airplane), the Douglas World Cruiser, and the Neiuport 83. In the case of spacecraft, as received from the National Aeronautics and Space Administration, refurbishment by replacement of missing instruments and sheathing with protective plastic is necessary prior to placing on exhibition.

For the essential program of preservation and restoration of aircraft and spacecraft collections an increase of \$81,000 is required. This will provide for three curatorial assistants for research supporting restoration of collections, the planning and production of new exhibits, and increased requirements for public services. Last year a series of new educational programs were initiated in cooperation with local high schools and limited tours at the Silver Hill facility commenced. It is desired to increase these and other services to the American public. This funding will also provide specialized maintenance and repair, replacement parts and equipment, contractual restoration services, and related travel and transportation.

For the research and planning of details for the new museum building, and development of new exhibit techniques which will be utilized in the new structure, an increase of \$9,000 is required.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

CENTER FOR THE STUDY OF MAN

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>7</u>	<u>3</u>	<u>10</u>
11 Personnel Compensation.....	\$ 71,000	\$ 22,000	\$ 93,000
12 Personnel Benefits.....	5,000	2,000	7,000
21 Travel & Transp. of Persons	10,000	5,000	15,000
22 Transportation of Things			
23 Rent, Comm. & Utilities			
24 Printing & Reproduction.....			
25 Other Services	63,000	37,000	100,000
26 Supplies & Materials	1,000	0	1,000
31 Equipment	2,000	2,000	4,000
41 Grants			
TOTAL.....	<u>\$ 152,000</u>	<u>\$ 68,000</u>	<u>\$ 220,000</u>

Analysis of Total

Pay Increase	\$ 4,000	\$ 3,000	\$ 7,000
Program	\$148,000	\$65,000	\$213,000

Specification of Increase (Program):Encyclopaedia of North American Indians (3 positions, \$48,000)

Planning and initial development of the 17 volume Encyclopaedia are proceeding smoothly. A distinguished group of anthropologists and historians have been chosen as volume editors. By May 1971, it is anticipated that writing assignments will be established with about 850 contributors. The first return of manuscripts is expected by August 1971 with all manuscripts received and revised by May 1974. A July 1976 publication date is planned as part of the American Revolution Bicentennial celebration. To meet a firmly identified growing workload, three additional personnel are requested (a copy editor, a research assistant, and a typist) and other funds for the expenses of volume editors and contributors--\$48,000 in total.

Anthropological Communications and Research Programs (\$17,000)

An additional \$17,000 are requested to fund additional small grants for urgent anthropology research in geographical areas that are undergoing rapid environmental change as a result of urbanization, improved communication, better transportation, or other factors. These funds would also be used to support a task force study of world population growth.

CENTER FOR THE STUDY OF MAN

1970 Actual	\$ 83,000
1971 Estimate	\$152,000
1972 Estimate	\$220,000

The Center for the Study of Man is presently concentrating its efforts in three general areas of program development: American Indian Program; International Anthropological Communications Program; and the Coordination of Research on Major World Problems. Under the American Indian Program, three interrelated activities can be identified:

- Development of the 17 volume Encyclopaedia of North American Indians (successor to the original Handbook) including appropriate American Indian scholarly input and involvement.
- Development of a system for providing scholarly educational materials concerning Indians to individuals, schools, and Indian communities; and helping to coordinate educational intercommunication among Indians themselves, and with scholars and appropriate governmental and private agencies.
- Development of a legal-historical research program on the North American Indian land base.

For fiscal year 1972, an increase of \$65,000 is requested for continued development of the Encyclopaedia of North American Indians and for the anthropological communications and research programs. An additional \$3,000 are requested for necessary pay for current staff.

Need for Increase1. Encyclopaedia of North American Indians (3 positions, \$48,000)

The purpose of the Encyclopaedia, consisting of 17 volumes, is to summarize all that is known of the prehistory, history, and traditional and modern cultures of all the Indian groups north of Mexico, to bring up to date and replace the previous standard encyclopaedic work on this topic which was issued by the Smithsonian in 1907-1910. This will become the standard reference work on all aspects of North American Indian history and anthropology for students, teachers, authors, researchers, and administrators, both non-Indian and Indian, both U.S. and foreign. A list of the volume titles is shown on a following page.

Ever since its founding, the Smithsonian has conducted important research on American Indian history and cultures, and has been looked to as an important (often the most important) source of information on these topics. As a result, the resources of the Institution--scientific staff, manuscript and picture archives, library, and museum collections--are unexcelled anywhere as a basis for this project.

Planning for the Encyclopaedia of North American Indians has now been completed. A series of meetings have been held, first by an Advisory Committee to choose volume editors, and then by each volume editor to select authors for his particular volume. A distinguished group of anthropologists and historians, including two American Indians, have been chosen as volume editors. These volume editors come from a number of distinguished institutions including the University of Nevada (Dr. Warren D'Azevedo), University of Iowa (Dr. June Helm), Portland State University (Dr. Wayne Suttles), University of Oklahoma (Dr. William Bittle), University of Arizona (Dr. Frederick Hulse), Harvard University (Dr. Ives Goddard), University of Chicago (Dr. Raymond Fogelson),

University of California (Dr. Mary Haas and Dr. Robert Heizer), McMaster University (Dr. David Damas), Princeton University (Dr. Alfonso Ortiz), McGill University (Dr. Bruce Trigger), and the University of Saskatchewan (Professor D'Arcy McNickle). The Encyclopaedia office is functioning smoothly and everyone connected with the project has been cooperative and enthusiastic.

The timetable for this project is as follows:

May 1971--writing assignments given to approximately 850 contributors;
 May 1972--completed manuscripts received;
 May 1973--revised and reassigned manuscripts completed;
 May 1974--submission of manuscripts for the 17 volumes to the printer;
 July 1976--issuance of the Encyclopaedia as part of the American
 Revolution Bicentennial celebration.

The requested additional funds will be used to hire three new personnel (a copy editor, a research assistant, and a secretary-typist) and to pay for the expenses of volume editors and contributors. It is anticipated that the first manuscripts will be arriving by August 1971 and that they will increase in number as the year progresses.

2. Anthropological Communications and Research Programs (\$17,000)

The remainder of the requested increase would go to support the International Anthropological Communications Program and the research program on topics relevant to the understanding of major world problems. For the former, \$5,000 are requested to be used mainly in support of the Urgent Anthropology Small Grants Program. The remaining funds (\$12,000) would be used to assemble a task force of human science specialists to begin a five-year research program on how different cultures manage their environment.

The Urgent Anthropology Small Grants Program has been meeting the needs of the scientific community by identifying, publicizing, and financing small grants for research in geographical areas that are undergoing rapid environmental change as a result of urbanization, improved communications, better transportation, and other factors. During fiscal year 1970, in collaboration with 40 scholars and nine institutions, nine grants with a value of \$7,600 were made. As an example of this program, during the past summer, a small grant of \$1,000 resulted in a study of the Ahashamen Indians of San Juan Capistrano. Twenty-five reels of taped materials were collected on the language and oral history of these people. In addition, a number of pictures were taken and a large number of field notes were recorded. Another small grant of \$1,000 has resulted in an unusual study of a Tibetan monastery which was recently built in Switzerland. For the first time, we have been able to record the actual construction of a Tibetan monastery, together with the accompanying ritual. It may never be possible to do this again.

The research program on management of the environment is a continuation of efforts to assemble "task forces" of human scientists from appropriate institutions throughout the world to work together on major world problems. This year the Center is studying and inventorying present knowledge about problems of world population growth with emphasis on discovering what an anthropological approach to this problem will reveal. Included in this effort are scientists, scholars, and persons involved in administration of programs (governmental and otherwise) concerned with this problem. Educational means (including museum exhibits, mass media communication, etc.) to provide information to the public, including governments and other appropriate organizations, are being established. It is anticipated that members of the "task force" will work together for a five-year period before publishing their final results.

Volumes of the Encyclopaedia of North American Indians

- I. Introduction
- II. Contemporary Affairs
- III. Environment, Origins, and Population
- IV. History of Indian-White Relations

Area Volumes:

- V. Arctic
- VI. Subarctic
- VII. Northwest Coast
- VIII. California
- IX. Southwest
- X. Basin-Plateau
- XI. Plains
- XII. Northeast
- XIII. Southeast
- XIV. Comparative Culture
- XV. Languages
- XVI. Biographical Dictionary
- XVII. General Index

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

CENTER FOR SHORT-LIVED PHENOMENA

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>1</u>	<u>3</u>	<u>4</u>
11 Personnel Compensation.....	\$ 14,000	\$ 26,000	\$ 40,000
12 Personnel Benefits.....	1,000	2,000	3,000
21 Travel & Transp. of Persons	1,000	2,000	3,000
22 Transportation of Things	0	1,000	1,000
23 Rent, Comm. & Utilities	9,000	26,000	35,000
24 Printing & Reproduction	5,000	14,000	19,000
25 Other Services	4,000	15,000	19,000
26 Supplies & Materials	3,000	3,000	6,000
31 Equipment		1,000	1,000
41 Grants			
TOTAL.....	<u>\$ 37,000</u>	<u>\$ 90,000</u>	<u>\$ 127,000</u>

Analysis of Total

Pay Increase	\$ 2,000	\$ 1,000	\$ 3,000
Program	\$ 35,000	\$ 89,000	\$ 124,000

Specification of Increase (Program):World-Wide Natural Event Monitoring and Reporting (3 positions, \$89,000)

Over the past three years, the Center has reported over 320 ecological, geophysical, and astrophysical events occurring in 78 countries and all the world's oceans. Its reporting network has grown to 2,600 scientists and scientific field stations in 148 countries and territories. Despite an enthusiastic response from federal agencies and the international scientific community, outside financial support for regular, on-going operations is difficult to obtain. Special reporting projects are so funded and the Center has a subscription program which produces about \$25,000 a year. A program increase of \$89,000 is requested to fund three additional positions (event research specialist in biology; an event information specialist, and an operations specialist for \$27,000) and to provide for communications, printing, computer services, and other operational costs (\$62,000).

CENTER FOR SHORT-LIVED PHENOMENA

1970 Actual.....	\$11,000
1971 Estimate....	\$37,000
1972 Estimate....	\$127,000

The Center for Short-Lived Phenomena is an early alert system and clearinghouse for the reception and dissemination of information on short-lived natural events. The Center alerts scientists, agencies, and research institutions to major short-lived ecological, geophysical, and astrophysical events occurring anywhere in the world. It quickly communicates data and descriptive information on events such as large oil spills, major atmospheric and water pollution events, high biocide residue discoveries, massive fauna and flora mortalities, volcanic eruptions and major earthquakes, the birth of new islands, the fall of large fireballs and meteorites, sudden changes in biological and ecological systems such as animal migrations and colonizations, and any other natural or man-made phenomena that require rapid response from scientists in order that they may take advantage of research opportunities while environmental changes are occurring.

During the past three years the Center has reported over 320 short-lived events that occurred in 78 countries and all the world's oceans, including 143 earth science events, 102 biological and ecological events, 49 astrophysical events, and 8 urgent anthropological and archaeological events that led to 237 scientific field expeditions. The Center has issued over 1,000 event notification and information reports to thousands of research scientists and institutions, published 52 event reports, handled a communications volume of over half a million cable words and mail volume of 690,000 event notification and information cards. Charts on a following page show growth of the Center's activities.

An increase of \$90,000 is requested for the Center's basic operations.

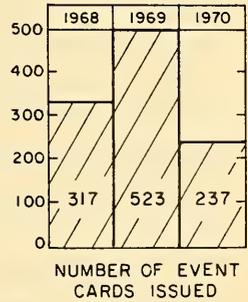
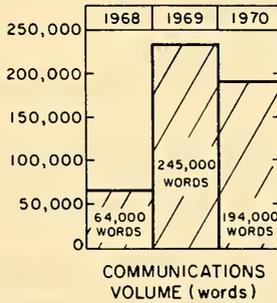
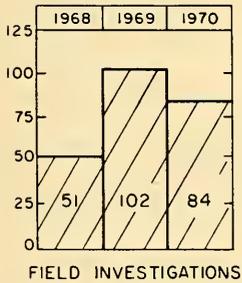
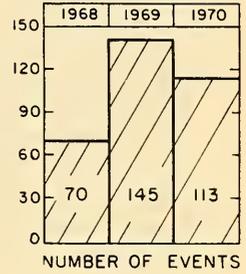
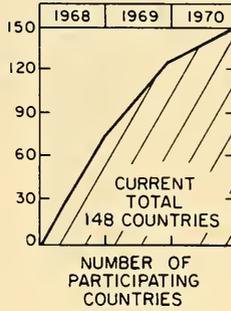
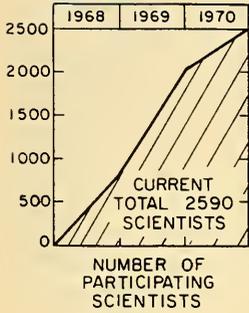
Need for Increase--The Center has had an overwhelming response from federal agencies and the international scientific community. At the urging of a number of agencies and international organizations, it has become involved increasingly in reporting significant environmental pollution events. Because of its comprehensive global communications system and its reporting network that has now grown to 2,600 scientists and scientific field stations in 148 countries and territories, the Center was able to report every major environmental pollution event, volcanic eruption, earthquake, oil spill, and meteorite fall that occurred on earth in 1970, usually within hours after the events occurred.

The Center has instituted many labor and cost-saving measures such as the development of automatic computer printouts of event notifications, but current staff and resources are severely limited. Its ability to cope with the demand for its services, particularly requests from federal agencies and international organizations for fast, qualitative information on environmental pollution events, is very inadequate. The Center has been successful in obtaining outside financial support from the Ford Foundation, from UNESCO, from NASA, and from the AEC for special projects dealing with global environmental monitoring and the transient lunar phenomena program. It has also instituted an event notification subscription program that now has over 600 subscribers and produces income of over \$25,000 per year, but the success of the Center's regular operations will depend heavily on the level of core federal funding that will be received.

The Center will begin no new activities in fiscal year 1971 and plans none for fiscal year 1972 that will use federal funds but requests that fiscal year 1972 federal support be provided for two types of current shortages: those resulting from the Center's increased commitments in environmental pollution event information communication, and those resulting from the loss of grant and contract support from NASA and NSF due to agency budget cuts.

An increase of three federal positions is requested: an event research specialist (biology) to handle a burgeoning volume of event research on ecological and environmental pollution events; an event information specialist to assist in the collection and dissemination of event information to 160 federal agencies and scientific research centers throughout the world; and an operations specialist to handle a continuously increasing communications and computations workload (\$28,000). In order to continue to operate the Center at its current level, the following increases in basic federal support for the Center also are requested: travel (\$2,000); transportation of things (\$1,000); rent, communications, and utilities (\$26,000); printing and reproduction (\$14,000); other services (computations and information systems support) (\$15,000); supplies and materials (\$3,000); and equipment (\$1,000). The total increase requested, \$90,000, will permit the Center to continue to operate at its current level of activity in fiscal year 1972.

GROWTH OF ACTIVITIES OF THE
SMITHSONIAN CENTER FOR SHORT-LIVED PHENOMENA



SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

NATIONAL ZOOLOGICAL PARK

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions . .	<u>249</u>	<u>48</u>	<u>297</u>
11 Personnel Compensation	\$ 2,384,000	\$ 357,000	\$ 2,741,000
12 Personnel Benefits	208,000	43,000	251,000
21 Travel & Transp. of Persons	8,000	10,000	18,000
22 Transportation of Things	3,000	0	3,000
23 Rent, Comm. & Utilities	114,000	30,000	144,000
24 Printing & Reproduction	1,000	0	1,000
25 Other Services	42,000	23,000	65,000
26 Supplies & Materials	319,000	97,000	416,000
31 Equipment	71,000	95,000	166,000
41 Grants			
TOTAL	<u>\$ 3,150,000</u>	<u>\$ 655,000</u>	<u>\$ 3,805,000</u>

Analysis of Total

Pay Increase	\$ 155,000	\$ 70,000	\$ 225,000
Program	\$2,995,000	\$585,000	\$3,580,000

Specification of Increase (Program):Office of Director (8 positions, \$135,000)

Improve public services; staffing the Hospital-Research Building; increased costs of operating items.

Operations and Maintenance Department (30 positions, \$293,000)

Accomplish maintenance workload; increased costs of operating items; equipment replacement.

Department of Living Vertebrates (5 positions, \$72,000)

Accomplish research workload; acquisition of animals; animal food; increased costs of operating items.

Department of Scientific Research (1 position, \$31,000)

Accomplish research workload; temporary employees.

Animal Health Department (4 positions, \$54,000)

Improve medical treatment.

NATIONAL ZOOLOGICAL PARK

1970 Actual.....\$2,847,000 1/
 1971 Estimate.....\$3,150,000
 1972 Estimate.....\$3,805,000

The National Zoological Park was founded by Congress in 1889 for the "advancement of science and the instruction and recreation of the people." To accomplish this mission, the Zoo exhibits a broad zoological collection of animals from all parts of the world in natural surroundings; maintains an information and education program for the benefit of the visiting public from all over the United States; and promotes scientific research, including biomedical programs, for increased scientific knowledge and for the benefit of the animals so that visitors can enjoy them in prime health. To accomplish this mission, the Zoo is organized in five departments: Office of the Director; Operations and Maintenance; Living Vertebrates; Scientific Research; and Animal Health.

For fiscal year 1972, a program increase of \$585,000 is requested to staff and operate the new Hospital-Research Building and other facilities; to operate the new heating plant; to replace ground equipment items; to augment the travel, animal acquisition, and food funds; and to install a new communication system. An additional \$70,000 are required for necessary pay increases.

These increases are distributed in the following table. Specific details of organization, functions, and budget requirements are presented on the following pages.

(In thousands of dollars)	1970		1971		1972	
	Pos.	Amount	Pos.	Amount	Pos.	Amount
Office of Director.....	60	\$814	61	\$909	69	\$1,088
Operation and Maintenance.....	99	975	100	1,114	130	1,420
Living Vertebrates.....	77	874	77	962	82	1,043
Scientific Research.....	5	72	6	84	7	118
Animal Health.....	5	67	5	81	9	136
Total.....	246	\$2,802	249	\$3,150	297	\$3,805

The number of zoo visitors increases annually. In calendar year 1970, approximately 5,200,000 visited the Zoo. A significant number of these visitors are in organized school groups from the metropolitan area and more distant points. The Zoo is increasingly used as a teaching site by teachers of biology and other natural sciences. The increased visitor load increases requirements for patrols, trash clean-up, washroom sanitation, first aid, and other services.

Continued improvements have been made in the collection of animals, which is one of the world's largest. As the collection evolves, the zoo will present exhibits of greater visitor interest and, at the same time, give greater emphasis to species and groups which effectively demonstrate significant points of animals' adaptations and behavior. Greater emphasis will be given also to increasing zoo births by pairing unmated animals and maintaining breeding groups. Not only is this good conservation practice; it is essential in view of the increasing scarcity of many species and the high prices that must be paid to acquire them.

Construction and improvement programs have progressed with the following results. The east-west perimeter road, eliminating through traffic in the main section of the Park, was completed in June 1964. The incinerator for the

1/ Included in the District of Columbia budget.

sanitary disposal of trash and waste materials was completed in June 1964. In February 1965, the remodeling and renovation of the Bird House was accomplished. In June 1965, the new Great Flight Cage and two parking lots for 245 visitor cars were completed. A parking lot which accommodates 260 visitor cars and 24 buses was completed in October 1965. Construction of a trunk sewer to eliminate most of the pollution discharged into Rock Creek was completed in June 1967. The remaining discharge, chiefly from waterfowl ponds, was eliminated by construction funds appropriated in fiscal year 1968. The Deer Area was completed in November 1965. The Hardy Hoofed-Stock Area was completed in August 1966, and Delicate Hoofed-Stock buildings No. 1 and 2 were completed in January 1967. The construction of the new Hospital-Research Building, started in June 1968, was completed in January 1970. The old coal fired boilers were replaced with new gas fired units during the summer of 1970.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

NATIONAL ZOOLOGICAL PARK
Office of the Director

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions . . .	<u>61</u>	<u>8</u>	<u>69</u>
11 Personnel Compensation	\$ 657,000	\$ 72,000	\$ 729,000
12 Personnel Benefits	56,000	21,000	77,000
21 Travel & Transp. of Persons	8,000	4,000	12,000
22 Transportation of Things	1,000	0	1,000
23 Rent, Comm. & Utilities	114,000	30,000	144,000
24 Printing & Reproduction	1,000	0	1,000
25 Other Services	28,000	18,000	46,000
26 Supplies & Materials	33,000	18,000	51,000
31 Equipment	11,000	16,000	27,000
41 Grants			
TOTAL	<u>\$ 909,000</u>	<u>\$ 179,000</u>	<u>\$ 1,088,000</u>

Analysis of Total

Pay Increase	\$ 45,000	\$ 44,000	\$ 89,000
Program	\$864,000	\$135,000	\$ 999,000

Specification of Increase (Program):Improve the Services of the Director's Office (2 positions, \$38,000)

As the Zoo increases in popularity as a source of scientific information, the volume of correspondence has increased. Two secretarial positions and supplies and equipment are requested (\$16,000). Additional travel funds (\$4,000) are needed largely in connection with the animal acquisition program. Funds are also required to meet the rising costs of routine services, supplies, and equipment associated with Director's Office operations (\$18,000).

Staffing the Hospital-Research Building (3 positions, \$34,000)

The Hospital-Research Building was completed and occupied in January 1970; the Pathology Office was transferred to this building in September 1970. A histopathology technician and a secretary are needed for specific research projects (\$16,000). One police position is requested to enlarge the night shift for the protection of drugs and expensive medical equipment (\$9,000). Supplies and equipment, including books, are required for hospital operations (\$9,000).

Administrative Services (3 positions, \$63,000)

As Zoo programs develop, the Supply Section workload has expanded. Request is for two positions, supplies, and equipment to augment the staff of this section (\$14,000). One clerk-typist position and supplies and equipment are required for the protective service program to perform administrative tasks now done by officers who should be on patrol duties (\$8,000). An increase in utilities funding (\$30,000) is requested to operate the new heating plant and to meet the increased cost of operating the Hospital-Research Building. Funds (\$11,000) are requested to replace and expand the communications system on a rental basis.

National Zoological Park
Office of Director

The Office of the Director plans and directs all Zoo programs. It also coordinates the activities and functions of the Pathology Office and the Planning and Design Office; directs the protective service program; develops and maintains the Zoo's educational program; and furnishes general administrative services. The animal acquisition program is under the direction of this office. The Office of Pathology performs histopathologic and gross pathologic diagnosis of disease in the animal collection and education of biomedically aligned students and trainees. The Planning and Design Office coordinates all construction projects and prepare criteria and architectural design of major structures. The protective services program enforces laws and regulations for the protection and safety of visitors, animals, and Government property. The educational program is being implemented through informative labels, exhibits, lectures, guided tours, and cooperative programs with local school systems. Administrative services include personnel, budget, fiscal, supply, and procurement functions.

An increase of \$135,000 is requested to provide eight positions to meet the increases in workload in the Director's Office, Pathology Office, protective services program, and administrative services; to cover increased costs of travel, utilities, supplies, and equipment; and to install a new communication system. An additional funding of \$44,000 is sought for necessary pay purposes.

Need for Increase

1. Directors Office (2 positions \$38,000)

As the Zoo increases in popularity as a source of scientific information, the volume of correspondence (local, national, and international) has increased, causing a backlog of administrative requirements. To meet the increased volume of work in the Director's Office and the Assistant Director's Office, two secretarial positions are requested (\$16,000).

Additional funds are sought for travel, largely in connection with the animal acquisition program, and for services, supplies, and equipment associated with Director's Office operations. For the most part, these funds are required to meet rising costs (\$22,000).

2. Staffing the Hospital-Research Building (3 positions \$34,000)

The Hospital-Research Building was completed and occupied in January 1970. The Pathology Office was transferred to this building in September 1970. The plans for the coming year are to continue to improve the service to the Zoo and to undertake specific research projects by means of conventional pathologic techniques. The Zoo has the opportunity to offer outstanding research and training services. Space will be available for visiting scientists, undergraduate fellows, and trainees interested in the research potentialities of the pathology laboratory. The degree to which specific research can be accomplished will depend largely upon the availability of technical and clerical help. To expand this service, two positions, a secretary and a histopathology technician, are requested (\$16,000).

One police position is requested to enlarge the night shift for the protection of drugs and expensive medical equipment and for park security around the Hospital-Research complex, located in the wooded area of the Park (\$9,000).

Travel, supplies, and equipment, including books, are required to provide program support to the operations of the Hospital-Research Center (\$9,000).

3. Administrative Services (3 positions \$63,000)

As the number of personnel in the Zoo increases and programs expand, the workload in the supply section of the Administrative Service Division increases. For instance, the availability of funds for capital renovation and repairs to existing surroundings and buildings has increased the workload. An additional purchasing agent and a clerk typist are required (\$14,000).

One clerk typist position is needed for the protective service program to perform the administrative duties now accomplished by officers who should be on patrol duties. Forms that are required to be typed cover police activities, personnel manning, park safety, and requisitions for supplies and equipment (\$8,000).

During the summer of 1969, the first phase of conversion of the heating plant from coal to gas was accomplished. The complete conversion was accomplished in the summer of 1970. The cost for operating the Hospital-Research Building has exceeded estimates. Additional funds are required for utilities (\$30,000).

There are remote areas of the Park in which tradesmen, police, and professional staff must work. It is frequently important to communicate quickly with these people and telephones are not readily available. Funds are requested to replace and expand the Zoo's radio communication system on a rental basis (\$11,000).

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

NATIONAL ZOOLOGICAL PARK
Operations and Maintenance

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	100	30	130
11 Personnel Compensation.....	\$ 870,000	\$ 185,000	\$ 1,055,000
12 Personnel Benefits.....	84,000	15,000	99,000
21 Travel & Transp. of Persons	0	1,000	1,000
22 Transportation of Things			
23 Rent, Comm. & Utilities			
24 Printing & Reproduction.....			
25 Other Services.....	14,000	5,000	19,000
26 Supplies & Materials	122,000	49,000	171,000
31 Equipment	24,000	51,000	75,000
41 Grants			
TOTAL.....	\$ 1,114,000	\$ 306,000	\$ 1,420,000

Analysis of Total

Pay Increase	\$ 52,000	\$ 13,000	\$ 65,000
Program	\$1,062,000	\$293,000	\$1,355,000

Specification of Increase (Program):Maintenance and Operations of the Physical Plant (30 positions, \$293,000)

General workload demands for maintenance and operations require staff and funding increases in several areas. For supervision and general operations of this department, an assistant buildings manager and a production control clerk and funds for work uniforms and safety supplies are needed (\$33,000). Delay in zoo reconstruction makes it necessary to prolong the life of existing facilities. Five crafts workers and maintenance supplies and equipment are needed (\$65,000). Tree and grounds maintenance over 156 acres, including newly developed areas, requires six additional grounds workers and replacement supplies (\$63,000). The installation of new technical control boilers and other heating and air-conditioning machinery requires six additional boiler plant operators for adequate maintenance of this expensive equipment (\$45,000). The requirement for personnel to operate auto equipment has increased beyond a workable schedule for pick-up and delivery services. Two additional auto equipment operator positions are requested. One junior mechanic position is requested to augment the present staff assigned to maintaining zoo vehicles (\$22,000).

As the visitors increase, the demand for laborer and custodial service also rises. Taking into consideration annual and sick leave and the 40-hour work-week requirement, the 17 available laborer positions and four custodial workers are not sufficient to maintain a seven-days-per-week schedule requirement. An increase of five laborer and three custodial positions and custodial supplies is requested (\$50,000). An increase is also requested in the equipment allotment to permit scheduled replacement of vehicles and scooters (\$15,000).

National Zoological Park
Operations and Maintenance Department

The Operations and Maintenance Department has responsibility for all plant maintenance and supporting services. These include:

- Operational services: automotive maintenance; operation of trucks and heavy equipment; trash collection; sweeping of streets and walks; snow removal; and janitorial services.
- Maintenance and construction: maintaining and repairing 15 major buildings and wide range of cages and other facilities. This unit also performs renovation and minor construction, and builds nest boxes, shipping crates, exhibits, and other needed items.
- Grounds: maintaining and improving the 156 acres of trees, lawns, shrubs, flower beds, and indoor plantings.
- Air-heating: maintaining all heating plants and air conditioning in the buildings throughout the Park.

An increase of \$293,000 is requested to provide thirty positions for workload increases in maintenance and operational services. An additional \$13,000 are requested for necessary pay increases.

Need for Increase

1. Operations and Maintenance Management (2 positions \$33,000)

A maintenance work order system to provide useful information on workbad and maintenance costs has been in operation for three years. This consists of a monthly summary report and a cumulative fiscal year report. Since there is no position available to perform the daily duties required to maintain these accounts and manpower statistics, the monthly report frequently falls 30 to 45 days behind reporting dates. This system provides manpower and material utilization reports and cost data necessary for developing systematic maintenance throughout the entire Zoo. It also provides vital information for budget requirements and projections. One production control clerk position is requested (\$7,000).

Funds are required to provide all wage-board employees in this department with work uniforms and safety supplies. There are 90 regular wage-board employees in need of instant recognition by other employees and the visiting public for security reasons. Also requested are travel funds for the O & M manager and for Zoo employees transporting animals (\$15,000).

One assistant building manager position is requested to assist the building and ground manager by performing routine estimating, inspections, and obtaining plans, bids, prices, etc., and to act in the absence of the manager (\$11,000).

2. Maintenance and Construction (5 positions \$65,000)

With the completion of the Great Flight Cage; Delecate and Hardy-Hoofed stock buildings, shelters, and areas; new roadways and parking lots; and the Hospital-Research building, the following workload has been added to the maintenance program since 1963:

--24 drains, 30 water outlets for hoses, 15 basins, 2 rest rooms, and 16 water troughs. The Hospital-Research building will have 27,000 feet of sanitation sewer, water, and vent pipes to maintain, 116 floor drains and sink waste, 8 rest rooms, 64 hot and cold water outlets, 3 disposals, 1 sterilizer, and 27 valves and controls.

--49,640 feet of fencing to be maintained.

--236 locks and 348 doors which require the repair of various type mechanisms.

--293,972 square feet of asphalt roadways and parking lots to be maintained.

The wear and deterioration of the old facilities from the action of time, elements, visitors, and animals creates a normal workload. New facilities, added to the preventive maintenance demands on the present maintenance staff, leaves many of the facilities in a state of disrepair and deterioration causing a backlog in the various trades. Only one additional electrician, one carpenter, and one steamfitter positions have been authorized for this program since 1963.

For instance, at present, there are one lead foreman, three pipefitters, and one junior pipefitter (including plumber conversions in the past 12 months) to maintain the pipes and equipment of the Zoo's heating, water, sewage, and drainage systems. These systems are located in and around 20 buildings in an area of approximately 100 acres. Due to the condition of 75 percent of these systems, emergency repairs seem to be the order of each day, creating a backlog of preventive maintenance. A backlog of 16,700 man-hours jeopardizes the safety and well being of the animals.

Two pipefitters, a carpenter, one asphalt worker, and one maintenance helper are requested with funds for building and maintenance supplies and equipment purchases on a planned replacement cycle (\$65,000).

3. Tree and Garden Maintenance (6 positions \$63,000)

There are approximately 12,000 trees in the Park. Using the International Shade Tree Evaluation Scale, the value of these trees is estimated to be \$6.5 million. There are five (including the supervisor) tree maintenance worker (climbers) positions available to prune and treat diseased trees, remove dead or hazardous trees, plant or replace trees, and feed and water trees located in public areas. There is only one grounds worker position available to assist in this work, which requires climbers to be used as ground workers. The tree section has a backlog of 24,000 man-hours of climbing work or 8-years of work with the present available positions. An addition of two grounds worker positions will increase the actual climbing hours per year and reduce this time to six years, permitting the tree section to start another cycle of preventive maintenance and insure the safety of visitors, employees, and animals (\$12,000).

Three additional grounds worker positions also are required to assist the Garden Section in maintaining the horticultural features in new areas created by the construction and improvement of the Zoo. The areas to be maintained are:

Hoofed Stock area.....	2.5 acres	Horticultural features to be pruned and sprayed.
Harvard Street Bridge area..	.5 acres	Lawn to be mowed, sodded, seeded, and fertilized.
Hospital-Research area.....	2.5 acres	Horticultural features and lawn to be maintained.

New areas and dry seasons have tripled the watering activity, adding 2,300 additional man-hours; an increase of 1,000 man-hours in pruning activities; and a minimum increase of 1,500 man-hours must be added to the weed spraying activity. Some flower beds will have to be eliminated in order to give proper maintenance to the remaining ones and to the turf and ornamental feeding (\$18,000).

One clerk-typist also is requested to perform the administrative duties of this division. At the present time, maintaining time cards, filing records, ordering supplies and equipment, typing reports and correspondence and maintaining a horticulture library consumes 75 percent of the chief of the division's time. Many of these duties fall days behind and correspondence goes unanswered because of lack of clerical personnel. A clerk would also allow the division chief to spend his time inspecting construction sites for damage to existing plants and trees; designing detailed landscape plans; estimating costs; and setting up work orders and training programs for the division (\$7,000).

Funds are sought for supplies and to replace the 40 foot skyworker. This piece of equipment is ten years old. A climber's life depends on the safety of this machine when operating the bucket 40-feet off the ground. The machine is checked by special mechanics of the District Highway Department every six months for efficiency and safety. Because of the lack of housing, the skyworker must be subjected to the elements, causing wear and deterioration. The new skyworker will reach 60 to 70 feet from the ground which will enable the climbers to eliminate a hazardous climb of 20 to 30 feet above the 40-foot bucket (\$26,000).

4. Air-heating (6 positions \$45,000)

The change from prior years of air-pollution and coal scoop engineering to a sophisticated anti-pollution and climate control system for the health and well-being of the animals involves equipment requiring constant surveillance and planned preventive maintenance. From simple operating boilers and equipment plus emergency maintenance, with preventive maintenance being performed during a few summer months, progress has been made to a system of weekly inspections with spot inspections when manpower is available. With emergency type maintenance a high factor, frequent and necessary inspections are sometimes omitted because of manpower shortages. A tight surveillance of operating conditions in buildings during all seasons is necessary to prevent over heating or extreme chilling that might cause the loss of valuable and/or irreplaceable animals. The workload is further increased by the addition of a boiler plant to operate the year around and the addition of large tonnage air conditioning for the summer months.

A comparison of manpower requirements of the present and proposed Boiler Plant operation is as follows:

	<u>Man-years Present</u>	<u>Man-years Proposed</u>
Supervisory.....	2.0	2.0
Main heating plant (three complete shifts)...	4.5	4.5
Roving watch, steam tunnel and buildings....		4.0
Hospital-Research Building (three shifts)....	4.5	4.5
Refrigeration and air conditioning mechanic..	1.0	2.0
Incinerator operator and trainee	<u>1.0</u>	<u>2.0</u>
Total	13.0	19.0

Due to the increased workload and the backlog of preventive maintenance, four boiler plant operators, one junior engineer, and a helper are requested to bring the manpower up to standards for the safety of the personnel and animal and maximum operating efficiency of the boiler plants and buildings (\$45,000).

5. Operational Services (11 positions \$87,000)

The motor pool is responsible for furnishing transportation and pickup and delivery service to all departments. It hauls ashes and debris to the Mount Vernon Boulevard Dump twice daily. Out of town trips (average one weekly) and trips to the three local airports (average four weekly) to pickup and deliver animals, require the services of an auto equipment operator. When these and other requests have first priority, the pickup and delivery services for the departments fall behind schedule. Two additional auto equipment operator positions are requested to aid in carrying out the work that is assigned to the motor pool (\$14,000).

At present there are one lead foreman, two auto mechanics, and one junior mechanic to maintain a fleet of 26 trucks, 3 station wagons, 4 jeep-type vehicles, 13 scooters, and 9 pieces of equipment. Some trucks are on the road seven days a week and others have been in service for ten years or more. One additional junior mechanic position is requested to augment the present staff assigned to maintaining all zoo vehicles (\$8,000).

An amount of \$11,000 is required to increase the vehicle replacement allotment. The cost of a truck or station wagon has increased 18 percent in the past two years. There are thirty vehicles in the Zoo fleet with an average age of 6 years. There are nine vehicles in the fleet that are ten years old or older. Replacement standards for trucks are 6 years or 50,000 miles for 1-ton or less; 7 years or 60,000 for 1 1/2 through 2 1/2 tons. Passenger cars may be replaced when they have been operated for 6 years or 60,000 miles whichever occurs first. The police vehicle must operate on a 24-hour, seven days a week basis and must remain mechanically safe for operators and passengers. This vehicle should be replaced every two to three years. This request will permit the replacement of 4 or 5 vehicles each year over the period of six years.

An amount of \$4,000 also is requested to replace three scooters used in police duties. Scooters have been invaluable in reducing the response time of patrolling officers to reach troubled or critical areas. Officers patrolling the parking areas in these vehicles appears to have a deterrent effect on the type of offenses generally committed (especially larcenies from autos).

The labor force is responsible for assisting mechanics, maintaining the fifteen major buildings, twelve public rest rooms, and sixteen employees' rest rooms in a clean, presentable, and sanitary condition, and removing trash left by visitors over the 156 acres of Park grounds. The walkways in the eight public buildings are scrubbed with detergents and disinfectant once a week and swept once a day. The assigned duties of the available four custodial workers are those of maintaining the public rest rooms in a clean and sanitary condition. Employees' rest rooms are cleaned only once a week. As the visitors increase, the demand for laborer and custodial services increases. Taking into consideration annual and sick leave and the 40-hour work-week requirement, the 17 available laborer positions and four custodial workers are not sufficient to maintain a seven-days-per-week schedule requirement. An increase of five laborer and three custodial positions and custodial supplies is requested to meet this schedule and to maintain efficiency in operations (\$50,000).

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

NATIONAL ZOOLOGICAL PARK
Department of Living Vertebrates

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>77</u>	<u>5</u>	<u>82</u>
11 Personnel Compensation.....	\$ 720,000	\$ 45,000	\$ 765,000
12 Personnel Benefits.....	57,000	3,000	60,000
21 Travel & Transp. of Persons	0	2,000	2,000
22 Transportation of Things	2,000	0	2,000
23 Rent, Comm. & Utilities			
24 Printing & Reproduction.....			
25 Other Services			
26 Supplies & Materials	155,000	20,000	175,000
31 Equipment	28,000	11,000	39,000
41 Grants			
TOTAL	<u>\$962,000</u>	<u>\$81,000</u>	<u>\$1,043,000</u>

Analysis of Total

Pay Increase	\$ 49,000	\$ 9,000	\$ 58,000
Program	\$ 913,000	\$ 72,000	\$ 985,000

Specification of Increase (Program):Improve Divisional Supervision and Assist in Research (5 positions, \$43,000)

With the expanded activities in research and conservation, it is apparent that a professional approach must be followed to apply the animal management techniques that are fast becoming available to the conservation-oriented zoological world. This will require the services of a trained biologist to supply the exotic animal management expertise, a secretary to assist the four zoologists, and three special keepers to accomplish the research and breeding efforts (\$43,000).

Acquisition of Animals and Increased Costs of Food and Sundry Supplies (\$29,000)

An increase in the animal acquisition fund (\$5,000) is needed to provide an adequate number of interesting and unusual specimens for a well-balanced and educational zoological collection. The present allotment for the acquisition of animals, which includes purchase prices and/or shipping charges, is \$25,000. An increase in the food allotment, sundry supplies, uniforms and equipment is requested to cover increased costs. Funds also are requested to provide for travel of five zoologists to attend annual meetings of their professional societies, visit other zoos, and collect native species of birds, mammals, and reptiles for exhibit.

National Zoological Park
Department of Living Vertebrates

The Department of Living Vertebrates is responsible for approximately 3,200 animals of over 1,100 species, representing one of the largest and most varied collections of exotic animals in existence. To support this collection, the Department conducts an animal care program involving feeding, cleaning of cages, and exhibition. Included in the animal care program are pest control efforts to eliminate insects and rodents and a commissary program for ordering, receiving, storing, preparing, and delivering animal food, as well as raising special food items. In addition to these major activities, the staff collaborates with the Animal Health Department, the Scientific Research Department, and the Pathology Office to improve the medical treatment of animals, collect medical data, evaluate medical programs, and develop, investigate, and support various research programs.

An increase of \$72,000 is requested to provide five positions to accomplish the research workload and to cover the rapidly rising costs of animals, animal food, sundry and uniform supplies, and equipment as well as to provide for travel of five professional staff members in this department to attend annual meetings of their professional societies. An additional increase of \$9,000 is sought for necessary pay increases.

Need for Increase--There are four zoologists who require secretarial assistance. The various headkeepers also are in need of clerical aid at various times. The services of other secretaries within the Park have been utilized when time permitted. This situation is often difficult and far from satisfactory for efficiency in over-all operations. One secretary position is requested (\$7,000).

One wildlife biologist position is requested to aid in divisional supervision of animal care. With the expanded activities in research and conservation, it is apparent that a professional approach must be followed to apply the animal management techniques that are fast becoming available to the conservation oriented zoological world. Trained biologists would supply the exotic animal management expertise not before available to this Zoo. In zoos, as in the cattle or poultry industry, there is a need for professionals trained in animal husbandry to apply scientific knowledge rather than tradition to such specialized areas as nutrition, propagation, and sanitation. The biologist would also serve important functions in keeper training, improved exhibition, and collection planning (\$12,000).

Three special keeper positions and funds for equipment are requested to assist the zoologists in research and breeding efforts. These consist of extensive incubation, hatching, and rearing programs and the collection of behavioral and natural history data on special animal groups. The efforts to breed rare and endangered species demand close supervision by a keeper specialist. The collection of data is accomplished through observations, instrumentation, weighing, measuring, and animal care. Due to the compelling duties for the routine care and protection of the animals by the animal keepers, there is no position available that can be assigned to this phase of the operations (\$24,000).

The animal acquisition program is aimed at providing an adequate number of interesting and unusual specimens for a well-balanced and educational zoological collection. The present allotment for the acquisition of animals, which includes purchase prices and/or shipping charges, is \$25,000. An increase of \$5,000 is requested. There has been no increase in these funds since 1965. Animal prices have risen rapidly in the past six years. In the

past, the Zoo has relied heavily on gifts and exchanges. It is rarely possible, however, to stipulate the species, ages, sex, and condition of gifts; and exchanges are dependent on what other zoos have in surplus. These two methods tend to yield an unbalanced collection. The Zoo's collection objectives can be fulfilled only by purchasing animals of selected species.

Additional funds are requested for the food allotment to meet steadily rising prices. Approximately \$138,000 are now available to purchase animal food. The Commissary makes every effort to obtain surplus food at reduced prices, but this is frequently of low quality. The replacement prices for sundry supplies and uniforms and equipment also have risen sharply. Funds are requested to cover the increased cost and usage of these items (\$23,000).

Funds also are needed to provide for travel of five zoologists to attend annual meetings of their professional societies, visit other zoos to become familiar with their operations and collections, and collect native species of birds, mammals, and reptiles for exhibit (\$1,000).

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

NATIONAL ZOOLOGICAL PARK
Scientific Research Department

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>6</u>	<u>1</u>	<u>7</u>
11 Personnel Compensation....	\$ 73,000	\$ 21,000	\$ 94,000
12 Personnel Benefits.....	6,000	2,000	8,000
21 Travel & Transp. of Persons	0	1,000	1,000
22 Transportation of Things			
23 Rent, Comm. & Utilities			
24 Printing & Reproduction			
25 Other Services			
26 Supplies & Materials	2,000	5,000	7,000
31 Equipment	3,000	5,000	8,000
41 Grants			
TOTAL.....	<u>\$ 84,000</u>	<u>\$ 34,000</u>	<u>\$ 118,000</u>

Analysis of Total

Pay Increase	\$ 5,000	\$ 3,000	\$ 8,000
Program	\$79,000	\$31,000	\$110,000

Specification of Increase (Program):

Improve Scientific Research Efforts and Care of Research Animals
(1 position, \$31,000)

The Hospital-Research Building was completed and occupied in January 1970. Request is for one reproduction physiologist position (\$17,000) to collect behavioral data, and treat the data in such a way that it will generate fruitful hypotheses for analyzing the physiological mechanisms underlying certain expressed behavior. Funds are requested to provide for three temporary employees (\$7,000) during the summer months to permit the regular employees to take leave. An increase in the supplies and equipment allotments is requested to cover increased costs (\$6,000). Funds also are requested to provide for travel of three scientists to attend annual meetings and seminars (\$1,000).

National Zoological Park
Scientific Research Department

The Scientific Research Department undertakes studies of animal behavior, reproduction, and nutrition. The Zoo collection is a major scientific resource. For this reason, facilities and assistance are often provided to scientists from federal agencies such as the National Institutes of Health as well as from universities. The Zoo's own scientific studies add to man's understanding of the living world. Investigations undertaken in the Zoo and in the field have yielded numerous scientific publications. The work of the Scientific Research Department results in improved care of animals in the collection, as reflected in their well-being and reproduction. This work is also of benefit to other zoos and animal collections. In addition, the Scientific Research Department is of assistance to other organizations, including foreign governments concerned with wildlife management and conservation. The Department provides training and research opportunities for graduate students.

An increase of \$31,000 is requested to provide one position to improve research efforts; provide for temporary employees; cover the increased costs of supplies and equipment; and to establish a travel allowance for three scientists. An additional \$3,000 are requested for necessary pay increases.

Need for Increase--The new Hospital-Research Building provides facilities for extensive research necessary for caring and rearing of animals in captivity. One reproduction physiologist position is requested to collect behavioral data, and treat the data in such a way that it will generate fruitful hypotheses for analyzing the physiological mechanisms underlying certain expressed behavior; to develop studies that are required to determine growth and the ontogenesis of behavior, especially with respect to sexual behavior; and to gain knowledge of hormonal treatments and their effects on animal behavior (\$17,000).

There are two animal keeper positions available to care for the animals under study seven-days-per-week. Funds are requested to provide for three temporary employees during the summer months to permit the regular employees to take leave. This is to assure that the best care is given to these animals (\$7,000).

Funds also are requested to provide for the increased cost and usage of research supplies and equipment and to establish a travel allowance for the three scientists to attend annual meetings and seminars (\$7,000).

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972
NATIONAL ZOOLOGICAL PARK
Animal Health Department

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions	<u>5</u>	<u>4</u>	<u>9</u>
11 Personnel Compensation	\$ 64,000	\$ 34,000	\$ 98,000
12 Personnel Benefits	5,000	2,000	7,000
21 Travel & Transp. of Persons	0	2,000	2,000
22 Transportation of Things			
23 Rent, Comm. & Utilities			
24 Printing & Reproduction			
25 Other Services			
26 Supplies & Materials	7,000	5,000	12,000
31 Equipment	5,000	12,000	17,000
41 Grants			
TOTAL	<u>\$ 81,000</u>	<u>\$ 55,000</u>	<u>\$ 136,000</u>

Analysis of Total

Pay Increase	\$ 4,000	\$ 1,000	\$ 5,000
Program	\$77,000	\$54,000	\$131,000

Specification of Increase (Program):

Improve the Medical Treatment (4 positions, \$54,000)

In order that basic biomedical research devoted toward improvement of the care of collection animals, development of physiological norms, and more in-depth study of therapeutic regimes be broadened, three positions are requested (associate veterinarian, medical technologist, secretary for \$34,000) to care for hospitalized animals, one keeper position and supplies and equipment are requested (\$16,000). Additional funds are needed to meet the increased cost of medical supplies (\$2,000) and funds to establish a travel allowance (\$2,000) for the three professional staff members to attend annual veterinarian conferences and educational seminars.

National Zoological Park
Animal Health Department

The Animal Health Department is responsible for the maintenance of the health of the animal collection of 3,200 living specimens of 1,100 species. This requires: clinical treatment of illnesses and injuries; prophylactic procedures; using clinical pathological data to assist in diagnosis of diseases and formulation of effective treatment regimens; and collaboration in biomedical research directed toward a broader knowledge of disease processes in exotic animals and their treatment. The staff of the Animal Health Department consults and collaborates with investigators from governmental agencies and academic institutions in the solution of problems of mutual interest.

An increase of \$54,000 is requested to provide four positions to improve medical treatment and care for the hospitalized animals; to cover the increased costs of supplies; and to establish a travel allowance for three professional staff members. An additional \$1,000 are requested for necessary pay increases.

Need for Increase--In order that basic biomedical research devoted toward improvement of the care of collection animals, development of physiological norms, and more in-depth study of therapeutic regimens be broadened, three positions are requested: associate veterinarian, medical technologist, and a secretary (\$34,000).

There is one veterinarian position available to maintain an around the clock-call schedule. An associate veterinarian will alleviate the necessity of one person being on duty 24-hours when there are emergencies. Other major problems encountered are a lack of time for study, literature search, or attendance at continuing education seminars. This is the area in which new advances in treatment regimens and medical techniques are disseminated and attendance is of inestimable value. The medical technologist will develop the physiological norms in all quarantined animals as well as studying the physiological changes in those animals that come into the Hospital as medical or surgical patients. There is also a necessity for extensive bacteriological culture examination of the necropsied animals. This will provide a broader knowledge of bacterial disease agents present in the National Zoological Park, and, through sensitivity testing, permit the more rapid establishment of prophylactic measures to protect the cagemates that have been exposed to the disease. Secretarial assistance is necessary to maintain the increased clerical workload on a current status as a direct result of changes being made in Hospital operations and medical record keeping.

The increase in animal holding space will permit the hospitalization of ill patients presently impossible in the existing quarters. By hospitalization and improved observation of these animals, it is reasonable to expect a higher percentage of cure. It will assure that proper medication at regular intervals will be administered and a much closer evaluation of the patients' progress will be made. Provision of adequate, centralized quarantine facilities will insure continuing observation of quarantined subjects and permit the use of laboratory studies not presently possible with the subjects scattered throughout the Zoo in substandard quarters and with sometimes very limited observation. This facility will also protect against the possibility of the introduction of diseases into the static animal collection. The institution of a nursery facility will centralize the handrearing of baby animals under stricter observation and supervision of nursery techniques. The present program of "farming out" baby animals to keepers, secretaries, and friends obviously must be stopped. With this centralized facility, particularly in the same physical location as the Scientific Research Department, a continuing study of behavioral traits of the

specimen during infancy, growth and growth-rate statistics will be provided. The one keeper position is not sufficient for a 7-day-per-week operation and care of hospitalized animals. An addition of one keeper position and supplies and equipment is requested (\$16,000).

An amount of \$2,000 is s required to meet the increased cost of medical supplies and \$2,000 to establish a travel allowance for the three professional staff members to attend annual veterinarian conferences and educational seminars.

HISTORY AND ART

The Smithsonian possesses an unequalled array of resources, both material and human, for the understanding and illumination of our country's history through its material culture, its technology, and its art. No other Institution has a greater and more exciting opportunity to demonstrate and celebrate what Americans--all Americans--have accomplished.

As the custodian of national collections comprising literally millions of historic objects and works of art, it is our responsibility to make sure that these collections are used as effectively as possible for the benefit of all. We must care for these collections, we must make them available to scholars both from our own staff and from the broader academic community, and we must use them intelligently and imaginatively to help tell the story of American civilization to our millions of visitors and, through publications and traveling exhibitions, to an even wider audience. It is also our responsibility to seek the continued growth of these national collections; as we are the beneficiaries of the foresight of past generations, so must we be the benefactors of future generations, passing on to them the fruits of our stewardship.

With one essential exception, the Joseph H. Hirshhorn Museum and Sculpture Garden, the budget requests in the area of history and art are modest, reflecting our determination to fulfill our obligations and to realize our opportunities as economically as possible. The increases requested for the History and Art activities amount to \$1,245,000, or 14 percent of the total Institutional requested increase.

Although many history and art bureaus of the Smithsonian have received no increases in operating funds during the past two or three years, and although inflation has caused many of them to suffer in effect a decrease in funds, we have sought insofar as possible, to meet our needs out of existing resources. To this end, we have undertaken to terminate some activities and to reduce others drastically--for example, the International Art Program, the Smithsonian Journal of History, and temporary exhibition programs in all our museums. We shall continue to scrutinize all our activities with a view to maintaining a strong sense of priorities. At the same time, with the enthusiastic cooperation of our museum and bureau directors, we have encouraged cooperative efforts among our history and art bureaus in the name of efficiency and economy; shared library and conservation facilities, for example, serve the National Collection of Fine Arts and the National Portrait Gallery better and more cheaply than would separate ones.

Despite these efforts, which will continue, certain real needs hamper the effective operation of many of our history and art bureaus and prevent us from deriving the full benefits from the investment that has been made in them. The requested increases that follow represent, in our judgment, the minimum amounts needed to partially correct the most pressing of these shortages.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

NATIONAL MUSEUM OF HISTORY AND TECHNOLOGY

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions . .	<u>158</u>	<u>-1</u>	<u>157</u>
11 Personnel Compensation	\$ 1,943,000	\$ 63,000	\$ 2,006,000
12 Personnel Benefits	154,000	5,000	159,000
21 Travel & Transp. of Persons	43,000	0	43,000
22 Transportation of Things			
23 Rent, Comm. & Utilities	4,000	10,000	14,000
24 Printing & Reproduction	3,000	5,000	8,000
25 Other Services	21,000	45,000	66,000
26 Supplies & Materials	10,000	22,000	32,000
31 Equipment	31,000	148,000	179,000
41 Grants			
TOTAL	<u>\$ 2,209,000</u>	<u>\$ 298,000</u>	<u>\$ 2,507,000</u>

Analysis of Total

Pay Increase	\$ 88,000	\$ 68,000	\$ 156,000
Program	\$2,121,000	\$230,000	\$2,351,000

Specification of Increase (Program):Support for Planned Museum Programs (\$230,000)

The National Museum of History and Technology, a systematic general museum devoted to the historical and technological achievements of the Nation, now has attendance approaching 6,000,000 visitors a year. It has developed an explicit set of purposes and principles to guide its planning and its current activities. Specifically, these are:

- to widen, deepen, and enlarge the exhibits and the visitors' museum experience;
- to become a more important, more attractive, more lively, and more seminal center for scholarly study, interpretation, and reinterpretation of American civilization and the history of technology;
- to widen its reach to all ages and conditions, both in Washington and throughout the nation and the world;
- to make the Museum a place for emphasizing the positive, discovering the extent and the limits of our national achievements and the achievements of man; and
- to emphasize, dramatize, and interpret the relevance of past to present.

These purposes can be achieved with no immediate increase in personnel if certain urgent non-personnel shortages can be corrected. An increase of \$230,000 is requested for a wide range of essential supplies, services, and equipment needs.

NATIONAL MUSEUM OF HISTORY AND TECHNOLOGY

1970 Actual.....\$2,149,000
 1971 Estimate.....\$2,209,000
 1972 Estimate.....\$2,507,000

The National Museum of History and Technology, a systematic general museum devoted to the historical and technological achievements of the Nation, is the most successful and important institution of its kind in the United States. Since its opening in January 1964, it has been visited by more than 30,000,000 people. Attendance is approaching an annual rate of 6,000,000--the greatest in the world. Under its distinguished new director, Daniel J. Boorstin, the NMHT has developed an explicit set of purposes and principles to guide its planning and its current activities:

- I. To widen, deepen, and enlarge the exhibits and the visitors' museum experience.
 - A. Toward a more total and more vivid, a more personal, a more participatory and a more communal recapturing of man's experience.
 1. By including parts of man's experience until now neglected or ignored: food, shelter, and clothing; heating and cooling; modes of educating, self-educating, and informing.
 2. By employing new techniques and the most effective forms of older techniques: by making our exhibits more selective, our interpretation more widely intelligible, and drawing more freely on all techniques of photography, sound, and sensory stimulation to reinforce and vivify the impressions of objects; by directing visitors movement in parts of the museum (e.g., by corridors).
 - B. Toward a more total and more vivid and more personal and more communal recapturing of the kinds of men and women who have made America, and their relation to all men.
 1. By explicit demonstration of the origins, original experiences, ways of arriving and experiences after arrival, of the diverse strains of the American people.
 2. By explicit demonstration of the impact of American civilization on the world, the backwash of American peoples to their places of origin.
- II. To become a more important, more attractive, more lively, and more seminal center for scholarly study, interpretation, and reinterpretation of American civilization and the history of technology.
 - A. Toward attracting visiting scholars, immersing them in the concerns of the museum and drawing on their knowledge, imagination, and ideas for museum activities.
 1. By attracting the ablest and most imaginative, established scholars, and the most promising younger scholars: as consultants, part-time or visiting curators, or advisers on particular exhibits and projects; as research scholars: offering them improved and attractive facilities in library, research collections, offices, and secretarial assistance.
 2. By numerous, current, and monumental contributions to the scholarship of American civilization: as in the Smithsonian Encyclopaedia of American Life, pamphlets, and books with the widest reach.
- III. To widen our reach to all ages and conditions both in Washington and throughout the nation and the world.

- A. Toward a more effective, more widespread, more inclusive, and more continuous reach to press, radio, television: a stream of stories of the events in the Museum; planning of more and more newsworthy and widely-interesting interpretations of our activities.
 - B. Toward reaching all age groups and interest groups: preparation of interesting and understandable exhibits and programs for younger children, for visitors from abroad, and for the undereducated at home; interpretations of American history and technology more intelligible to nonexpert adults (special dramatic and other programs and a special area for younger children).
 - C. Toward a more effective connecting with holiday and festive occasions: celebration of national anniversaries, the birthdays of history-making Americans, and anniversaries in the history of the American standard of living and epochs in science and technology.
 - D. Toward a more effective tying of all events occurring in our museum to the large and explicit purposes of the National Museum of History and Technology.
 - E. Toward a more effective orientation and guiding of all visitors: by brochures, publications, orientation center at entrances, motion pictures, live guide services, informing of guards, etc.
- IV. To make the National Museum of History and Technology a place for emphasizing the positive, discovering the extent (as well as the limits) of our national achievements, and the achievements of man.
- A. To emphasize the greatness of individual man: by interpreting, dramatizing and explaining the careers of history-making Americans: the discovery and rediscovery of American heroes.
 - B. To explore the epochs of great achievement, and the circumstances which helped make them possible: by exhibits on creative periods of American History and of the history of technology, and the social conditions which helped make these possible, e.g., in the exhibits, "What Makes a Creative Moment?"
 - C. To explore and remind Americans of their institutions--how they came into being and how they have changed: by a fuller exhibit of our political and social institutions, and institutions which have helped make the American standard of living (e.g., the businessman, newspapers, advertising, labor unions, public schools, universities, museums, etc.).
 - D. To help give meaning and content to national holidays (e.g., Thanksgiving, Fourth of July, Washington's Birthday, Memorial Day, etc.).
- V. To emphasize and dramatize and interpret the relevance of past to present.
- A. By current and changing programs of orientation.
 - B. By new programs of publication in print, on radio, television, etc.
 - C. By conferences and new exhibits and new kinds of museum experiences.

The director and staff of the Museum believe that these purposes can be achieved with no immediate increase in personnel, if certain urgent non-personnel shortages can be corrected. At present, the Museum has available only about five percent (some \$100,000) of its appropriation for support activities. An additional \$298,000 are requested for the following purposes:

Shortages by Category of Expense

11 & 12

Mandatory increases in pay.....\$68,000

23	
Rent high-speed photocopying unit to replace outmoded machine	\$10,000
24	
Purchase photographs for research. Print exhibit catalogs	5,000
25	
Contract for lectures by visiting scholars	5,000
Training for existing professional and nonprofessional staff to increase competence and efficiency	3,000
Purchase service contracts for maintenance of typewriters and dictating machines	2,000
Contract with expert consultants for long-range planning of major programs and exhibits	15,000
Contract with architectural restoration experts for reconstruction and restoration of period rooms now owned, but in storage	20,000
26	
Purchase office supplies	5,000
Purchase photographic supplies--film, flashbulbs, and chemicals	2,000
Purchase exhibits maintenance supplies	15,000
31	
Purchase office furniture and furnishings	10,000
Purchase urgently needed storage cases for visible storage of collections in maximum security areas	20,000
Purchase storage units for offices	4,000
Replace worn-out typewriters (10 at \$700 each)= \$7,000 Purchase 10 two-machine dictating units to increase efficiency in understaffed offices, totalling \$10,000	17,000
Replace worn out photographic equipment and purchase additional laboratory cameras and apparatus	5,000
Purchase specimens and objects for collections necessary to complete already constructed halls and period rooms which cannot be opened for lack of specimens	20,000
Purchase specimens for completion of certain collections now on display and for research	25,000
Purchase books and other reference materials for curators and technical manuals for specialists and technicians	15,000
Purchase exhibits maintenance tools	5,000
Purchase laboratory equipment	7,000
Remodel certain offices and laboratories to alleviate crowded and unacceptable working conditions	20,000
Total	\$298,000

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

NATIONAL COLLECTION OF FINE ARTS

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>70</u>	<u>2</u>	<u>72</u>
11 Personnel Compensation.....\$	643,000	\$ 51,000	\$ 694,000
12 Personnel Benefits.....	50,000	5,000	55,000
21 Travel & Transp. of Persons	31,000	0	31,000
22 Transportation of Things	30,000	0	30,000
23 Rent, Comm. & Utilities	14,000	0	14,000
24 Printing & Reproduction.....	1,000	0	1,000
25 Other Services	146,000	6,000	152,000
26 Supplies & Materials	25,000	7,000	32,000
31 Equipment	189,000	24,000	213,000
41 Grants	8,000	15,000	23,000
TOTAL.....\$	<u>1,137,000</u>	<u>\$ 108,000</u>	<u>\$ 1,245,000</u>

Analysis of Total

Pay Increase	\$ 30,000	\$ 46,000	\$ 68,000
Program	\$1,107,000	\$ 62,000	\$1,177,000

Specification of Increase (Program):Research, Exhibit, and Collections Management Support (2 positions, \$62,000)

In current and future years, the National Collection of Fine Arts expects to achieve most of its goals in research and public education in the field of American art by the judicious use of its professional staff talents and by redirecting the current level of operating funds. If this effort is to be successful, however, certain basic functions must be strengthened in order to provide a strong foundation for public service. For the budget year, these requirements fall into four areas. An amount of \$15,000 is required to fund additional research scholar grants in the study and interpretation of American art. A small increase in staff (a museum aid and a museum technician) and funds for services, supplies and equipment are needed to open and continue the new activities of the Renwick Gallery (\$25,000). In addition, the NCFA must build its funds (now about \$38,000) for the purchase of works of art in the face of rising costs and prospective donors increasing reluctance to donate. Fifteen thousand dollars additional are requested. And, lastly, \$7,000 are needed to reorganize the Museum's collections to protect them and make them more accessible to scholars and the public.

NATIONAL COLLECTION OF FINE ARTS

1970 Actual.....	\$1,015,000
1971 Estimate.....	\$1,137,000
1972 Estimate.....	\$1,245,000

The National Collection of Fine Arts is the custodian of an ever increasing national heritage of valuable acquisitions and deposits of American Art both of the past and the present. Some 13,000 paintings, sculptures, and decorative objects are included in its exhibits and reference collections. To meet responsibilities assigned by law (20 U.S.C. 76c), the museum provide a repository for Government art; carries on an active program of conservation and conservation research; lends art to the White House and cabinet offices; promotes the public appreciation of art through publications and by permanent and special exhibits in its gallery, and by sponsoring traveling exhibits within the United States and abroad through the Smithsonian Institution Traveling Exhibition Service which circulates exhibitions to small and large institutions throughout the country.

The museum's expanding education program is being developed in close association with school curricula to provide material and study programs both in Washington and throughout the country. In addition, with its varied collections, library, photographs, and archives, the NCFAs provides a research center for students and scholars devoted to the study of American art. The recent addition by the Smithsonian of the Archives of American Art, a rich repository of source information for research purposes, greatly enhances its overall capabilities in this area. The NCFAs is responsible for the developing activities of the Renwick Gallery to be devoted to American arts and crafts design and shares photographic and conservation laboratories and library facilities with the National Portrait Gallery.

The requested program increase of \$62,000 will be directed at strengthening educational, scholarly, and curatorial support activities and preparing for the opening of the Renwick Gallery. An additional \$46,000 are requested for necessary pay for existing staff.

Need for Increase--The objective of the National Collection of Fine Arts' education program is to discover the way in which schools and museums can best work together to make real to children and adolescents the creative freedom and expressive satisfaction which comes from the serious study of works of art. The gallery's activities in this regard will be exportable. A series of traveling exhibitions that can be done inexpensively will be presented, and classroom materials will be made available throughout the country. Attention is being paid to practical exhibiting procedures (such as the Children's Gallery and new "Discover!" gallery in NCFAs) and school materials to be used in conjunction with the changing needs of area and national art curricula. In 1970, it is estimated that NCFAs was able to accommodate about \$14,000 of this activity within its appropriation. In current and future years, the museum administration expects to achieve most of the new goals in education and research by the judicious use of NCFAs professional staff talents and by redirecting the current level of operating funds. If success is to be realized, however, the collections and curatorial support functions, i.e., the basic housekeeping operations of the gallery which are currently underfunded, need reinforcement.

An amount of \$62,000 in new funds is needed for the following purposes: to supplement research scholar grants \$15,000; for two positions in the Renwick Gallery \$10,000; \$15,000, toward increased Renwick operations costs

related to the opening of the museum to the public; a \$15,000 increase in NCFA funds for purchases of art; and \$7,000 for the reorganization of the museum's archives and collection, making them available for research activities.

To provide for the continuation of the program of research scholars on a significant scale, \$15,000 should be directed toward the research scholars program in American art, for both graduate and post-doctoral scholars to encourage sound scholarship in this much neglected field. This will provide opportunities for scholars throughout the country to work on the rich collection of materials in Washington and allow the National Collection of Fine Arts to serve as a center for the study and reinterpretation of American art. Closely allied to the exhibition and publication programs, this activity has a significant impact on both the scholarly community and the general public.

The opening of the Renwick Gallery is to take place in fall 1971, and the development of a permanent museum staff to accommodate the new activities of this Gallery is of high priority. Since both the semi-permanent exhibit galleries and the large public opening will then be inaugurated, a museum technician and a museum aid along with materials and equipment needed in advance of the opening are requested (\$25,000). About \$65,000 are available for Renwick development in the NCFA appropriation for fiscal year 1971.

Within NCFA itself, the acquisition of works of art to supply some of the embarrassing gaps in the museum's collection has become increasingly difficult owing to rising prices and a growing reluctance on the part of donors to present significant works of art. If the collection is to be other than simply a fortuitous conglomerate, the museum's acquisition program must be made more active and selective. A \$15,000 addition to the present level of acquisition funds would be a modest start in this direction. Only about \$38,000 are available for art acquisitions in fiscal year 1971.

Seven thousand dollars is needed to facilitate the systematic management of the National Collection of Fine Art's extensive holdings, inherited from many sources over the past years. The rehabilitation of many important works, and the proper organization of the Collection's archives must move forward quickly if the Collection is to be properly safeguarded and available to scholars and the public.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

NATIONAL PORTRAIT GALLERY

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions . .	<u>37</u>	<u>1</u>	<u>38</u>
11 Personnel Compensation	\$ 403,000	\$ 54,000	\$ 457,000
12 Personnel Benefits	32,000	3,000	35,000
21 Travel & Transp. of Persons	15,000	1,000	16,000
22 Transportation of Things			
23 Rent, Comm. & Utilities			
24 Printing & Reproduction	4,000	3,000	7,000
25 Other Services	177,000	7,000	184,000
26 Supplies & Materials	25,000	1,000	26,000
31 Equipment	175,000	2,000	177,000
41 Grants			
TOTAL	<u>\$ 831,000</u>	<u>\$ 71,000</u>	<u>\$ 902,000</u>

Analysis of Total

Pay Increase	\$ 20,000	\$21,000	\$ 41,000
Program	\$811,000	\$50,000	\$861,000

Specification of Increase (Program):Public Education (1 position, \$50,000)

The National Portrait Gallery is a unique national museum of American history responsible for collecting, exhibiting, and studying portraiture of men and women who have contributed significantly to the formation and development of the United States. It has a responsibility to use its collections of paintings, sculptures, and other resources for public education. To do this, two areas of the Gallery's basic operations need strengthening in fiscal year 1972. The History Department has had a long existing need for a chief historian to take charge of biographical and other research on the collections to assure impeccable historical accuracy in exhibits labels and related materials for the public. This will cost \$25,000 including associated reference materials. Second, the Education Department needs \$12,000 to fund part-time temporary personnel to conduct teaching tours of the exhibits and to prepare teaching materials. Some 300 children each month receive tours, but the program is growing. An additional amount of \$13,000 is requested to prepare three special teaching exhibits of special interest to school groups and to prepare related printed materials for classroom use.

NATIONAL PORTRAIT GALLERY

1970 Actual	\$768,000
1971 Estimate	\$831,000
1972 Estimate	\$902,000

The National Portrait Gallery is a unique national museum of American history responsible for collecting, exhibiting, and studying portraiture in painting and sculpture of the men and women who have contributed significantly to the formation and development of the United States. Open to the public for only two years (since October 1968), the Gallery is still developing its staff and programs, particularly in the History and Education Departments, to meet public demands for its services.

The Gallery's current activities can be grouped into four major categories: (1) the care and expansion of the collection; (2) public education through programs with schools and through exhibition of the permanent collection and special loan exhibitions illustrating particular subject areas of American history and portraiture; (3) the research, publication, and national distribution of catalogues of these exhibitions, as well as other studies, both scholarly and popular in nature, related to the subject of American historical portraiture; and (4) the compilation of a definitive Catalogue of American Portraits to be a comprehensive data bank and national information service on American history and biography comprised of entries on all portraits of historically significant Americans.

An increase of \$50,000 in program funds is needed to support the activities of the History and Education Departments. An additional \$21,000 are requested for necessary pay for current staff.

Need for Increase1. History Department (1 position, \$25,000)

The History Department requires a chief historian to be hired early in fiscal year 1972, culminating a two-year search for a prominent historian qualified in American history and art history (\$19,000). Basic operating support funds are needed for the chief historian's office to provide for travel, material services for office operations and personnel services by specialists in various aspects of American history and the public use of history collections, and for supplies, equipment, reference books, and materials for this new department (\$6,000). Total funding requested for this activity is \$25,000.

It is essential that a history museum have as its core a well researched collection. Initial activities of the chief historian will, therefore, involve upgrading and expanding the biographical research files on the portraits so that the historic contents of materials and exhibits for the public based on these individuals and their relations to historic events are of impeccable accuracy. At this point, only 1/10 of the Gallery's holdings of 500 portraits is thoroughly researched, and the one staff member assigned to biographical research pending arrival of the chief historian cannot keep current with new acquisitions, let alone cope with the bulk of the permanent collection.

Other major activities will be to study the permanent collection in terms of historical interpretation in its display arrangement, its labeling, and the content of printed materials distributed in the galleries, and to evaluate continually the historic content of future exhibitions being planned and researched by other members of the staff.

The History Department's efforts in both of these areas will immediately benefit the activities of the other major program to be strengthened in fiscal year 1972, the Education Department. This department is in more immediate contact with the public than any other, and it is upon its activities that the Gallery's educational services to schools, organized public groups, and individual visitors of all ages depend.

2. Education Department (\$25, 000)

Most of the \$25, 000 required to support a broad educational program beginning in fiscal year 1972 will provide part-time, temporary personnel to conduct teaching tours of the exhibits, to contact schools and other interested organizations, and to help research and write teaching materials based on the visual and historical content of special teaching exhibitions.

An average of 300 area school children each month are now receiving tours often tailored to their classroom needs. Many inner city teachers are discovering for the first time how the educational programs of this Gallery can make the study of American history more meaningful to their students. This use is expected to increase considerably next year, and the Gallery must provide a teaching staff to meet those demands.

The number of school and other public groups the Gallery can serve through tours is directly proportional to the numbers of trained volunteers and part-time paid teaching staff available to supplement the small permanent administrative and research staff of the education department (curator, secretary, and temporary researcher). These non-permanent staff visit schools to meet classes and discuss prospective visits with teachers, provide teaching materials based on the exhibits, conduct tours in the Museum tailored to the teacher's needs, and provide any desirable follow-up contact with the teacher and the class.

The core of this part-time teaching staff--comprised of persons with teaching experience, and graduate and undergraduate students--must be paid to assure that they will reliably meet the rigorous study requirements and demanding schedules of the educational program on a regular basis. Based on a projection of this year's experience using only available volunteers, the Gallery needs funds for the equivalent of two man-years of work (\$12, 000). This will guarantee 80 hours of trained teaching staff each week. These paid staff will work with and be supplemented by approximately two dozen volunteers who give a few hours each week to the Gallery as their time allows.

In addition to educational activities based on portraits in the permanent collection and on major loan shows arranged twice yearly, one-room teaching exhibitions are produced by the Museum to focus in depth on one individual or topic of particular interest to school groups. These exhibits contain portraits, audio-visual materials, personal objects, and other historical information especially designed and labeled in a compact gallery area to provide an environment offering teachers or Gallery staff several possible directions for leading discussions and stimulating student learning. To provide two of these exhibits during the school year, at least one of which will study persons involved in the history of the District of Columbia, and another during this summer, funding of \$6, 000 is requested.

Based on research and visual information gathered for the exhibits, the Gallery plans to produce classroom materials containing much more visual information than is normally found in available literature on the subjects. The writing and content will be aimed at the various student reading and comprehension levels. Teachers can use these materials to prepare students for the visit, to reinforce the visit afterward, and as a permanent resource after the exhibit is disassembled. For coordinating the curriculum research and writing of these

brochures and pamphlets for the teaching exhibits, the Gallery needs \$4,000 for temporary personnel to help the regular staff. For printing and reproducing these teaching materials to supplement the exhibit in the Gallery and to extend its use in the classroom \$3,000 are required.

Fiscal Year 1971 Activities of the National Portrait Gallery

Within the major program categories identified at the beginning of this justification, there are a number of recent developments and accomplishments. The NPG is expanding and upgrading its small permanent collection through acquisitions from commercial galleries and private individuals, as well as by gifts. In the past two years 106 portraits were added at a total cost \$391,640. The curatorial staff is preparing catalogs and planning exhibitions to be held this spring (portraits by American Revolutionary War period painter Henry Benbridge) and fall (portraits illustrating the history of the performing arts in America to coincide with the opening of the Kennedy Center). The Gallery's Fall 1970 show presented the life portraits of John Quincy Adams together with personal objects related to his life. Portraits for these shows are located and borrowed by the Gallery from museums and individuals in this country and abroad, a process often requiring two or more years advance research and planning by the Gallery staff.

Where no formal education program existed one year ago, the Gallery is training two dozen volunteer docents to conduct educational tours. Contacts are being made with metropolitan area schools and with organizations serving schools and teachers locally and nationally. To the extent limited resources can be temporarily borrowed from other programs, the Gallery has funded the research and production of experimental aids and one-room exhibits designed for use by tour leaders and teachers.

The Catalogue of American Portraits has standardized its computer entry forms and processes in cooperation with the Smithsonian's Information Systems Division and is entering information regularly obtained from correspondence and staff visits to nearby collections such as Mt. Vernon. The CAP handles continuing requests for portrait information from both scholars and the general public. Forty thousand portrait prints in the collection are being sorted and inventoried. Finally, 18,000 partial portrait entries gathered by researchers contracted between 1964 and 1967 are being definitively researched and processed into the data bank. In addition, the CAP is forming a roster of possible field researchers in various locales and gathering information on the logistics of collecting widely scattered portrait data.

Research is being performed on subjects related to American portraiture by two members of the staff. Two contract scholars are researching an exhibition catalog and exhibit on portraits of the American Negro to be held in spring 1972, and a separate publication on the same subject to be distributed nationally. The assembled papers and archival materials will remain with the research resources of the NPG.

The exhibits staff has continued to upgrade the appearance of the galleries and to provide for the display of the growing collection. A suite of first floor galleries was prepared for the John Quincy Adams exhibition designed as a versatile exhibit area which will be the location of all major temporary loan exhibitions in the future. Other projects are the formation of a new acquisition gallery area, the improvement of graphics to direct and inform visitors, the installation of a first-floor lounge area, and a redesign of the vestibule and foyer to be a more welcoming and informative entrance to the Gallery, including an orientation exhibit and film about the history of portraiture and how to look at portraits in the Gallery. The production shop and silk screen facilities have been improved to provide in-house capabilities for constructing cases, pedestals, posters, labels to reduce some of the costs of exhibition production and a reliance on contracted exhibit production services.

Summary and Future Goals

The additional \$50,000 requested here will enable the Gallery to take the next logical step in fulfilling the goals set forth by Congress when establishing the Gallery in 1962.

Prior to fiscal year 1971, the primary goal was establishment and management of the collection. With stress on developing an exhibits staff during the past year and plans for the History and Education Departments next year, the Gallery is focusing now on relating and exhibiting the collections to the public. It is in the public education category that the new program funds will enable expansion.

Continued basic staffing and program support in the coming years is necessary for the National Portrait Gallery to reach maturity as a fully operative national history museum and reference center. By the mid-1970's, when interest in American history will be heightened by activities commemorating the Bicentennial, it should be prepared to serve the public broadly through relevant exhibitions, scholarly and popular materials and programs, and through dissemination of information on historical portraiture from the computerized Catalogue of American Portraits.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

OFFICE OF THE GENERAL COUNSEL

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions . .	<u>8</u>	<u>1</u>	<u>9</u>
11 Personnel Compensation	\$ 121,000	\$ 21,000	\$ 142,000
12 Personnel Benefits	10,000	1,000	11,000
21 Travel & Transp. of Persons	1,000		1,000
22 Transportation of Things			
23 Rent, Comm. & Utilities			
24 Printing & Reproduction			
25 Other Services	1,000		1,000
26 Supplies & Materials	1,000	1,000	2,000
31 Equipment	1,000		1,000
41 Grants			
TOTAL	<u>\$ 135,000</u>	<u>\$ 23,000</u>	<u>\$ 158,000</u>

Analysis of Total

Pay Increase	\$ 8,000	\$ 5,000	\$ 13,000
Program	\$ 127,000	\$ 18,000	\$ 145,000

Specification of Increase (Program):Legal Counsel Requirements of the Institution (1 position, \$18,000)

The Institution has grown considerably since 1964. There have been added to its already numerous responsibilities the Renwick Gallery, the Hirshhorn Museum and Sculpture Garden, the Cooper-Hewitt Museum, the Archives of American Art, the Chesapeake Bay Center for Environmental Studies, and the Woodrow Wilson International Center for Scholars. It has taken on such program as the National Museum Act and the Foreign Currency Program. Each of these required OGC staff participation in its establishment and each places demands on the staff for its continued development and operation within the framework of applicable laws. There is a growing backlog of matters requiring legal attention. An additional \$18,000 is requested: \$17,000 for an additional part-time attorney and a secretary and \$1,000 for other expenses of the office.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

JOSEPH H. HIRSHHORN MUSEUM AND SCULPTURE GARDEN

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions . . .	<u>18</u>	<u>3</u>	<u>21</u>
11 Personnel Compensation	\$ 174,000	\$ 72,000	\$ 246,000
12 Personnel Benefits	11,000	6,000	17,000
21 Travel & Transp. of Persons	6,000	3,000	9,000
22 Transportation of Things	3,000	0	3,000
23 Rent, Comm. & Utilities	40,000	5,000	45,000
24 Printing & Reproduction	2,000	2,000	4,000
25 Other Services	162,000	97,000	259,000
26 Supplies & Materials	9,000	16,000	25,000
31 Equipment	9,000	400,000	409,000
41 Grants			
TOTAL	<u>\$ 416,000</u>	<u>\$ 601,000</u>	<u>\$ 1,017,000</u>

Analysis of Total

Pay Increase	\$ 8,000	\$ 14,000	\$ 22,000
Program	\$408,000	\$587,000	\$ 995,000

Specification of Increase (Program):Meeting Target Date for Building Opening (3 positions, \$587,000)

The operating staff of the Joseph H. Hirshhorn Museum and Sculpture Garden will continue to be expanded. Three additional members are being sought in the budget year, a registrar, administrative assistant, and clerk typist (\$23,000) plus additional funds in other objects (\$33,000) and funds to annualize part-time positions authorized in 1971 (\$41,000). These funds will be added to the current budget and form the nucleus of the continuing budget for the Museum.

Additional funds (\$50,000) are requested to continue with the program of conservation and framing of the collection for its initial opening in the new gallery.

Funds for the design and production of storage screens (\$400,000) are being requested. Since this is a sizeable job it will be considerably cheaper to let the bid for the entire job at one time instead of doing the work in increments. These screens need to be placed on the top floor of the museum as soon as possible in order for the physical move of the collection to Washington to take place.

Funds are needed for the equipment necessary to set up three work rooms. (\$40,000). The carpentry, frame and paint shops have been chosen to be equipped first because they seem the most essential to the immediate operations of the building as construction work is completed. These shops will be useful as the collection is moved and uncrated and hung in storage. Immediate attention to small repairs will save wear and tear of having to repack and reship the works that might be in need of modest work.

JOSEPH H. HIRSHHORN MUSEUM AND SCULPTURE GARDEN

1970 Appropriation.....	\$ 308,000
1971 Estimate.....	\$ 416,000
1972 Estimate.....	\$1,017,000

The Hirshhorn Museum, now under construction on the Mall, will house the magnificent gift to the nation of more than 7,000 paintings and sculptures. The Act of November 7, 1966, authorized construction of the Museum and designated the Mall site. Building construction began in March, 1970, and the estimated completion is October, 1972. All phases of work are presently geared to prepare for the opening of the Museum and to place it in operation.

An increase of \$587,000 for fiscal year 1972 will be used for acquiring equipment and furnishings to facilitate an early transfer of the collection to Washington as portions of the building become ready for outfitting and occupancy and for expanding the basic and continuing operations. The former item for equipment and furnishings consists of one-time, non-recurring costs, which are phased over two years. The attached table provides a detailed flow of projected operations for fiscal years 1972, 1973 and 1974, as related to the expected growth prior to and immediately following an anticipated public opening six to nine months following the completion of the building. An additional \$14,000 is sought for necessary pay purposes.

Need for Increase--In order to bring this major new Museum into existence, a dramatic acceleration in operating program activity must take place during the two and one-half year building construction period. This will require a very substantial increase in program funds over this period in order to meet the projected public opening date. Major additional funding requirements are in two categories: ongoing preparation of the collection, and the acquisition of furnishings and special equipment for the building.

Approximately twelve hundred choice paintings and pieces of sculpture are being selected from the more than 7,000 items in the collection for exhibit when the Museum opens. These paintings and pieces of sculpture must be examined, photographed, mounted, cleaned, and in some cases restored prior to exhibition. The total cost of this effort in fiscal year 1972, is estimated at \$200,000 for such contractual services.

Of these 1,200 items, 600 are paintings and 600 are sculptures. Based on a survey of the restoration and framing requirements of these items the following funding needs have been projected which total \$565,000. Some objects are included in two categories.

- 100 large paintings (5 to 15 feet) will need restoration at an average cost of \$1,000 (\$100,000) and 50 will require work at \$300 each (\$15,000).
- 350 small paintings will require restoration at prices ranging from \$250 to \$500 (\$150,000).
- 500 paintings must be framed at prices averaging \$200 for a total cost of \$100,000.
- 400 sculpture pieces, including about 150 which are classed as monumental, will require restoration at prices averaging \$500. Estimated total cost of the job is \$200,000.

Approximately 350 paintings have been restored, conserved, and framed during fiscal years 1969 and 1970, and are now completed for initial exhibition display. These include items that required both conservation and framing.

In fiscal year 1971 it is estimated that an additional 300 items will be completed, so that by the end of the fiscal year about 50 percent of the work for the opening will be completed.

The additional funds requested for conservation and framing in fiscal year 1972 (\$50,000) will allow for completion of nearly 90 percent of the total number of items planned for use in the opening exhibition. Fiscal year 1973 will be devoted to completing the remainder of the initial showing.

An increase in technical and support staff is required to prepare for the Museum's opening and subsequent exhibition and research programs. This staff must: negotiate with conservators and other contractors, and follow up on work in progress; conduct research and documentation for the opening exhibition as well as continue with the cataloging of the entire collection; and continue the Museum's present public services such as loans, photographic requests, and research queries. Three additional staff members are requested: registrar, administrative assistant, and clerk-typist (\$23,000), plus funds to annualize new positions authorized only part year in fiscal year 1971 (\$41,000).

An additional \$33,000 are requested for other contractual service costs related to the collections, the rental of working space and services (moving items in and out of storage for inspection, conservation, framing, etc), photography to document the collections for exhibits planning and research purposes. Professional visits to art museums and galleries for research will be necessary as well as other field trips.

Non-recurring Costs

Construction costs of \$16,000,000 (\$15,000,000 appropriated by Congress and a \$1,000,000 gift by Mr. Hirshhorn) will provide the Institution with the basic Museum building, including necessary utility equipment and connections. This amount does not permit the Museum to be completed to the point necessary for public opening or for conducting basic educational functions. It does not prepare the galleries or public areas, or furnish the administrative office space. To insure an opening to the public as soon as possible after completion of construction, it is essential that procurement and installation of furniture, furnishings, moveable equipment, and other items be provided as soon as possible. Approximately \$1,466,000 of furnishings and equipment not included in the original construction contracts (for furnishings and equipment) and necessary to prepare and make effective use of the laboratory, gallery and administrative space, have been identified as needed over the next two years. Funding for these items is being requested over two years, \$440,000 in fiscal year 1972, and \$1,026,000 in fiscal year 1973. Operating costs and non-recurring costs are identified in the following table.

<u>Operating Costs</u>	<u>FY 1971</u>	<u>FY 1972</u>	<u>FY 1973</u>	<u>FY 1974</u>
Positions	18	21	45	60
Staff Costs (Including benefits)	\$185,000	\$263,000	\$494,000	\$688,000
Conservation and restoration	150,000	200,000	100,000	40,000
Supplies & Materials & Equipment	18,000	40,000	32,000	15,000
Other (Exhibits, planning, travel, rent, etc.)	<u>63,000</u>	<u>74,000</u>	<u>193,000</u>	<u>135,000</u>
Subtotal, regular operations	\$416,000	\$577,000	\$819,000	\$878,000
 <u>Non-recurring costs</u>				
Carpentry, frame, paint shops		40,000		
Storage screens		400,000		
Coatroom furnishings & area lights			8,000	
Gallery furnishings			210,000	
Lamps and partitions			32,000	
Fourth floor furnishings			205,000	
Photography lab			27,000	
Library shelving			50,000	
Registrars office and staff lunchroom			19,000	
Stone pedestals			95,000	
Security systems			50,000	
Exterior lighting			50,000	
Examination lab			38,000	
Conservation lab			65,000	
Auditorium furnishings			67,000	
Tour guides			60,000	
Sales room			50,000	
Subtotal, non-recurring costs		<u>\$440,000</u>	<u>\$1,026,000</u>	
TOTAL	\$416,000	\$1,017,000	\$1,845,000	\$878,000

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

FREER GALLERY OF ART

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>7</u>	<u>1</u>	<u>8</u>
11 Personnel Compensation.....	\$ 49,000	\$ 8,000	\$ 57,000
12 Personnel Benefits.....	4,000	1,000	5,000
21 Travel & Transp. of Persons			
22 Transportation of Things			
23 Rent, Comm. & Utilities			
24 Printing & Reproduction.....			
25 Other Services			
26 Supplies & Materials	3,000	15,000	18,000
31 Equipment			
41 Grants			
TOTAL.....	<u>\$ 56,000</u>	<u>\$ 24,000</u>	<u>\$ 80,000</u>

Analysis of Total

Pay Increase	\$ 2,000	\$ 3,000	\$ 5,000
Program	\$54,000	\$21,000	\$75,000

Specification of Increase (Program):Support of Research and Care of the Collections (1 position, \$21,000)

Freer endowment funds provide for the purchase of objects and for the development and study of the collections. Federal funds, in accordance with the Deed of Gift, are to be used for general support purposes. Funds are requested for a clerical position to assist research in Near Eastern Art (\$6,000) and for the purchase of storage equipment and related supplies (\$15,000).

FREER GALLERY OF ART

1970 Actual.....	\$45,000	<u>1/</u>
1971 Estimate.....	\$56,000	<u>1/</u>
1972 Estimate.....	\$80,000	<u>1/</u>

The Freer Gallery of Art houses one of the world's most distinguished collections of Oriental Art of over 10,000 objects. Including works of art from China, Japan, Korea, India, and the Near East, the collection covers paintings, sculptures, and other objects in stone, wood, lacquer, jade, pottery, porcelain, bronze, gold, and silver. Items not currently on exhibition and the library of 40,000 volumes are available and used extensively by the Gallery's staff and numerous visiting scholars and students from throughout the world. The two-fold program envisaged by the founder involves the continuing search for works of the highest quality that may be added to the collections and the continuing study of these works of art as keys to understanding the civilizations that produced them.

An appropriation increase of \$21,000 is requested to provide basic support to research, collections maintenance, and exhibition programs of the Gallery. Funds in the amount of \$3,000 are also requested for necessary pay for staff.

Need for Increase--Endowment funds provide for purchase of objects and for the development and study of the Freer collections. In accordance with the acceptance of the Deed of Gift, federal funds are to be provided and used for the upkeep, repair, guarding, heat, light, cleaning of building; repair and cleaning of collection; and recording, labeling, and moving of specimens and related services. Current federal employees are support staff. There has been a great increase in use made of Freer resources by the general public, scholars, and students; and inflation in the costs of supplies and equipment makes the current level of federal support chronically inadequate. It is our responsibility to correct this condition.

For fiscal year 1972, funds are requested to provide a clerical position for the newly-filled curator of Near Eastern Art to assist with a large backlog of accumulated work (\$6,000). An additional \$15,000 are requested for cabinets for the storage of Chinese and Japanese handscrolls and albums, and for miscellaneous office and other supplies.

1/ Excludes approximately \$300,000 in maintenance, operations, and protection support from the Buildings Management Department.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

ARCHIVES OF AMERICAN ART

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>0</u>	<u>11</u>	<u>11</u>
11 Personnel Compensation.....	\$ 0	\$ 145,000	\$ 145,000
12 Personnel Benefits.....	0	11,000	11,000
21 Travel & Transp. of Persons			
22 Transportation of Things			
23 Rent, Comm. & Utilities . . .	0	4,000	4,000
24 Printing & Reproduction.....			
25 Other Services	0	10,000	10,000
26 Supplies & Materials	0	3,000	3,000
31 Equipment	0	2,000	2,000
41 Grants			
TOTAL.....	<u>\$ 0</u>	<u>\$ 175,000</u>	<u>\$ 175,000</u>

Analysis of Total

Pay Increase	0	\$ 0	\$ 0
Program	0	\$175,000	\$175,000

Specification of Increase (Program):Maintenance of Archives Holding (11 positions, \$175,000)

The Archives of American Art came to the Smithsonian Institution in May 1970. The several million documents in its collection constitute an invaluable aid to research and scholarship in the history of American visual arts from prior to the American Revolution to the present time. With the other resources of the National Collection of Fine Arts and the National Portrait Gallery, the Archives makes the Fine Arts and Portrait Galleries Building a major center for the study of American art. During the past year, several hundred researchers have used the Archives and a number of recent publications depended heavily on Archives documents. The \$175,000 requested for fiscal year 1972 will provide for personnel, space rental, contractual services (including microfilming), office supplies and equipment.

ARCHIVES OF AMERICAN ART

1970 Actual	\$ 55,000 ^{1/}
1971 Estimate	\$175,000 ^{1/}
1972 Estimate	\$175,000

The Archives of American Art, founded in Detroit in 1954 and a bureau of the Smithsonian Institution since May 1970, is committed to aiding research and scholarship in the history of the visual arts in this country from prior to the revolutionary war period to the present time. It acts to achieve this goal by acquiring, organizing, and preserving the primary documentation needed by historians--the correspondence, diaries, business papers, and photographs of painters, sculptors, critics, dealers, and collectors, and the formal records of galleries, museums, and art societies. These collections of paper are cataloged, microfilmed, and made available to scholars. A photograph of an item in the Archives holdings is shown on a following page.

The processing and chief reference center of the Archives is now located in space provided by the National Collection of Fine Arts and the National Portrait Gallery library. Added to the library, and to the archival material already possessed by these two museums, the Archives will make the old Patent Office building a major center for the study of American Art.

The organization expects to raise private funds amounting to about \$200,000 in fiscal year 1971. This income is used primarily to support Archives' activities outside Washington. It is hoped that this level will be maintained. The National Portrait Gallery and the National Collection of Fine Arts have helped to offset initial costs by providing facilities and earmarking some of their funds to supplement the Archives own resources. Because the Archives came to the Smithsonian after the fiscal year 1971 budget had been submitted, it was not possible to include in that budget a request for separate funds to enable the Institution to make full use of this great collection of materials. This year, \$175,000 are being requested to be appropriated for the AAA, an amount which reflects no increase over the estimated fiscal year 1971 level of funding shared by the National Collection of Fine Arts and the National Portrait Gallery.

During the past year the Archives has acquired over 100,000 individual items. Among the more important collections received were the papers of William Baziotis, Cecila Beaux, Karl Bitter, Herbert Ferber, Palmer Hayden, Ibram Lassaw, Guy Pene du Bois, and Ben Shahn. Of particular interest is a large collection of records accumulated by Charles Henry Hart, an authority on 18th and early 19th century portraiture.

The Archives' oral history program continued its activities with a series of tape recorded interviews with administrators and other figures in the New York art world. Among those people interviewed were Harvard Arnason, Ralph Colin, Lawrence Fleischman, Henry Geldzahler, Huntington Hartford, and Gordon Washburn.

Since the objective of the Archives is to serve scholarship by providing documentation to researchers, its achievement is measured by the effective use of Archives resources in the writing of exhibition catalogues, catalog raisonnés, articles, biographies, monographs. The Archives further approaches its goal by offering grants in aid, by publishing a quarterly Journal, and by disseminating information on its holdings to universities and museums.

^{1/} These amounts reflect shared costs by NCFCA and NPG, and are included in the amounts shown for those galleries.

Research on the painter Stuart Davis, the Sculptor David Smith, the Black Mountain College Art Department, and the federal art programs of the 1930's are a few of the more important projects now under way. Among other recent publications which depended heavily on Archives documents are Barbara Novak, American Painting of the Nineteenth Century, N. Y., 1969; Marcia M. Mathews, Henry Ossawa Tanner, Chicago, 1969; William L. Homer, Robert Henri and his Circle, Ithaca, N. Y., 1969; and Sheldon Reich, John Marin; A Stylistic Analysis and Catalogue Raisonne, Tucson, 1970.

With the establishment of its office in Washington, D. C., the volume of use of Archives holdings has risen sharply owing to the need for documentation by the staffs of the National Collection of Fine Arts, the National Portrait Gallery, the National Gallery of Art, and student and faculty researchers at the University of Maryland and George Washington University. Since the Archives is still a recent arrival here, it anticipates a further increase in the use of its resources in the coming year.

Funding requested in the fiscal year 1972 budget will provide for administrative and curatorial personnel (\$156,000) and for space rental, contractual services (including microfilming), office supplies, and equipment (\$19,000).

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

NATIONAL ARMED FORCES MUSEUM ADVISORY BOARD

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions . . .	<u>8</u>	<u>-2</u>	<u>6</u>
11 Personnel Compensation	\$111,000	\$ -8,000	\$103,000
12 Personnel Benefits	9,000	-1,000	8,000
21 Travel & Transp. of Persons	2,000	-1,000	1,000
22 Transportation of Things			
23 Rent, Comm. & Utilities			
24 Printing & Reproduction			
25 Other Services	29,000	-22,000	7,000
26 Supplies & Materials	1,000		1,000
31 Equipment			
41 Grants			
TOTAL	<u>\$152,000</u>	<u>\$-32,000</u>	<u>\$120,000</u>

Analysis of Total

Pay Increase	\$ 8,000	\$ 5,000	\$ 13,000
Program	\$144,000	\$-37,000	\$107,000

Specification of Increase (Program):

NATIONAL ARMED FORCES MUSEUM ADVISORY BOARD

1970 Actual	\$182,000
1971 Estimate	\$152,000
1972 Estimate	\$120,000

The National Armed Forces Museum Advisory Board advises and assists the Board of Regents of the Smithsonian Institution on matters related to the establishment of a national historical museum park to be known as Bicentennial Park and a study center to be known as the Dwight D. Eisenhower Institute for Historical Research. Preliminary approval has been obtained for two sites on the Potomac River, both already under federal ownership and within a short distance of downtown Washington: Fort Foote Park, in Prince George's County, Maryland, and Jones Point Park, on the southern edge of Alexandria, Virginia.

UNITED STATES NATIONAL MUSEUM

This group of activities includes a major segment of the conservation and preservation efforts of the Institution, the collections documentation function, the exhibits effort, and the leadership role of the Smithsonian in diffusing knowledge and training in these areas to the national museum community.

For fiscal year 1972, only necessary pay increases are being requested for the Office of Museum Programs, the Office of Exhibits, and small program amounts for important needs in the Conservation Analytical Laboratory and the Registrar's Office. A separate request for a major exhibition project is being requested in the special program's section, but these funds are nonrecurring in nature and are necessary to develop and improve the permanent educational displays. The increase requested for United States National Museum activities is \$183,000, or two percent of the total Institutional requested increase.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

OFFICE OF MUSEUM PROGRAMS

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>9</u>	<u>0</u>	<u>9</u>
11 Personnel Compensation.....	\$ 143,000	\$ 4,000	\$ 147,000
12 Personnel Benefits.....	11,000	0	11,000
21 Travel & Transp. of Persons	8,000	0	8,000
22 Transportation of Things	2,000	0	2,000
23 Rent, Comm. & Utilities	1,000	0	1,000
24 Printing & Reproduction.....			
25 Other Services	120,000	0	120,000
26 Supplies & Materials	1,000	0	1,000
31 Equipment	18,000	0	18,000
41 Grants			
TOTAL.....	<u>\$ 304,000</u>	<u>\$ 4,000</u>	<u>\$ 308,000</u>

Analysis of Total

Pay Increase	\$ 4,000	\$4,000	\$ 8,000
Program	\$300,000	0	\$300,000

Specification of Increase (Program):Museum Services

This Office provides program planning for museum and exhibition activities, surveys visitor reactions to the Smithsonian's exhibits, and works with other museums and organizations on matters of mutual concern. No program fund increase for the operations of this Office is requested for fiscal year 1972.

UNITED STATES NATIONAL MUSEUM
OFFICE OF MUSEUM PROGRAMS

1970 Actual	\$233,000
1971 Estimate	\$304,000
1972 Estimate	\$308,000

The Office of Museum Programs provides program planning and review of the Smithsonian Institution's museum and exhibition activities with special emphasis on developing experimental and educational exhibits, surveying visitor reaction to the Institution's services, and providing advice and technical assistance to other museums. It works cooperatively with museum professionals and their associations and organizations to increase the effectiveness of museums in the performance of their scholarly and public education functions. The Office of the Registrar, the Conservation Analytical Laboratory, and the Office of Exhibits are under the general administration of this Office.

No program fund increase is sought for fiscal year 1972 for the operations of this Office. An amount of \$4,000 is requested for necessary pay purposes.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

OFFICE OF EXHIBITS

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions..	<u>167</u>	<u>-3</u>	<u>164</u>
11 Personnel Compensation.....	\$1,936,000	\$62,000	\$1,998,000
12 Personnel Benefits.....	143,000	5,000	148,000
21 Travel & Transp. of Persons	10,000	0	10,000
22 Transportation of Things			
23 Rent, Comm. & Utilities	1,000	0	1,000
24 Printing & Reproduction.....	40,000	0	40,000
25 Other Services	64,000	0	64,000
26 Supplies & Materials	127,000	0	127,000
31 Equipment	40,000	0	40,000
41 Grants			
TOTAL.....	<u>\$2,361,000</u>	<u>\$67,000</u>	<u>\$2,428,000</u>

Analysis of Total

Pay Increase	\$ 98,000	\$67,000	\$ 175,000
Program	\$2,263,000	0	\$2,263,000

Specification of Increase (Program):Maintenance of Current Exhibits Program

No program increase is sought for fiscal year 1972 for the Office of Exhibits as such. Its base resources are largely absorbed by the maintenance and upgrading of existing exhibits, the design of new permanent exhibits, and a program of changing special exhibits. A request for new nonrecurring funds for the construction and installation of a major permanent exhibition on the World of Living Things in the National Museum of Natural History is presented in the special programs section of this budget request.

UNITED STATES NATIONAL MUSEUM
OFFICE OF EXHIBITS

1970 Actual	\$2, 354, 000
1971 Estimate	\$2, 361, 000
1972 Estimate	\$2, 428, 000

The Office of Exhibits, in collaboration with museum scientists and historians, designs, prepares, and installs exhibitions in Smithsonian museums, and occasionally for the Smithsonian Institution Traveling Exhibition Service. Since its establishment in 1955, the Office has prepared over 3, 500 permanent exhibit units primarily in the National Museum of Natural History and the National Museum of History and Technology, and has produced hundreds of special exhibits in art, history, and science. New techniques such as freeze-drying of animal and plant specimens and new methods of presentation, including audio-visual and visitor participation devices, are developed to enhance the visitor's learning experience. Many staff innovations have been copied around the world. By counseling visiting professionals and by training museum technicians from all points of the world, the Office has had a significant effect on museum installations in many countries.

No program fund increase is sought for fiscal year 1972 for the Office of Exhibits. The base appropriation is largely absorbed by maintenance and upgrading of existing exhibits, design of new exhibits, and a modest program of changing special exhibits. New permanent exhibits, space for which exists in present Smithsonian museums, will require new nonrecurring funds for construction and installation. A request for these funds is included in the special programs section of this budget request. An increase of \$67,000 is requested for necessary pay for the Office of Exhibits staff.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

CONSERVATION ANALYTICAL LABORATORY

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>11</u>	<u>3</u>	<u>14</u>
11 Personnel Compensation.....	\$ 113,000	\$ 26,000	\$ 139,000
12 Personnel Benefits.....	9,000	2,000	11,000
21 Travel & Transp. of Persons	5,000	0	5,000
22 Transportation of Things			
23 Rent, Comm. & Utilities	1,000	0	1,000
24 Printing & Reproduction.....	1,000	0	1,000
25 Other Services	7,000	0	7,000
26 Supplies & Materials	6,000	3,000	9,000
31 Equipment	12,000	24,000	36,000
41 Grants			
TOTAL.....	<u>\$ 154,000</u>	<u>\$ 55,000</u>	<u>\$ 209,000</u>

Analysis of Total

Pay Increase	\$ 6,000	\$ 5,000	\$ 11,000
Program	\$148,000	\$50,000	\$198,000

Specification of Increase (Program):Protection, Conservation, and Analysis of the Collections (3 positions, \$50,000)

Activities of the Laboratory fall into two broad areas: conservation, including preventive and remedial measures, and analysis of the composition of objects in support of research. Increased funding is required for a small fumatorium chamber and a technician to cope with serious insect infestations in the History and Technology collections (\$24,000). Two additional conservators at a cost of \$14,000 are required to care for some 13 million non-biological objects (for instance, coins) in the collections. An Ebert spectrograph (\$12,000) for analysis purposes will double current output of existing staff.

UNITED STATES NATIONAL MUSEUM
CONSERVATION ANALYTICAL LABORATORY

1970 Actual.....\$134,000
1971 Estimate....\$154,000
1972 Estimate....\$209,000

The Conservation Analytical Laboratory was established in 1963 to serve the museums of the Smithsonian Institution. It ascertains and advises on the suitability of environmental conditions found in the buildings for objects displayed or in storage, and suggests remedial action if necessary. Advice is given to the curatorial units on conservation procedures for specific objects. Objects which present special problems or require more specialized equipment than is available in these units are treated in the laboratory.

Analysis of objects or their materials (e.g., pigments, fibers, alloys, or corrosion products) is done by advanced instrumentation to determine appropriate conservation procedures or to provide museum archaeologists and historians with basic research data concerned with dates, attribution, and ancient production methods.

Current program shortages include the following for which a program increase of \$50,000 is requested. An additional \$5,000 are requested for necessary pay for current staff members.

Need for Increase--The lack of a fumatorium to sterilize all objects on entry into the History and Technology Building allows development of insect colonies within storage areas with consequent risk of serious and wide-spread loss of the collections. Over 30 reports of insect finds have been made in this one building in one year. Emergency actions taken on site to counter this risk are expensive in manpower, less than wholly effective, and inevitably add to the level of poison in the human environment. Funds are requested for a small fumatorium chamber (\$12,000) plus one technician to operate it (\$9,000) and to assist in sampling for analysis and supplies and materials (\$3,000).

Conservation activity falls ludicrously short of the need. With thirteen million non-biological objects in the Smithsonian collections, if only one percent of these is in need of attention, then it would require 32 man-years in order to devote 30 minutes to each. Thirty minutes is barely sufficient time to carry an object to and from this laboratory, without allowing time for any useful treatment. CAL at present has only three positions for conservators. Two additional conservators are requested (\$14,000).

Conservation activity requires supporting specialized analytical facilities. Some increase in output without increase in analytical staff or floor space can be achieved by introducing newly-available instrumentation. An Ebert spectrograph to supersede the laboratory's present instrumentation (obtained on surplus) will literally double output and will help to remove a bottleneck that is slowing conservation activity by existing staff (\$12,000).

The resources available to CAL in the fiscal year 1970 were used as shown in the accompanying diagram. This division of effort reflects needs expressed by curators that were satisfied to the maximum permitted by the available apparatus, funds, staff abilities, and space. In that year 148 requisitions (395 objects or samples) were accepted from 28 sources within the Smithsonian bureaus, and 140 requisitions (144 samples or objects) were completed, the balance being in progress at the end of the year (60 percent requisitioned treatment or advice, 40 percent analysis). In addition, training of CAL and other Smithsonian Institution personnel proceeded, national and international professional contacts were maintained, research papers published, and practical assistance given to other museums and local archaeological societies.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

OFFICE OF THE REGISTRAR

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>29</u>	<u>1</u>	<u>30</u>
11 Personnel Compensation.....	\$ 223,000	\$ 12,000	\$ 235,000
12 Personnel Benefits.....	17,000	1,000	18,000
21 Travel & Transp. of Persons			
22 Transportation of Things	59,000	26,000	85,000
23 Rent, Comm. & Utilities			
24 Printing & Reproduction.....			
25 Other Services	0	16,000	16,000
26 Supplies & Materials	1,000	1,000	2,000
31 Equipment	1,000	1,000	2,000
41 Grants			
TOTAL.....	<u>\$ 301,000</u>	<u>\$ 57,000</u>	<u>\$ 358,000</u>

Analysis of Total

Pay Increase	\$ 8,000	\$ 7,000	\$ 15,000
Program	\$293,000	\$50,000	\$343,000

Specification of Increase (Program):Protection of Accession Records and Shipping and Mail Room Requirements
(1 position, \$50,000)

Additional funding is requested for three important areas of the Registrar's operations. A records technician and funds for contractual microfilming services (\$22,000) are required to begin the job of duplicating and protecting some 1,800,000 documents dating from 1842 which record accessions to the National Museum of Natural History and the National Museum of History and Technology. An additional \$26,000 are required to bring the level of shipping funds closer to identified requirements for the transportation of exhibits, specimens, and field equipment. An amount of \$2,000 is needed for mail room supplies and equipment to meet a growing volume of mail.

UNITED STATES NATIONAL MUSEUM
OFFICE OF THE REGISTRAR

1970 Actual	\$327,000
1971 Estimate	\$301,000
1972 Estimate	\$358,000

The Office of the Registrar was established officially in 1881. It has responsibility for recording and safeguarding the documents pertaining to the receipt and legal ownership of the objects accessioned into the National Collections of the National Museum of Natural History and the National Museum of History and Technology. In addition, the office provides essential service to support all units of the Smithsonian through the management of the central mail and messenger service, the Smithsonian shipping office, U. S. Customs clearances, public inquiries for the museums, and official foreign travel documents such as passports, visas, and work permits.

Current program shortages occur in the preservation of records, shipping, and mail service for which an additional \$50,000 are requested. Also requested are \$7,000 for necessary pay purposes.

Need for Increase--A critical area requiring prompt attention is the microfilming of the valuable accession records which consist of original papers that basically document objects in the National Collections. These unique papers date from before the establishment of the Smithsonian, the earliest dated 1842, and have never been duplicated. Their loss by fire or other disaster would seriously affect the research value of the collections. A long-term project is proposed: first, to place the estimated 1,800,000 pieces on microfilm as a precautionary measure against loss, and second, to deacidify and restore selected early papers that are brittle, torn, and badly faded. A records technician is required to separate, coordinate, and safeguard the papers during microfilming and to reassemble them for refiling (\$6,000). Support in contractual services to commence the microfilming and complete one-fourth to one-third of the filming is estimated at \$16,000.

A primary responsibility of the Registrar's Office is the transportation of exhibits, specimens, and related research items for the museums, galleries, and laboratories. The requests for this service have been growing rapidly in light of expanding activities of program units. A recent analysis indicates that approximately \$102,000 are necessary to meet expected transportation costs, but only about \$59,000 are currently available. This deficit situation has been brought about over a period of years by continued growth in requests for services, the necessity of absorbing part of salary increases, and inflationary cost increases in other areas. An increase of \$26,000 is requested to meet a higher portion of identified requirements and offset inflationary pressures in the budget year.

Mail volume continues to grow as the public becomes more aware of the Institution's activities and services. An increase of \$2,000 for mail room supplies and equipment is requested.

PUBLIC SERVICE

The Institution has not allowed itself to rest with static presentations and exhibits of collections directed at only those persons with sufficient motivation, time, or money to visit its centrally located galleries and museums. In order to be successful in conveying the richness of the nation's heritage to a wider public, and to offer additional opportunities for appreciation of its growth and development, the Institution has sought to expand its public reach. It has achieved this in a variety of ways over the last several years.

The experimental development of a neighborhood museum in Anacostia has shown that museum operations may be carried out in the crucible of the inner city, that children may learn with delight and advantage, and that the residents of the area will treat with respect what they regard as their own center for learning and recreation. The story of the Anacostia Neighborhood Museum and its usefulness stands as one of the outstanding achievements of the Institution in recent years.

The activities of some of the other public service units have been no less important. There is the popular Folklife Festival on the Mall, sponsored annually by the Division of Performing Arts. The services of the Office of Public Affairs, which range through activities in the fields of information and public education, such as radio, television, documentary films, news releases, and guide pamphlets are especially valuable. The world-wide character of the programs of the Office of International Activities and the International Exchange Service serve to bring this nation closer to the ideal of a world community through research and the dissemination of knowledge.

The increase requested for the Public Service Activities amounts to \$118,000, or one percent of the total Institutional requested increase.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

ANACOSTIA NEIGHBORHOOD MUSEUM

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>11</u>	<u>4</u>	<u>15</u>
11 Personnel Compensation.....	\$ 106,000	\$ 36,000	\$ 142,000
12 Personnel Benefits.....	8,000	3,000	11,000
21 Travel & Transp. of Persons	3,000	1,000	4,000
22 Transportation of Things			
23 Rent, Comm. & Utilities			
24 Printing & Reproduction.....			
25 Other Services	4,000	0	4,000
26 Supplies & Materials	4,000	6,000	10,000
31 Equipment	0	6,000	6,000
41 Grants			
TOTAL.....	<u>\$ 125,000</u>	<u>\$ 52,000</u>	<u>\$ 177,000</u>

Analysis of Total

Pay Increase	\$ 6,000	\$ 7,000	\$ 13,000
Program	\$119,000	\$45,000	\$164,000

Specification of Increase (Program):Classroom and Workshop Activity and General Operations (4 positions, \$45,000)

In the three years of its operations the Anacostia Neighborhood Museum has entertained and instructed over 150,000 visitors and has offered a wide array of exhibits, classes, and youth programs. Although private gifts, donations, and grants for special programs and projects are coming to the Museum, such support for regular, ongoing operations and administration has virtually dried-up. Yet community demands for museum-related education services are increasing steadily. Although part-time and volunteer help from the community is used, two full-time instructors (\$13,000) are required to put class and workshop activities on a more regular basis. An assistant to the director (\$14,000) is needed to work with the community and other groups interested in setting up similar museums. A custodian (\$5,000) also is needed to help maintain the public and work areas of the Museum. Funds in the amount of \$13,000 are required for custodial, exhibit, and workshop supplies and equipment and for program related travel.

ANACOSTIA NEIGHBORHOOD MUSEUM

1970 Actual	\$124,000
1971 Estimate	\$125,000
1972 Estimate	\$177,000

The Anacostia Neighborhood Museum was established to reach out to new audiences who are unaware of museum resources, physically too far from them, or as inhabitants of low-income population density centers do not see the interest or relevance of museums. Starting in 1966, the Smithsonian sought out community reaction to the concept of a permanent neighborhood museum in the inner city. Reaction was most favorable and the desire for community involvement appeared strongest in Anacostia. The Museum was founded entirely by private donations and was opened in September 1967. Exhibits concentrated on visitor involvement and classes in sculpture, leathercraft, clay modeling, drawing, and painting have been held. A photograph of such a class appears on a following page. In subsequent months, the Museum, in close collaboration with its Neighborhood Advisory Council, began to present exhibits which the community requested, primarily in the field of Negro history. In each case, the exhibit served as a backdrop for school programs, lectures, and concerts. Three years later, the Museum has entertained and instructed over 150,000 visitors and offers a widening array of classes and youth programs. Anacostia has linked its activities directly to the needs of the community and has assured a fresh, nontraditional approach to the role of the museum.

In exhibits and related education programs, Anacostia is now concentrating on urban problems. A recent substantial combined grant from the Carnegie Corporation, the Cafritz Foundation; and the Department of Housing and Urban Development will permit the Museum to identify Anacostia's most pressing social and economic problems through community participation and translate these problems into exhibits with related educational activities. This effort should have a wide impact since to a large degree the problems of Anacostia are shared widely by other urban centers across the nation.

A program increase of \$45,000 is requested for classroom and workshop activity, overall program administration, and general costs of operation. An additional funding of \$7,000 is requested for necessary pay for current staff.

Need for Increase--Although private gifts, donations, and grants for special programs and projects continue to be made available to the Museum, no such funds are now being provided for regular on-going programs and administration. To illustrate this point, over \$100,000 in general purpose funds were received during 1967, 1968, and 1969; virtually none the past year. The increase provided in the fiscal year 1971 appropriation (\$35,000 of \$75,000 requested) met part of these costs. For instance, rental of the Museum building can now be paid with federal funds. This increase, however, could not fund the additional staff required for basic activities.

Community demands on the Museum for classes, workshops, and other museum-related education services have increased steadily since the Museum opened. Part-time and volunteer help from the community has been used, but two full-time instructors (\$13,000) are required to put the class and workshop activities on a more regular basis. An assistant to the director (\$14,000) is needed to work with the community and other groups interested in setting up similar museums. A custodian (\$5,000) also is needed to help maintain the public and work areas of the Museum. Funds in the amount of \$13,000 are required for custodial, exhibit, and workshop supplies and equipment and for program related travel.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

OFFICE OF INTERNATIONAL ACTIVITIES

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>8</u>	<u>1</u>	<u>9</u>
11 Personnel Compensation.....	\$ 112,000	\$ 12,000	\$ 124,000
12 Personnel Benefits.....	8,000	2,000	10,000
21 Travel & Transp. of Persons	4,000	9,000	13,000
22 Transportation of Things			
23 Rent, Comm. & Utilities ...	0	1,000	1,000
24 Printing & Reproduction.....			
25 Other Services			
26 Supplies & Materials	1,000	1,000	2,000
31 Equipment			
41 Grants			
TOTAL.....	<u>\$ 125,000</u>	<u>\$ 25,000</u>	<u>\$ 150,000</u>

Analysis of Total

Pay Increase	\$ 6,000	\$ 9,000	\$ 15,000
Program	\$119,000	\$16,000	\$135,000

Specification of Increase (Program):Foreign Currency Program Administration (1 position, \$16,000)

A major role of the Office of International Activities is to administer the Foreign Currency Program which awards grants for research abroad to American institutions of higher learning. The program is now supporting 97 grants in biology, archeology, earth and space sciences, and museum programs in ten excess currency countries. Additional clerical help is imperative to help administer a growing number of grants. One clerk-typist is requested (\$5,000). An additional \$11,000 are requested, primarily for travel and related expenses of the Foreign Currency Program Advisory Councils that meet to select proposals for funding and review performance of work underway.

OFFICE OF INTERNATIONAL ACTIVITIES

1970 Actual	\$118,000
1971 Estimate	\$125,000
1972 Estimate	\$150,000

The Office of International Activities was established in 1965 to initiate, coordinate, and oversee Smithsonian interests abroad. In this capacity, it assists the Institution's scientific staff planning research overseas, briefs American diplomats on Smithsonian activities abroad, and maintains close contact with the foreign diplomatic missions in Washington. In addition, it briefs pertinent foreign visitors and administers training programs for foreign museum technicians at the Institution. The Office also serves as the Executive Agent of the Iran-U.S. Agreement signed in 1968 to foster scientific cooperation between the two countries.

Recently the Office has become increasingly involved in the worldwide environmental and conservation interests of the Institution. It has been concerned with conservation efforts on Dominica, Aldabra, and in Honduras as well as at the Smithsonian's own Chesapeake Bay Center. It was instrumental in bringing about a symposium on the endangered species of Hawaii. An environmental symposium to be held in India is now in the planning stage.

A major role of the Office is to administer the Smithsonian Foreign Currency Program which awards grants for research abroad to American institutions of higher learning as well as to Smithsonian scientists. Since 1965, over \$10.5 million worth of PL-480 "excess" currencies have been obligated to scientists working in the four basic fields of Smithsonian scientific competence: systematic and environmental biology, archaeology and related disciplines, earth and space sciences, and museum programs. The program is now supporting 97 projects operating in Ceylon, Egypt, Guinea, India, Israel, Morocco, Pakistan, Poland, Tunisia, and Yugoslavia. A symposium on Smithsonian projects in Ceylon was held there, and a follow-up meeting is planned for the present year.

An increase of \$16,000 is requested primarily for Foreign Currency Program administration. \$9,000 are required for necessary pay increases.

Need for Increase--In fiscal year 1972 the Office of International Activities will face a critical shortage of clerical personnel. With the continual growth of the responsibilities of the OIA and an ever increasing number of grants handled by the Foreign Currency Program, additional clerical help is imperative. Since the Office's establishment in 1965, its administrative staff has grown, but clerical positions have not increased. At present, six persons are employed in an administrative capacity while there are only two clerical positions. An additional clerk-typist is requested (\$5,000).

An additional \$11,000 are requested for travel and office maintenance expenses. Of this amount, \$7,000 are required for transportation and per diem expenses for members of the Foreign Currency Program Advisory Councils. Composed of prominent American scientists, these councils meet twice yearly to review proposals submitted to the Foreign Currency Program for possible funding. The remaining \$4,000 are needed for domestic travel and overseas travel-related expenses of the OIA staff and for office supplies and equipment.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

INTERNATIONAL EXCHANGE SERVICE

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions . .	<u>9</u>	<u>0</u>	<u>9</u>
11 Personnel Compensation	\$ 73,000	\$ 3,000	\$ 76,000
12 Personnel Benefits	5,000	0	5,000
21 Travel & Transp. of Persons			
22 Transportation of Things	38,000	13,000	51,000
23 Rent, Comm. & Utilities			
24 Printing & Reproduction			
25 Other Services			
26 Supplies & Materials	4,000	2,000	6,000
31 Equipment			
41 Grants			
TOTAL	<u>\$120,000</u>	<u>\$18,000</u>	<u>\$138,000</u>

Analysis of Total

Pay Increase	\$ 2,000	\$ 3,000	\$ 5,000
Program	\$118,000	\$15,000	\$133,000

Specification of Increase (Program):Restoration of Exchange Services (\$15,000)

Official publications, such as the Federal Register and the Congressional Record, continue to be exchanged as required by law. A static appropriation and higher costs, however, have forced the Exchange Service to reduce substantially the exchange of library, university, and college publications. Additional funds in the amount of \$15,000 for shipping and supplies are requested to help restore the previous level of these important exchanges.

INTERNATIONAL EXCHANGE SERVICE

1970 Actual.....	\$118,000
1971 Estimate.....	\$120,000
1972 Estimate.....	\$138,000

Through the International Exchange Service, public and private institutions in the United States transmit their publications to other countries and receive publications from foreign institutions. Begun in 1849 as a exchange service between the Smithsonian and learned societies in foreign countries, the program was so successful that five years later it was expanded to other American libraries, scientific societies, and educational institutions. As a result of the Brussels Convention of 1886 and some 50 bilateral treaties, the Smithsonian was designated as the exchange bureau for official United States publications. Today many libraries in the United States are dependent upon the exchange program for their foreign publications.

An appropriation increase of \$15,000 is requested to help restore the level of exchange services. Funding of \$3,000 for necessary pay also is sought.

Need for Increase--In fiscal year 1967 over 1.5 million packages of publications were received from organizations in the United States for exchange with foreign libraries. By fiscal year 1971, as a result of a static appropriation, higher salary costs, and inflation in the costs of shipping and packaging supplies and equipment, the volume that could be shipped had dropped by about one-third. At present, the exchange of official publications (Federal Register, Congressional Record, etc.) is current as required by law. The exchange programs of colleges, universities, scientific societies, libraries, and medical and dental schools however, have had to be severely limited. Much of these materials are of great benefit to foreign libraries especially in the developing countries. Funds are requested for shipping (\$13,000) and packaging supplies (\$2,000).

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

DIVISION OF PERFORMING ARTS

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>7</u>	<u>0</u>	<u>7</u>
11 Personnel Compensation.....	\$ 110,000	\$ 6,000	\$ 116,000
12 Personnel Benefits.....	9,000	0	9,000
21 Travel & Transp. of Persons	21,000	0	21,000
22 Transportation of Things	6,000	0	6,000
23 Rent, Comm. & Utilities	7,000	0	7,000
24 Printing & Reproduction.....	4,000	0	4,000
25 Other Services	12,000	0	12,000
26 Supplies & Materials	14,000	0	14,000
31 Equipment	13,000	0	13,000
41 Grants			
TOTAL	<u>\$ 196,000</u>	<u>\$ 6,000</u>	<u>\$ 202,000</u>

Analysis of Total

Pay Increase	\$ 8,000	\$6,000	\$ 14,000
Program	\$188,000	0	\$188,000

Specification of Increase (Program):Programs in American Cultural History

The Division of Performing Arts is responsible for programs dealing with America's cultural heritage particularly as it shows itself in theater, music, dance, and craft skills. Notable among its programs are the annual Festival of American Folklife and its participation in the annual American College Theater Festival. A program fund increase is not being sought for fiscal year 1972.

DIVISION OF PERFORMING ARTS

1970 Actual	\$226,000
1971 Estimate	\$196,000
1972 Estimate	\$202,000

The Division of Performing Arts is responsible for programs dealing with our national aesthetic expressions, particularly as they evidence themselves in oral, music, or dance forms. By staging such events as the annual Festival of American Folklife, which in 1970 drew more than 750,000 persons to the Mall over a five-day period, this Division undertakes to extend and further enliven the Smithsonian's educational services to the public.

At the Festival, more than 350 Indians, cheesemakers, barrelmakers, jellymakers, distillers, wood carvers, basketmakers, jazz musicians, folk singers, gospel groups, and musicians from many regions of the United States demonstrated the survival of American folklife in performances which reminded visitors of their still-flourishing cultural heritage.

Programs in jazz and modern dance reflect contributions to world culture which are widely recognized as particularly American in origin and style. Programs in contemporary and period music, theatre, and dance provide understanding of the creative view of the present and past.

The Division offers a variety of Touring Performances such as theatre, musical concerts, puppet theatre, the American Folklife Company, and lectures which are available to other museums, universities, and cultural centers throughout the United States. It also sponsors, with the American Educational Theater Association and the John F. Kennedy Center for the Performing Arts, the annual American College Theater Festival.

No program fund increase is sought for fiscal year 1972. An additional amount of \$6,000 is requested for necessary pay for current staff.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

OFFICE OF PUBLIC AFFAIRS

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>12</u>	<u>0</u>	<u>12</u>
11 Personnel Compensation.....	\$ 206,000	\$ 16,000	\$ 222,000
12 Personnel Benefits.....	17,000	1,000	18,000
21 Travel & Transp. of Persons			
22 Transportation of Things			
23 Rent, Comm. & Utilities			
24 Printing & Reproduction.....	10,000	0	10,000
25 Other Services.....	2,000	0	2,000
26 Supplies & Materials	6,000	0	6,000
31 Equipment			
41 Grants			
TOTAL.....	<u>\$ 241,000</u>	<u>\$ 17,000</u>	<u>\$ 258,000</u>

Analysis of Total

Pay Increase	\$ 12,000	\$17,000	\$ 29,000
Program	\$229,000	0	\$229,000

Specification of Increase (Program):Orientation, Information, and Public Education

This Office provides visitor and public orientation, information, and education services. No program fund increase is requested for fiscal year 1972.

OFFICE OF PUBLIC AFFAIRS

1970 Actual	\$277,000
1971 Estimate	\$241,000
1972 Estimate	\$258,000

This Office is responsible for serving visitors to the Smithsonian and the public at large through a range of activities in the fields of orientation, information, and public education--radio, television, documentary films, news releases, guide pamphlets, tours, automatic telephone information services, publications, and other programs. Included in its presentations are the Free Film Theater, the Torch newspaper, the Smithsonian Calendar of Events, and "Radio Smithsonian" now being heard over 60 stations.

No program fund increase is sought for fiscal year 1972. An amount of \$17,000 for necessary pay for the current staff is requested.

SMITHSONIAN INSTITUTION SPECIAL PROGRAMS

This group of activities is considered to be of particular importance in implementing desired growth in the Institution's activities over the next several years. Some supplement program activities of the museums and galleries. For instance, opportunities are provided for outstanding pre-and post-doctoral investigators from across the nation to be selected for work under the supervision of the Institution's professional staff. Education services are provided by means of popular museum tours for school children and other education services. Other special programs provide the basis on which the Institution affects dramatic changes in its exhibits and research efforts. The exhibits program request is geared to produce one major exhibit on the World of Living Things in the Natural History Museum, while the Bicentennial of the American Revolution request will continue the Institution's efforts to celebrate and portray the first two-hundred years of American history and what they may mean for the future. The environmental science program request speaks to the second year of a coordinated Institutional effort to shed light on ecological problems in the nation, and the research awards request will enhance the Institution's ability to fund especially meritorious work of its professionals. The National Museum Act request is directed at strengthening the nation's museums by means of training and improved conservation, cataloging, and exhibits techniques. The increase being requested for these programs is \$1,926,000 and constitutes 22 percent of the total Institutional requested increase.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

BICENTENNIAL OF THE AMERICAN REVOLUTION

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>2</u>	<u>0</u>	<u>2</u>
11 Personnel Compensation....	\$ 21,000	\$ 0	\$ 21,000
12 Personnel Benefits.....	2,000	0	2,000
21 Travel & Transp. of Persons			
22 Transportation of Things			
23 Rent, Comm. & Utilities			
24 Printing & Reproduction	377,000	0	377,000
25 Other Services			
26 Supplies & Materials			
31 Equipment			
41 Grants			
TOTAL.....	<u>\$ 400,000</u>	<u>\$ 0</u>	<u>\$ 400,000</u>

Analysis of Total

Pay Increase	0	0	0
Program	\$400,000	0	\$400,000

Specification of Increase (Program):Smithsonian Bicentennial Activities

The Bicentennial of the American Revolution offers the Smithsonian Institution a unique opportunity and an urgent duty. We must use our vast resources, and enlist the resources of others, to help rediscover and illuminate our national achievements. The theme of the Smithsonian's Bicentennial celebration is the American Experience; its purpose will be, in President Nixon's words, "...a new understanding of our heritage."

The Smithsonian program of Bicentennial activities is in addition to, and beyond, the Institution's normal level of day-to-day operation. It is designed to be complete in itself, to be terminal in nature, and to avoid permanent commitment of personnel and other additions to the appropriations base.

During the next several years, the greater part of the Institution's Bicentennial efforts will necessarily be devoted to the research, collection, and planning which are called for to arrive at the Institution-wide, coordinated events surrounding 1976. Preliminary work will result in some visible results such as individual exhibitions, seminars, and publications. But in general, the nature of the entire undertaking is such that the budget projection shows a steady progress from "behind the scenes" activities toward translation into public exhibitions, performances, and a series of major publications, as we approach 1976.

No program increase is requested for fiscal year 1972.

AMERICAN REVOLUTION BICENTENNIAL PROGRAM

1970 Actual	\$	0
1971 Estimate	\$	400,000
1972 Estimate	\$	400,000

The Bicentennial of the American Revolution offers the Smithsonian Institution a unique opportunity and an urgent duty. We must use our vast resources, and enlist the resources of others, to help rediscover and illuminate our national achievements. The theme of the Smithsonian's Bicentennial celebration is the American Experience; its purpose will be, in President Nixon's words, "...a new understanding of our heritage."

For this effort, the Smithsonian Institution is providentially well prepared. It is a remarkably comprehensive group of enterprises surveying every aspect of man's life and work--his social, political, and military institutions; his fine arts, his applied arts, his performing arts; his use of natural resources; and his adventures of exploration on this planet and into outer space. The Smithsonian Institution has a long and rich tradition of free interchange of ideas with the world of learning. It has been a center for the study of resources, natural and human, of the whole continent. The Smithsonian, as the repository for myriad objects sacred to our history and illustrative of the American Experience since the beginning, is preeminent among the museums of the world and second to none in the number of its visitors.

The Smithsonian program of Bicentennial activities is in addition to, and beyond, the Institution's normal level of day-to-day operation. It is designed to be complete in itself, to be terminal in nature, and to avoid permanent commitment of personnel and other additions to the appropriations base. The request for fiscal year 1972, \$400,000, and projected future funding is shown in Table I.

During the next several years, the greater part of the Institution's Bicentennial efforts will necessarily be devoted to the research, collecting, and planning which are called for to arrive at the Institution-wide, coordinated events surrounding 1976. Preliminary work will result in some visible results such as individual exhibitions, seminars, and publications. But in general, the nature of the entire undertaking is such that the budget projection shows a steady progress from "behind the scenes" activities toward translation into public exhibitions, performances, and a series of major publications, as we approach 1976.

The Smithsonian's Bicentennial activities are designed to be interrelated and mutually reinforcing, but for budgetary purposes they can be viewed under three headings: Exhibitions and Performances; Research and Publications; and National Programs.

Exhibitions and Performances

In the Nation's Capital, the Smithsonian offers a uniquely effective and appropriate site for dramatizing and interpreting the American Experience. Now some 13 million people each year visit the Smithsonian museums in Washington. By 1976 this figure is likely to reach 20 million, and interest in the Bicentennial may well bring the number to 30 million. The Smithsonian will provide these visitors with an appropriate and dramatic exposition. In January 1976 each of the Smithsonian's ten museums plans to open a major exhibiton commemorating the Bicentennial, the first occasion when so many of the Institution's resources will be devoted to a single theme. At the same time, a guide will be published showing the coherence of the Smithsonian's many activities in exploring and illustrating the American Experience.

The visitor to the Mall will have an unparalleled opportunity to participate in a sequence of varied and informative experiences. He will explore American history and see the expression of the American spirit through two centuries and across a wide range of subject matter.

At the National Museum of Natural History, he will see the look and sense the feeling of the land and its original inhabitants at the time the first Europeans arrived, and he will see what happened to these people and the effects wrought upon the land over the centuries.

At the Arts and Industries Building, he will see the way Americans saw themselves, their past and future, at the time of the 1876 Philadelphia Centennial. In this building, constructed originally to house materials that had been assembled and displayed at the Philadelphia Centennial, the same objects will be used to recapture the optimistic mood in which Americans celebrated this midpoint in our history.

In the National Air and Space Museum, the visitor will see an exhibition of what is perhaps America's greatest technological achievement, the conquest of outer space, and of the nation's future in the Space Age.

Special exhibitions at the National Museum of History and Technology will present the cultural, industrial, and political development of the United States. Examples of these are the Corridors of American Experience, a series of "time corridors" designed to enable the visitor to experience daily living at specific times in America's past. A "time machine", to be developed in the current year and tested on the public in fiscal year 1972, will transport the visitor by novel means of surveying the intervening experience.

The Price of Independence will present the risks and the opportunities of independence for the American colonists: the risks of sea trade, of potential civil war, the fear of defeat and the human and fiscal costs of war, supplemented by the problems which would result from the loss of trade with England. The second part will depict the new opportunities--political, economic, intellectual--to be found in independence. A newly designed computerized game will allow the museum visitor to select one of several roles (such as that of a Boston merchant, a Philadelphia laborer, or a Southern planter) and test his decisions against the actual facts of history in the period 1770-1820. In this way, he can relive the risks and opportunities of the Revolutionary Era. (A significant number of innovative display techniques, using new technology, will be developed. These technical advances will be made available to museums and display designers throughout the country.)

Other major activities will include an unprecedentedly comprehensive exhibit of portraits and associated objects of Americans of the Revolutionary Era, and a year-long festival of American traditional and ethnic performing arts and handicrafts (the "Grassroots American Culture Program").

Research and Publications

We believe that the commemorative activities associated with the Bicentennial should improve our understanding of ourselves and make a lasting contribution to human knowledge. When the performances have ended and the exhibitions have closed, something of use to Americans during the third century of our national life should remain.

As an important part of the Bicentennial program of the Smithsonian, we propose to undertake a number of inventories of national cultural resources. These will range from an Inventory of American Paintings, to a Survey of Ethnic and Regional Cultural Forms. During fiscal year 1971, the scope and techniques

of these surveys will be specified and refined, with a particular view to coordinating the activities of the scholars, students, conservationists, and photographers who will participate in them. Every effort will be made to enlist the support and cooperation of regional and local groups in this enterprise. We expect that the actual compiling of the inventories will begin in fiscal year 1972.

The first result of these inventories will be apparent in our own Bicentennial exhibits and performances, as for the first time we will be able to draw upon the entire range of America's cultural resources. The same will hold true at the regional and local level, as our efforts make people more aware of the richness and importance of their own traditions.

Equally important, however, is our plan to preserve this information in permanent form for scholars and for the public. We intend to sponsor, or to arrange for the publication of, scholarly catalogues, documentary histories, recordings and films; other data not appropriate for such publications will be retained in archival form or in computer banks for the use of future generations. We believe that these Smithsonian Bicentennial Inventories will reveal as never before the full scope of our cultural achievements during the first two centuries of our history.

During the years between now and 1976, we will also be engaged in research of a narrower kind, focused directly upon the topics of our special Bicentennial exhibits. Projects of this sort will include research on all the portraits of George Washington, on the life of a New England seaport in the mid-18th century, on the life of a midwestern town in the mid-19th century, and on the contributions of various ethnic groups to American civilization. Here, too, we intend that the fruits of this research shall be made available to the public in permanent form, drawing upon our exhibits for illustrative material.

National Programs

We share the conviction of President Nixon and the American Revolution Bicentennial Commission that "the commemoration be national in scope, seeking to involve every state, city and community." For our part, we are determined that each of our Bicentennial activities, in addition to drawing upon and reflecting the entire nation, shall also bring benefits to as many areas and people as possible.

Concretely, this means that in the conception and design of all our Bicentennial exhibits and performances, we will bear in mind the need to create counterparts that can travel throughout the country during the Bicentennial Era. Drawing upon the experience and capabilities of our Traveling Exhibition Service, and upon the talents and imagination of our Office of Exhibits, we intend to offer to American museums, schools, historical societies, and other organizations a rich selection of exhibitions and performances related to our general theme, The American Experience.

Table I
Bicentennial Activities and Budget Forecast
(in thousands of dollars)

	1971	1972	1973	1974	1975	1976	1977	1978
Exhibitions and performances ..	\$130	\$130	\$350	\$ 425	\$ 525	\$ 825	\$ 400	\$ 50
Research and publications....	200	200	250	350	400	200	75	50
National programs.....	50	50	100	200	300	400	700	100
Administration ..	20	20	25	25	25	25	25	25
Total.....	\$400	\$400	\$725	\$1,000	\$1,250	\$1,450	\$1,200	\$225

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

ENVIRONMENTAL SCIENCE PROGRAM

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>3</u>	<u>5</u>	<u>8</u>
11 Personnel Compensation.....	\$ 27,000	\$ 69,000	\$ 96,000
12 Personnel Benefits.....	2,000	6,000	8,000
21 Travel & Transp. of Persons	10,000	30,000	40,000
22 Transportation of Things			
23 Rent, Comm. & Utilities			
24 Printing & Reproduction			
25 Other Services	61,000	70,000	131,000
26 Supplies & Materials	10,000	20,000	30,000
31 Equipment	40,000	30,000	70,000
41 Grants			
TOTAL.....	<u>\$ 150,000</u>	<u>\$ 225,000</u>	<u>\$ 375,000</u>

Analysis of Total

Pay Increase			
Program	\$150,000	\$225,000	\$375,000

Specification of Increase (Program):Continued Development of Institutional Program (5 positions, \$225,000)

In fiscal year 1971, Congress authorized \$150,000 to enable the Institution to muster its varied resources and expertise in basic ecological research toward the objective of developing biological and physical data which will permit the Nation to evaluate and ultimately predict the consequences of changes to the environment. This approach is essential to making the best decisions possible for rational and productive management of the environment. In the past many ecological changes have been attributed to man's influence because of ignorance of fluctuations in natural cycles; an ignorance which has often led to counterproductive measures in dealing with environmental problems. The fiscal year 1971 amount is being directed toward three activities: (1) the organization of an interdisciplinary program and establishment of a continuing mechanism for its operation; (2) the selection of sites of highest priority for study; and (3) the implementation of interrelated studies at these sites.

In fiscal year 1972 the Smithsonian Institution is requesting an additional \$225,000 to carry out its environmental program. This consists of a long term study of a marine shallow-water system and that of a tropical forest. A study of these two systems is given a high priority by the Smithsonian and is consistent with the recommendations of the International Biological Program. In so doing, the Institution is following the intent of Congress as expressed in Public Law 91-438. A total of five scientific specialists will be appointed on a short term basis to provide specialized expertise as required (\$75,000) and provide related support funding of \$150,000.

ENVIRONMENTAL SCIENCES PROGRAM

1970 Actual	0
1971 Estimate	\$150,000
1972 Estimate	\$375,000

The Smithsonian Institution has unique capabilities including experienced personnel, the largest collections of plants and animals in the world, with detailed distribution and abundance data required, as a basis for any effective global environmental monitoring system. The Smithsonian has the capability to measure natural and man-induced variation in the characteristics of solar radiation reaching the earth and the causes of such variations. The Institution is studying, as a function of time, various biological correlates. These studies are facilitated because it has permanent and protected field-research sites in both temperate and tropical zones. In addition the Smithsonian enjoys particularly favorable relations with its scientific colleagues and institutions in virtually every country of the world.

Environmental Science Program activity during fiscal year 1971 is limited to such priority items as monitoring rates of biological and physical change and using plants and animals as benchmarks and bioindicators in the establishment of environmental standards. The major objectives of the fiscal year 1972 program, for which a funding of \$375,000 is requested, are to study selected tropical and temperate areas to understand all the factors contributing to the fluctuations in populations. This will be done in the following manner:

- a. by monitoring and evaluating the physical and chemical environments of selected study sites.
- b. by studying the biology and quantitative distribution of principal organisms at these sites.
- c. by studying the inter-relationships of the environment with these organisms and man.

Need for Increase--With its commitments to: identification and assessment of the components of man's natural surroundings and of his cultural development; monitoring of change for predictive purposes; and education at all levels of public interest, the Institution will concentrate on two subprograms during fiscal year 1972.

- A long term comparative study of shallow water marine environments at those sites selected for continuing study \$155,000
- Establishment of benchmarks in terrestrial environments at the selected sites. \$70,000

This plan of work is given high priority by the Smithsonian and is consistent with the recommendations of the International Biological Program and with Public Law 91-438.

1. Shallow Water Marine Environments (3 positions, \$155,000)

Drastic, ecological changes are occurring in many tropical and temperate shallow water areas throughout the world. Some scientists attribute these changes to man's interference with the natural environment but others caution that they may be wholly natural. Should the changes be natural, efforts to reverse or halt their effects may do more harm to the world's biological systems than permitting them to proceed without alteration. An evaluation of the origin of these changes cannot be made without a thorough understanding of the fluctuations and ecology of the organisms involved.

Although many scientists throughout the world are studying the animals and plants in the near-shore, marine environment, these studies are fragmented and are made independently of each other. A coordinated study in selected areas susceptible to detailed examination is essential for an understanding of the immense biological complexity and structural variety involved. The information and methodology developed from such studies will have application to more extensive environments, leading eventually to an understanding of the problems as broad as whole continental regions. All researchers will apply their particular expertise to the primary site(s), but some investigators will need to make complementary studies elsewhere to validate their primary-site data.

The development of this baseline information and its correlation with data already available in the National Collections, accumulated over many years, will enable the scientific community to identify and design solutions for the environmental problems that grow increasingly critical.

The professional staff of the several Smithsonian science bureaus (National Museum of Natural History, Smithsonian Tropical Research Institute, Radiation Biology Laboratory, Chesapeake Bay Center for Environmental Studies, National Zoological Park, and Smithsonian Astrophysical Observatory) will perform the bulk of these studies, in collaboration with highly qualified scientists drawn from other institutions on short-term appointments to provide specialized expertise as required. The populations of marine species and their ecology will be determined and monitored for long periods.

For this portion of the program, an additional \$155,000 is requested to fill on a term basis, three positions (\$39,000) and to provide necessary supplies, equipment, and materials to undertake the studies (\$116,000).

2. Terrestrial Environments (2 positions, \$70,000)

The last large land area available for occupation and development by man lies in the tropical zones of the world. In the New World tropics, destruction of the land is rampant and ecological data that would permit intelligent management is non-existent. It is important that these problems be attacked now, before rapidly expanding populations, industrialization, and urbanization remove all options presently available. Therefore, the first phase in this necessarily long term research project will be directed to a study of the New World tropics, with comparative studies being made in temperate zones and in tropical areas of the Old World to validate the conclusions drawn. This approach will greatly expand the value and increase the usefulness of the environmental data acquired in each of the phases of the project.

Historically, there has been a long-standing scientific interest in the Smithsonian Institution concerning tropical plants and animals and their interrelationships. The millions of documented specimens in the National Collections, the resources of the Smithsonian Tropical Research Institute, and the associated scientific expertise that has been developed in the Smithsonian Institution constitute a unique national resource. It will be used fully in this integrated environmental subprogram to obtain information essential to the development of plans for the most effective long-term utilization of the land.

Studies of variations in physical factors such as solar radiation, rainfall, temperature, and nutrients will be correlated with fluctuation in biological systems such as primary productivity (plant growth), secondary productivity (amount and rates of consumption of plants by animals), and nutrient cycling (decomposition of organic matter and soil production).

Studies of soil organisms, of vertebrate animals, insects, and of plant life will be conducted in coordination with monitoring of natural light quantitatively and qualitatively, of rainfall, temperature, animal behavior, and seasonal fluctuations in populations of both plants and animals. What will be sought is a number of reliable biological indicators that will provide a maximum amount of information about the structure and function of the terrestrial environments.

For this portion of the program an additional \$70,000 is requested to fill on a term basis, two positions (\$36,000) and to provide necessary supplies, equipment and materials to undertake the investigations (\$34,000).

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

MAJOR EXHIBITIONS PROGRAM

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>0</u>	<u>0</u>	<u>0</u>
11 Personnel Compensation.....\$		\$	\$
12 Personnel Benefits.....			
21 Travel & Transp. of Persons	0	5,000	5,000
22 Transportation of Things			
23 Rent, Comm. & Utilities			
24 Printing & Reproduction.....	0	30,000	30,000
25 Other Services	0	300,000	300,000
26 Supplies & Materials	0	60,000	60,000
31 Equipment	0	130,000	130,000
41 Grants			
TOTAL.....	<u>\$ 0</u>	<u>\$ 525,000</u>	<u>\$ 525,000</u>

Analysis of Total

Pay Increase	0	0	0
Program	0	\$525,000	\$525,000

Specification of Increase (Program):World of Living Things (\$525,000)

The Smithsonian has designed a major exhibition on the interrelated laws of nature. The purpose of this exhibition, called the World of Living Things, is to educate and stimulate the public on the balance of the natural environment, and action that must be taken to insure a livable environment on earth. Space for this exhibition now exists in the Natural History Building which will have some 4 million visitors a year. Plans for this exhibition have been completed. The Institution however, does not have the funds for its production and installation. An amount of \$775,000 will be required, of which \$525,000 are requested in fiscal year 1972. The exhibition will be completed in 18 months after the initial appropriation of funds.

MAJOR EXHIBITIONS PROGRAM
WORLD OF LIVING THINGS

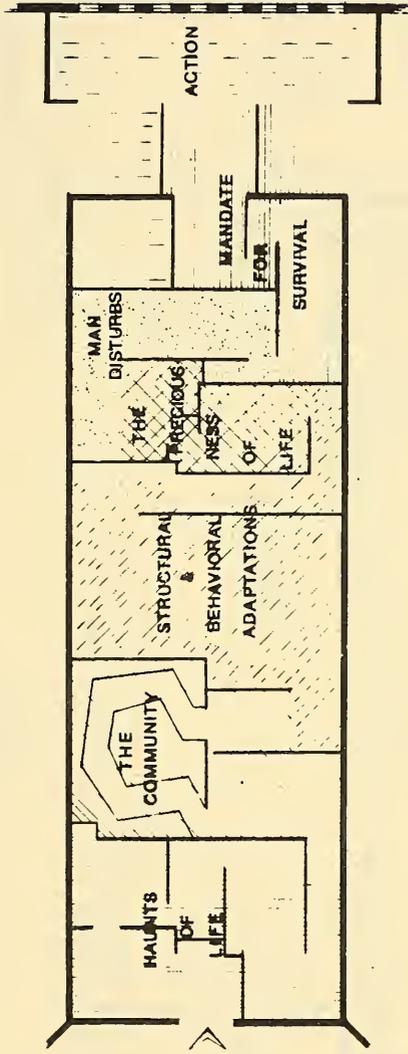
1970 Actual.....\$0
1971 Estimate.....\$0
1972 Estimate.....\$525,000

A major exhibition on the interrelated "laws of nature" is designed which will include both an introduction to ecology and the exposition of worldwide environmental balances and imbalances. Issues and options will be presented to the visitor with the opportunity for him to react to them and to see and consider the consequences of his choices. Plans and sketches of this exhibition are shown on following pages.

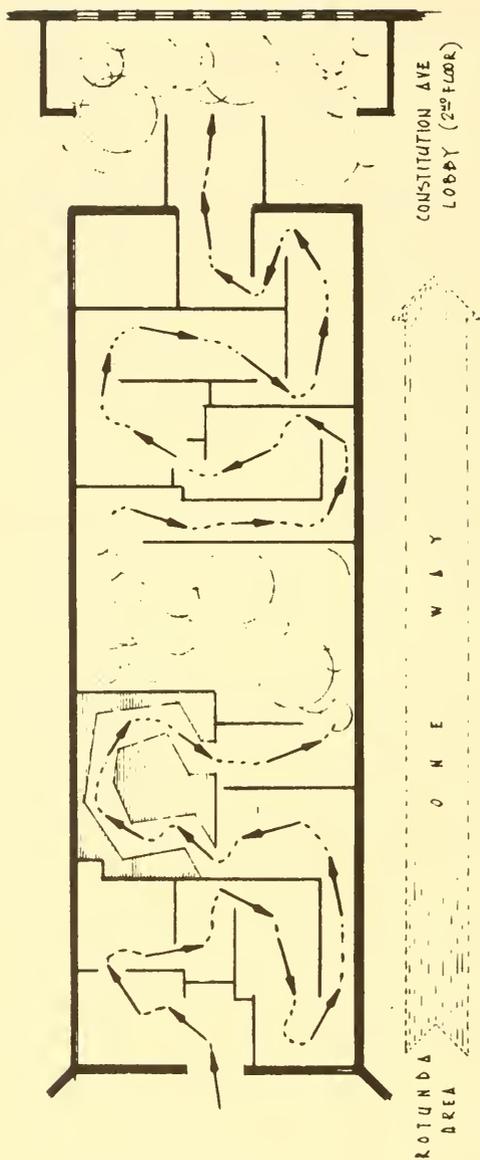
Three years of development have been devoted to the planning of this exhibition. Science writer Peter Farb, working with Smithsonian scientists and exhibition and communication specialists, has produced the specifications for a significant educational exhibition. The objective is to stimulate the hundreds of thousands of visitors to the Museum of Natural History to participate in conservation programs and to inform them how to express and act upon their concern. About 4,000,000 visitors a year will view this exhibition. It will continue with changes for years of current usefulness.

The exhibit will combine modern methods of communication through exhibits and the authority of the Museum's scholarly scientists. It will be designed for experimentation, testing, and development of its effectiveness as its use is observed. It will have the flexibility to be up-dated as environmental sciences evolve. It will have both present and future values in the critical effort to insure a livable environment on earth. It will put the most significant of the Museum's vast collection resources in the service of ideas explaining a vital problem of our times.

Space for this exhibition now is available in the Natural History Building in a central location immediately off the Rotunda and extending to the Constitution Avenue side of the building. For the production of the exhibition \$525,000 will be required in fiscal year 1972 and \$250,000 in fiscal year 1973. The exhibition will be completed in 18 months after the initial appropriation of funds. The \$525,000 required in fiscal year 1972 will be used as follows: travel (\$5,000), printing and reproduction including descriptive labels and related educational materials associated with the exhibition (\$30,000), other services (\$300,000), supplies (\$60,000), and equipment (\$130,000).



World of Living Things
HALL 10



CONTROLLED
CIRCULATION

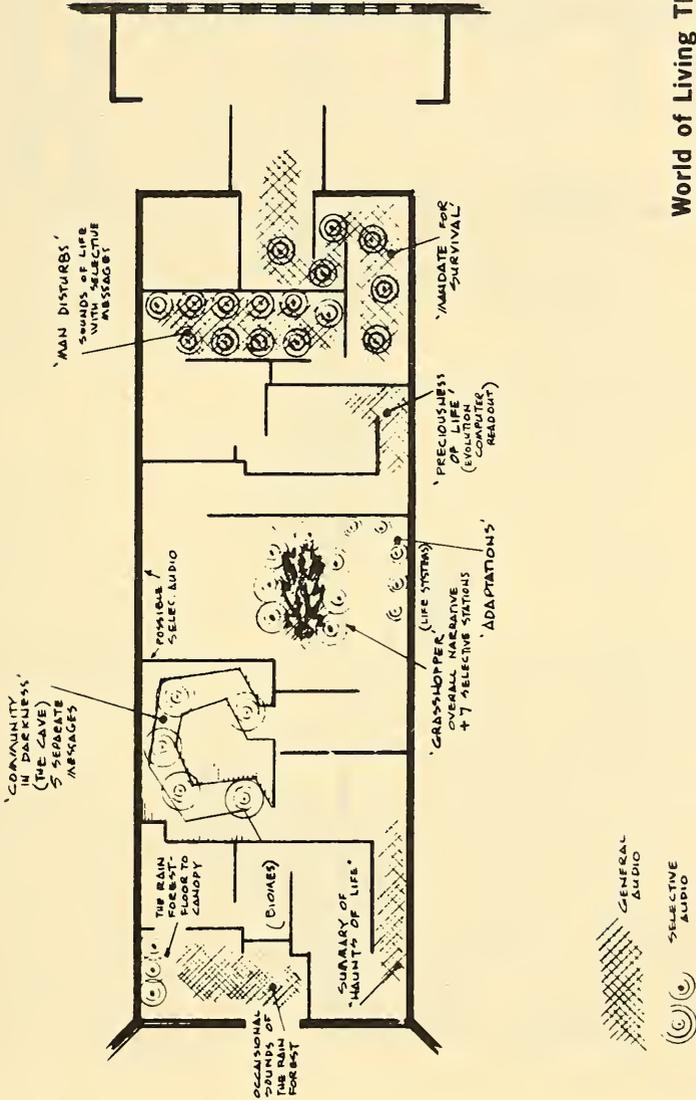


FREE
CIRCULATION



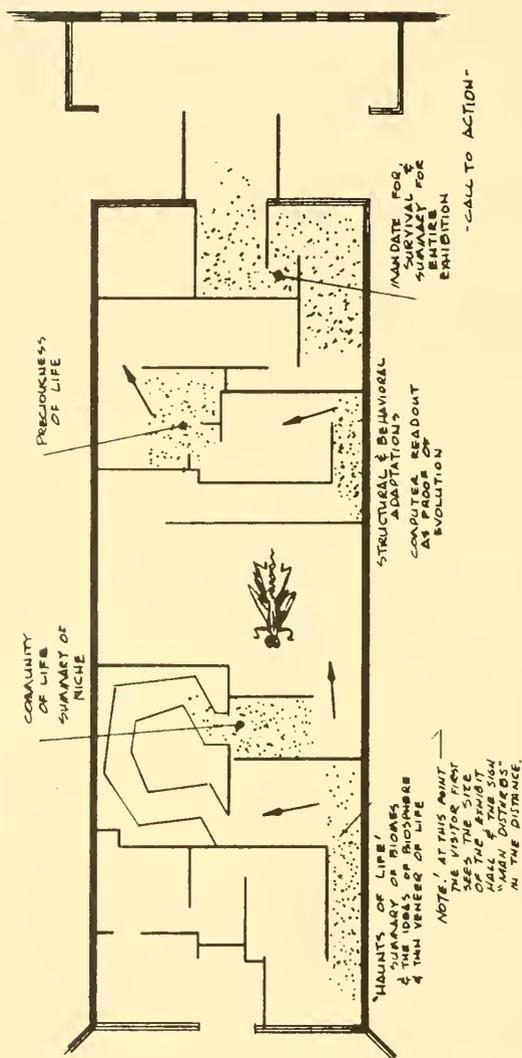
World of Living Things

FLOW PATTERN
HALL 10



World of Living Things

AUDIO HALL 10



World of Living Things

SUMMARY AREAS
HALL 10

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

NATIONAL MUSEUM ACT PROGRAM

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions . .	<u>0</u>	<u>3</u>	<u>3</u>
11 Personnel Compensation	\$ 0	\$ 25,000	\$ 25,000
12 Personnel Benefits	0	2,000	2,000
21 Travel & Transp. of Persons	0	20,000	20,000
22 Transportation of Things	0	18,000	18,000
23 Rent, Comm. & Utilities	0	15,000	15,000
24 Printing & Reproduction	0	75,000	75,000
25 Other Services	0	820,000	820,000
26 Supplies & Materials	0	10,000	10,000
31 Equipment	0	15,000	15,000
41 Grants			
TOTAL	<u>\$ 0</u>	<u>\$ 1,000,000</u>	<u>\$ 1,000,000</u>

Analysis of Total

Pay Increase	0	0	0
Program	0	\$1,000,000	\$1,000,000

Specification of Increase (Program):Support of the Educational and Cultural Resources of the Nation's
Museums (3 positions, \$1,000,000)

The Nation's museums are in trouble. Thirty years ago their attendance totaled 50 million annual visits. Today it probably approaches 300 million visitors. Their financial resources have been strained to the breaking point. Many of these museums no longer can preserve and exhibit their national treasures of works of art, historic objects, and scientific collections without substantial national aid. Yet times call for a sharp increase in the educational and cultural opportunities which these museums are uniquely equipped to provide. Public Law 91-629 approved December 31, 1970, reauthorized appropriations for the National Museum Act through fiscal year 1974 and funding of \$1,000,000 to the Smithsonian Institution each year. This funding is requested for fiscal year 1972 which will be used approximately as follows: studies of museum cataloging and data access (\$240,000); studies of museum laboratory centers to provide conservation and other services (\$130,000); training of museum personnel (\$300,000); research in museum exhibits and other communications (\$150,000); preparation of manuals and other materials on museum techniques (\$75,000); and for program planning and administration (\$105,000).

NATIONAL MUSEUM ACT

1970 Actual.....\$0 1/
 1971 Estimate.....\$0 1/
 1972 Estimate.....\$1,000,000

Public Law 91-629 approved December 31, 1970, reauthorized appropriations for the National Museum Act through fiscal year 1974 and funding of \$1,000,000 each year to the Smithsonian Institution of which \$100,000 each would be provided to the National Endowment for the Arts and to the National Endowment for the Humanities to assist their related museum assistance activities.

An appropriation of \$1,000,000 is requested for the purposes of the National Museum Act in support of the Nation's museums.

Need for Increase--The justification for the programs authorized by the National Museum Act is found in the following extracts from America's Museums: The Belmont Report:²

This is a report on a priceless national treasure--the works of art, the historic objects and the scientific collections in the custody of America's museums. In scope and magnitude this treasure is unmatched by that of any other nation, and it has enriched the minds and lives of countless Americans. Once lost, it can never be replaced.

Today the institutions which have this treasure in their custody are in serious trouble. The totally unpredicted popular success of American museums has strained their financial resources to the breaking-point, has compelled them to deny service to much of the public and will require many of them, unless help comes, to close their doors. Museums have arrived at the point where they can no longer preserve and exhibit the national treasure without substantial national aid.

* * * * *

Thirty years ago America's museums reported that their attendance totaled 50 million visits a year. Today the total is known to be in excess of 200 million and probably approaches 300 million. Museum attendance has increased much faster than has the population of the United States. The increase has been so rapid, and has reached such a level, that museums now have to turn down requests for service. Yet the times call for a sharp increase in the educational and cultural opportunities which museums are uniquely equipped to provide.

* * * * *

Museums base their request to the Federal Government for support on the following grounds:

(1) Museums provide educational and cultural services which no other institutions in the nation either do or can provide.

1/ Approximately \$70,000 over the two year period was appropriated to the Office of the Director General of Museums for activities related to the National Museum Act.

2/ America's Museums: The Belmont Report; a report to the Federal Council on the Arts and Humanities by a special committee of the American Association of Museums; published by the American Association of Museums, Washington, 1969.

(2) A number of museums provide nationwide service on funds which are disproportionately local in origin.

(3) Though museums cooperate in anti-poverty and other Federal programs, they have not received appropriate reimbursement for this service from the Federal Government.

(4) Though the resources of museums are made available to schools, colleges, universities and individual scholars for research that is financed by the Federal Government, the Government has not helped museums meet the costs incidental to such service.

(5) The collections, facilities and staffs of museums produce research which the Government uses and the value of which is recognized by Federal departments and agencies. Increased Federal support for such research is in the national interest.

(6) The Federal Government has an obligation, as yet unmet, to assist in preserving, maintaining and wisely utilizing the national treasure in museums on behalf of all the American people. This report does not suggest that the Federal Government assume dominant responsibility for the financial support of America's museums, but it does suggest that the time has come for the Government to assume a partnership role.

The report lists ten major needs of museums as deserving priority, and divides them into two groups.

The first group includes needs which bear on the ability of museums to reach more people. These needs concern:

Nationwide services financed largely out of local funds;

Services provided by museums for the Federal Government without appropriate reimbursement;

Rehabilitation, expansion, modernization of museum buildings, equipment and exhibits to meet present and future public demands;

The training of professional and technical personnel required by museums;

Research by museums on ways of improving the quality and usefulness of museum services for the educational system and for the general public;

Expansion of traveling exhibits to reach people who do not have ready access to museums;

Increased use of mass media, including television, to make the resources of museums available to more people.

The second group of needs relates more particularly to essential internal functions of museums. These needs concern:

The financing of basic research in museums and the share of the responsibility to be borne by the museums and by the Government;

Special research into methods of conserving for posterity the art, history and science collections in museums, and provision for laboratory facilities, equipment and staff for such research;

An inquiry to determine the specifications of a computer network which would provide a modern method of storing and retrieving information on museum collections, which now are vast.

To meet these ten priority needs, museums are already devoting as much of their financial resources as they possibly can. They cannot begin to make a dent in these needs, however, without the help of the Federal Government.

While it is not possible at this time to state with precision how large a Federal contribution is required, preliminary estimates put it somewhere between \$35 million and \$60 million for the first year. At present, Federal grants of all kinds to museums (apart from the appropriations to The Smithsonian Institution) total only a fraction of \$35 million, and most are limited to scientific research of special interest to government departments and agencies.

The Committee on Museum Needs believes that the existing machinery of the Federal Government can go a considerable distance in meeting the priority needs of museums, if funds are appropriated and if certain amendments to statutes already on the books are made. Accordingly, the Committee submits the following recommendations:

That the National Museum Act be funded with an appropriation of at least \$1 million for the first year;

That grants to museums from Federal Departments and agencies already concerned with museums be sharply increased;

That the Federal Government, as a matter of basic policy, recognize museums as educational institutions, working in formal affiliation with elementary, secondary, undergraduate and graduate level institutions;

That the Federal Council on the Arts and the Humanities, in furtherance of the above basic policy, be asked to study the problems of museums further and to make recommendations with reference to existing legislation to the end that the Federal Government may meet its obligations to museums;

That this report be published for the information and use of all those concerned about the future of museums.

* * * * *

Once the Federal Government decides as a matter of policy to provide financial support for museums as it does for other educational institutions, what government machinery does it use? What agency or agencies can most logically and efficiently implement the policy?

For years museums naturally have had a close working relationship with the Smithsonian Institution. The Smithsonian, however, has not been a channel for massive Federal funds. Such Federal grants as have been made have come mainly from the National Science Foundation and from certain other discipline-oriented departments or agencies. The Office of Education also has been involved through its support of schools and other educational institutions. Increasingly the National Endowments for the Arts and Humanities have become concerned with the problems and needs of museums, but they have yet to receive funds commensurate with the needs.

While it is true that museums are mentioned along with other educational institutions in some existing legislation, the mention has gone almost unnoticed. As a practical matter it is extraordinarily difficult for a museum to obtain any of the benefits of Federal legislation enacted in the interests of educational institutions.

* * * * *

For the present this report suggests that the existing machinery of the Federal Government be employed to meet the urgent needs of museums. There is already on the books a National Museum Act. There are several Federal Departments and agencies which can allocate funds to museums. There are other departments and agencies which could make funds available to museums if existing legislation were amended.

* * * * *

Consider first the Smithsonian and the National Museum Act. Within the Smithsonian the United States National Museum is the unit entirely oriented towards cooperation with other museums and their associations. Its purpose is to work cooperatively with museum professionals in the United States and abroad to increase the effectiveness of museums in the performance of their scholarly and public functions.

The Smithsonian has not, however, had massive funds or grants to distribute to museums for facilities or acquisitions or for the support of continuing museum programs. Whether or not it might be assigned such responsibilities in the future, it is clear that a number of the needs relating to museums, as museums, can be addressed immediately under the National Museum Act.

This is said because there are other services to museums which the Smithsonian has long performed and which might well be expanded. Long before there was a National Museum Act the Smithsonian was supporting service programs responsive to wide museum needs. Joseph Henry, the first Secretary, organized the international exchange of information and publications between institutions and museum professionals. He gave grants for field work to non-Smithsonian anthropologists and published the works of others. Successive administrations have continued the Smithsonian's concern with broad museum problems.

* * * * *

The National Museum Act confirms the tradition of museum services performed by the Smithsonian and names the National Museum to carry them on with the cooperation of the museums of the country. To date the Congress has not made appropriations to implement the Act. An appropriation of at least \$1 million for the first year is essential. When an appropriation is made available, as the authors of this report

urge, the American Association of Museums and its member institutions can make more rapid progress in establishing museum standards and methods of accreditation, can aid experiments with museum consortiums and mutual assistance projects, and can help museums evaluate and improve the educational value of their programs.

* * * * *

In conclusion, the Committee on Museum Needs submits the following recommendations:

That the National Museum Act be funded with an appropriation of at least \$1 million for the first year;

That grants to museums from Federal departments and agencies already concerned with museums be sharply increased, specifically the National Endowment for the Arts, the National Endowment for the Humanities, the U. S. Office of Education, and the National Science Foundation;

That the Federal Government, as a matter of basic policy, recognize museums as educational institutions, working in formal affiliation with elementary, secondary, graduate and undergraduate level institutions;

That the Federal Council on the Arts and the Humanities, in furtherance of the above basic policy, be asked to study the problems of museums further and to make recommendations with reference to existing legislation to the end that the Federal Government may meet its obligations to museums;

That this report be published for the information and use of all those concerned about the future of museums.

The funds requested for Museum Act programs are to meet the demonstrated needs of America's museums--not those of the Smithsonian Institution. The urgency of the needs is known by the Smithsonian from daily experience in responding to requests for aid and advice. The urgency has been repeatedly confirmed in discussions with the Director of the American Association of Museums representing the museum profession. An advisory committee of museum professionals selected in collaboration with the American Association of Museums will recommend procedures and policy for carrying out the high priority programs to which these estimates are addressed. Examples of the needs are suggested by the following program areas.

Studies have begun on the development of programs and technology to catalog museum holdings in science, history, and art on a national level. All require more funds to continue the studies and to start the cataloging in coordinated and compatible systems. Museum professionals and the scientists, historians, and other scholars who use museum collections in their research are

much concerned with the need to make the museum collections more accessible through more comprehensive cataloging. All are concerned that the systems determined upon will be adaptable to computer storage compatible with systems used in all parts of the United States and other countries and that the computer program will be responsive to the needs of students, scholars, writers, and administrators, and be equally usable for those concerned with the circulation of collections and the production of traveling exhibitions.

To provide support for studies of computer cataloging and data access conducted by consortiums of museums and museum associations there will be required in fiscal year 1972, in other services..... \$240,000

To meet a number of the described needs of museums for conservation, for exhibitions, for museum-school materials, for television and radio productions based on collections and activities, it has been proposed that museum laboratory centers be established in various locations throughout the United States. These laboratory centers would be supervised and supported in part by groups of museums or by regional conferences of museums to provide services and work on a cost-sharing basis. To determine the feasibility of such laboratory centers including the volume and nature of the support available and the volume and kinds of services museums would require from them, a study would be organized and supervised by the American Association of Museums. To support the study and to conduct pilot tests of services to museums there is required in other services \$30,000 for the study and \$100,000 for pilot tests..... \$130,000

The most frequently expressed need of America's museums is for trained personnel at both the professional curatorial level and the museum technician grade. Three categories of training require funding. One includes the several varieties of combined museum-university courses for graduate students preparing to enter museum work in curatorial positions in science, art, or history. Another category of training is required for upgrading the skills of museum career personnel already serving in curatorial positions in smaller museums who would be brought up-to-date on the latest doctrines and techniques of museum work through work training in more advanced museums. The third category is for the work training of museum technicians in science, history, or art, and in conservation, exhibition, museum education, and in the management of museum collections and library and archival resources.

Training in these categories and subjects will vary in time from 3 to 12 months with an estimated average cost of \$6,000 a trainee including the support of the trainee and the expenses of the museums and universities providing the training. To train in fiscal year 1972, 50 trainees will require in other services.....\$300,000

Systematic and imaginative research is required to improve the performance of museums. Inquiry is needed into means to improve the public visitors' museum experience, to make exhibits more effective in communicating with the viewer, to enable museums to be of greater use to schools, colleges, and universities, to make museum resources available to disadvantaged people and communities, and to experiment, develop, test, and evaluate all of the museum's varied functions. To support and accelerate research in museum opportunities and practices in cooperation with museums, and their associations, there is required \$150,000 for other services for five research programs.....\$150,000

A great need exists for manuals of instruction on the design and preparation of exhibits, on conservation of museum objects, on museum lighting, on museum education, on museum security, and on museum administration. The opportunity to publish manuals will stimulate experts in the field to contribute manuscripts based on their experience and knowledge. The research and surveys proposed will produce much of value for printing and distribution. For the printing and reproduction of manuals, photo essays, film strips, and other materials requires in fiscal year 1972 \$75,000

For the administration of the program, a program manager, a secretary-stenographer, and a clerk-typist are required, estimated to cost in salaries and benefits.....\$27,000

An advisory committee will be formed with the advice of museum directors and museum associations to advise on the programs to be funded.

To support the staff and the advisory committee, it is estimated that there will be required in fiscal year 1972, for travel \$20,000; for transportation of goods \$18,000; for communications and data processing \$15,000; for supplies \$10,000; and for equipment \$15,000 \$78,000

Total	\$1,000,000
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SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

ACADEMIC AND EDUCATIONAL PROGRAMS

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	20	3	23
11 Personnel Compensation	\$ 181,000	\$ 26,000	\$ 207,000
12 Personnel Benefits	14,000	1,000	15,000
21 Travel & Transp. of Persons	10,000	4,000	14,000
22 Transportation of Things			
23 Rent, Comm. & Utilities			
24 Printing & Reproduction			
25 Other Services	387,000	88,000	475,000
26 Supplies & Materials	3,000	2,000	5,000
31 Equipment	4,000	5,000	9,000
41 Grants			
TOTAL	<u>\$ 599,000</u>	<u>\$ 126,000</u>	<u>\$ 725,000</u>

Analysis of Total

Pay Increase	\$12,000	\$11,000	\$23,000
Program	\$587,000	\$115,000	\$702,000

Specification of Increase (Program):Graduate Studies (\$55,000)

Federal facilities developed for reference and research should serve the universities as auxiliary resources for the advanced training of students and faculty. To strengthen the Institution's graduate studies program, an increase of \$24,000 is requested to support one postdoctoral appointment in environmental sciences, and one in systematic biology; \$11,000 are requested for two pre-doctoral stipends in American history and art; and \$20,000 are sought for the purpose of creating internship appointments for graduate students to work in specialties recommended by their faculty advisors.

Elementary and Secondary Education (3 positions, \$60,000)

Within the present funding levels, the Institution is able to fill only a small fraction of the existing demand for elementary and secondary educational services. The Institution is currently scheduling tours for serving about 100,000 school children in grades 1-12; or one tour per child for about one seventh of the metropolitan area enrollment. This is less than adequate. A planned expansion in this activity has been developed, and to achieve the projected levels, an additional \$60,000 are being requested this year. By 1974, the Institution hopes to be able to accommodate the equivalent of about 250,000 children per school year with at least one scheduled tour. The requested increase would allow extending the services now provided to two new areas, the American Indian, and Technology (2 positions, \$17,000), one additional tour scheduler (\$6,000), three new museum educational traineeships (\$16,000), and additional support costs associated with this expansion (\$21,000).

ACADEMIC AND EDUCATIONAL PROGRAMS

1970 Actual	\$572,000
1971 Estimate	\$599,000
1972 Estimate	\$725,000

A major Smithsonian objective is to make its learning resources available to the formal educational community and to the general public. At the higher education level, the Institution develops and coordinates fellowship programs through a variety of cooperative agreements with the nation's universities. The program promotes research opportunities and advanced study training for doctoral candidates and postdoctoral investigators. Seminars in various curatorial and disciplinary areas are conducted which are central to the interests of the students and the Smithsonian's research efforts. Formal educational activities below the university level are also a responsibility of this program. These include the popular escorted tours for schools, the preparation of teaching guides, lectures, and audio-visual materials. Public use of the educational facilities of the Institution is growing rapidly at all levels of training. The Smithsonian is considered a significant supplementary educational resource by colleges and universities and by elementary and secondary school systems.

A program increase of \$126,000 is requested, including \$55,000 for higher education and research training in four areas, and \$60,000 for expansion of the elementary and secondary educational program. Also requested are \$11,000 for necessary pay increases.

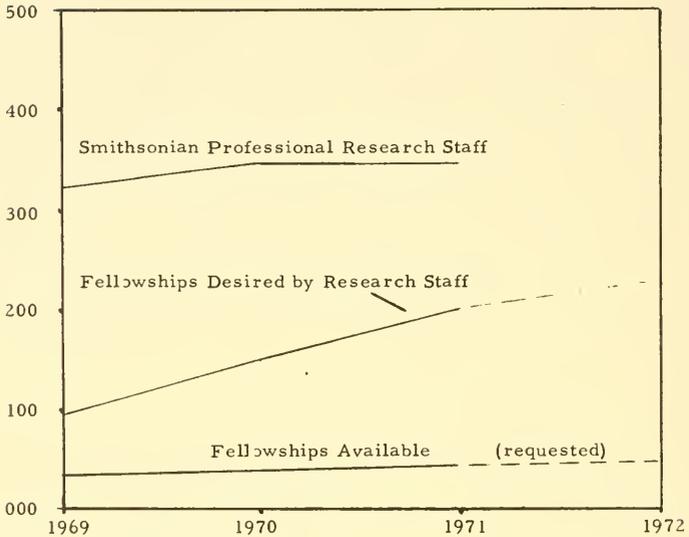
Need for Increase1. Graduate Studies (\$55,000)

The Institution's capacity to supervise visiting investigators has greatly increased since 1967, but the number of stipends available has remained about the same (see Figure 1). With present funds, only 20 Ph. D. candidates can be supported each year, so that the average staff member can expect to supervise a dissertation only once in 17 years. Only 19 postdoctoral appointees can now be supported each year. Stipends for these appointments are allocated in accordance with scholarly discipline. There are only five for 98 Institutional systematic biologists, only two for 28 Institutional specialists in the environmental sciences, and similar shortages through nine areas of study. A list of investigators currently at the Institution is shown on a following page.

Since 1967 the Smithsonian has perfected the administrative procedures necessary for this program and demonstrated that visitors may receive worthwhile training as they complete research projects of high intrinsic worth. As a guarantee of cooperation between the Smithsonian and other research establishments and a contribution to quality training in scarce specialties, the higher education program should be expanded to serve at least twice as many Ph. D. candidates and postdoctoral investigators for a professional staff of the present size (345) and be expanded proportionately with each increase in number of professional staff thereafter. A survey of staff interest has established a willingness to accommodate many more investigators than present funding allows. Consistently more highly meritorious applications for stipends have been received than could be awarded. The Institution has determined that the deficiency to be corrected is \$300,000 per year. This shortage, which has come into existence over the past four years, should be eliminated as rapidly as possible. The first installment on this shortage is sought for fiscal year 1972 in the amount of \$55,000 for stipends; \$24,000 are requested to support one additional postdoctoral investigator in environmental sciences and one in systematic biology; \$11,000 are requested for two additional predoctoral stipends in American history and art. The sum of \$20,000 is requested for internship appointments for graduate students to become associated with the activities and resources of the Smithsonian in

Figure 1

SMITHSONIAN INSTITUTION
Growth in Fellowships Desired By and Available To
Professional Research Staff
Fiscal Years 1969-71, and Estimated Fiscal Year 1972



specialties recommended by faculty advisors in their home institutions. Summer appointments, once supported by private funds, have been discontinued in recent years, and the lack of opportunities for students at earlier stages of their graduate training is keenly felt. The Institution receives many requests to cooperate with university departments which share its interests. It is proposed to develop a system of "cooperative fellowships" whereby each participating university contributes to the student's expenses while at the Smithsonian. The George Washington University has created a "Smithsonian Fellowship" in American Studies, and other universities have indicated a desire to follow suit in this and other fields. The annual cost per student is estimated to be \$2,000. The introduction of a principal of cost-sharing will be a further guarantee of the cooperative character of Smithsonian programs in higher education.

2. Elementary and Secondary Education (3 positions, \$60,000)

Against a background of deepening public concern about the quality of classroom experience, the Institution acknowledges a heavy obligation to draw upon its unconventional information resources to enrich education. As a result of a concentrated effort to increase the use of its exhibit spaces, the number of visits by school classes and teachers escorted by volunteer docents has more than doubled in the two years since 1968. This required the addition of a scheduling

staff and a three-fold increase in the number of volunteer docents. A number of different arrangements are being tried to associate intermediate-level education staff with curators in the bureaus to draw upon the Institution's resources of subject matter in the preparation of tours.

In areas where educational staff and interested curators are lacking, tours cannot be offered. This is the case in technology in the National Museum of History and Technology, biological topics at the National Zoological Park, and oceanography at the National Museum of Natural History. Based upon existing subject matter competence, using tour subjects already developed, the Institution expects in fiscal year 1971 to accommodate a total of 100,000 visits by school children.¹ However, the Institution is capable of serving a much larger children's audience, and the demand is present. The capacity of major exhibit spaces would be over 400 class visits per week (330,000 school children annually) if new subject matter tours could be developed. With the addition of three schedulers, and six staff associates in education over the next three years, the Institution could move from the 1970 actual level of 80 tours per week (about 65,000 annual visits) to over 300 per week (250,000 annual visits) by 1973-74.² Figures 2, 3, and 4 present some historical information on these tours.

¹ Figures are based on an approximate twenty-eight week Smithsonian school tour schedule.

² In terms of the Institution's current funding capability, for every child (grade 1 - 12) taking only one of the scheduled tours during the school year, there are five or six that are not being accommodated at all. Elementary and secondary enrollment in the metropolitan area for the current year is about 650,000. Even if the Institution were presently operating its school tours at the projected 1973-74 level of 300 tours per week, only about 38 percent of the area's youthful audience would be served--with but one visit.

Figure 2 -- Growth of subject matter tours and trained volunteers

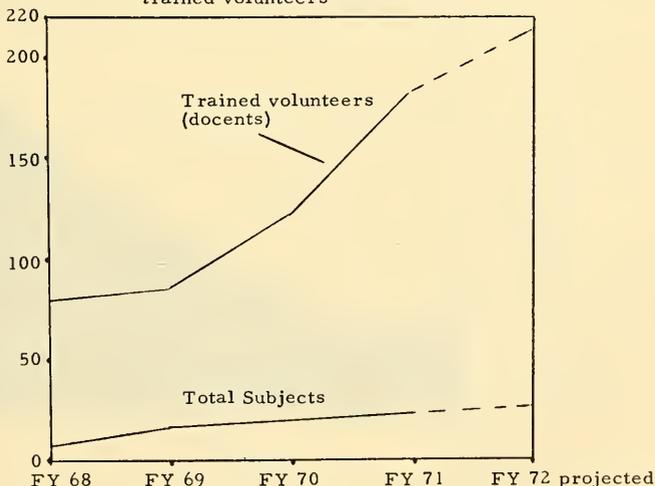


Figure 3 --Number of students serviced by elementary and secondary school tours.

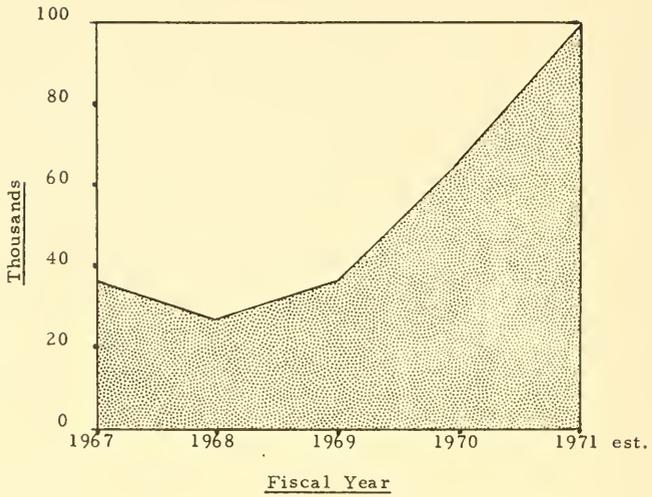
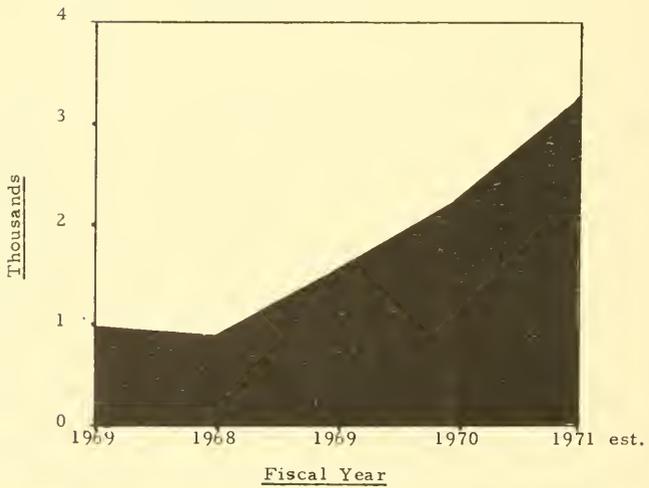


Figure 4 --Number of elementary and secondary school tours provided.



To implement this plan, the Institution requests an increase of \$60,000 in fiscal year 1972 and an approximate like amount in each of the following two years in order to add one scheduler each year, and broaden the range of education staff subject matter by two fields per year (for fiscal year 1972, the new fields would be the American Indian, and Technology). This amount would also support three additional traineeships in museum education and provide funds for direct program costs other than salaries.

It would be difficult to establish an accurate dollar value for the efficient paraprofessional museum teaching services rendered by a corps of some 150 volunteer docents who conducted school tours for 67,650 boys and girls in grades kindergarten through 12 during school year 1969-1970. However, the influence of the professionally competent staff associate whose duties include (1) development of teaching curricula in pertinent subject areas, (2) establishing useful relationships with curators for the purpose of utilizing the Institution's research and collections resources (3) supporting pre-service and in-service training of docents, and (4) continual monitoring of these volunteers to ensure quality control is directly responsible for a personnel multiplier effect which makes the program possible over such a broad range. Each new staff associate would have responsibility for a projected dozen additional docents in new content areas.

The additional tour scheduler will be necessary to accommodate the steadily increasing workload handled by the School Tours Unit as it manages the logistics of matching requests by the nation's schools with appropriate personnel and material resources in the Smithsonian's several museums. The burden of this unit often extends well beyond requests for tours into inquiries for other educational services to school children.

Funds requested for direct program costs are necessary to provide funds for a total operational force of 170 professional and volunteer staff, all of whom have duties which place them in a direct service relationship with the public. Increased demand for external educational services require additional money to support the program of teacher education, docent training, dissemination of information to schools and other museums, and development of audio-visual materials and other teaching aids for enrichment of tours. The Smithsonian considers the utilization of the full range and depth of potential subjects by schools and by visiting classes as being of even greater importance than the attainment of a numerical goal.

The potential importance of museums and other community resources for education in the arts has long been established. The Smithsonian recently completed for the National Science Foundation an assessment of a similar potential in the sciences. Thus, the attainment of full capacity in the use of such a major community resource is a matter of national interest. The attainment of full capacity for class visits within the Smithsonian complex would be a landmark for other efforts underway everywhere in the Nation to draw upon community resources outside the schools for educational purposes. Both the National Portrait Gallery and the National Collection of Fine Arts have undertaken very worthwhile experimental programs in elementary and secondary education. Other new efforts are being planned for the National Museum of Natural History, the National Museum of History and Technology, National Air and Space Museum, and the National Zoological Park. If the novel subject matter of these museums and their non-didactic open qualities finds counterparts in the classroom, museums such as those of the Smithsonian will have performed a distinctive service to education. The Smithsonian program could serve as a benchmark for reference by other metropolitan school systems and museums, a welcome contribution in a frontier area of educational program development where standards for measurement have not yet come widely into use.

The requested \$60,000 would be distributed as follows: two new staff associate positions in anthropology and technology (\$17,000); one additional scheduler (\$6,000); three new traineeships in museum education (\$16,000); and other program support costs (\$21,000).

SMITHSONIAN VISITING RESEARCH ASSOCIATES,*1970-1971

Name & University	Research Title
PROGRAM IN EVOLUTIONARY AND SYSTEMATIC BIOLOGY:	
<u>O. Sylvester Adegoke</u> U. of Calif., Berkeley	Tertiary paleontology of southern Nigeria and ecology and distribution of living Foraminifera in the Gulf of Guinea
<u>Arnfried Antonius</u> U. of Vienna, Austria	Occurrence and distribution of stony corals in Venezuelan waters
<u>James A. Doyle</u> Harvard U.	Studies on angiosperm pollen and megafossils of the Potomac Group (Cretaceous) of Maryland and Virginia
<u>Miloslav Kovanda</u> Charles U., Prague	Preparation of a monographic electronic data bank of Campanula section Heterophylla
<u>Jerry A. Powell</u> (partial support) U. of Calif., Berkeley	Biosystematic study of Neotropical Sparganothidini (Lepidoptera: Tortricidae)
Kenneth A. Beem U. of Cincinnati	Choctawhatchee Formation of northwestern Florida
David R. Budge U. of Calif., Berkeley	Study of late Ordovician and Silurian rocks and contained coral fauna in eastern Great Basin
Theodore Gary Gautier U. of Kansas	Cryptosome Bryozoa from Permian (Leonardian) of the Glass Mountains, Texas
Eckart Hakansson U. of Copenhagen	The free-living Cheilostomata from the White Chalk of Denmark
Catherine Jane Kerby George Washington U.	A life history study of the polychaetous annelid, <u>Sabella microphthalma</u>
PROGRAM IN ENVIRONMENTAL SCIENCES:	
<u>Clarke Brooks</u> U. of Chicago	Analysis of algal biliproteins
<u>Jack H. Burk</u> New Mexico State U.	Production and energy status of deciduous tree species with regard to annual cycle of energy utilization and standing crop
<u>Stephen I. Rothstein</u> Yale U.	An experimental investigation of host preference in the brown-headed cowbird
Robin Doughty U. of Calif., Berkeley	The feather trade; its cultural and biogeographical significance in England and America
Christen E. Wemmer U. of Maryland	Behavioral concomitants of morphology and the relationship of the form-function complex to social organization and habitat utilization
PROGRAM IN EVOLUTIONARY AND BEHAVIORAL BIOLOGY, TROPICAL ZONES:	
<u>Alicia Breymeyer</u> U. of Warsaw	Ecology of grasslands environments in tropical zones
<u>Jeffrey B. Graham</u> Scripps Inst. of Oceanography	Studies on the adaptive radiation of tropical marine fishes
<u>Ian H. Healey</u> U. of Wales	The role of animals in decomposition processes in the tropical forest
<u>James R. Karr</u> U. of Chicago	Comparisons of structure of avian communities in selected tropical areas

*Postdoctoral Associates underlined

- David L. Meyer
Yale U.
Eugene Morton
Yale U.
A. Ross Kiester (partial support)
Harvard U.
John E. McCosker
Scripps Inst. of Oceanography
William B. Ramirez
U. of Kansas
- Studies in the functional morphology of living and fossil crinoids
Ecological aspects of communication in birds
Studies on the ecology and social behavior of Panmania Gecko Gonatodes albogularis
Substrate preferences and comparative functional morphology of eels, family Ophichthidae
Ecological relationships and specificity between wasps (Agaonidae) and Ficus

PROGRAM IN PHYSICAL SCIENCES:

- John J. Gurney
Capetown U.
Douglas D. Nelson
U. of South Carolina
- Electron microprobe studies of kimberlite and its associated ultrabasic xenoliths
Clay mineralogy and sedimentation of the Outer Banks, North Carolina

PROGRAM IN ANTHROPOLOGY:

- James H. Rauh
Tulane U.
Mario Jose Sanoja
U. Cent. Venezuela
D. Gentry Steele
U. of Kansas
Rayna D. Green
Indiana U.
Iraida Vargas (partial support)
U. Cent. Venezuela
- An investigation of the structure of the Borgia group of manuscripts
Ecology and cultural areas in pre-Columbian Venezuela
A re-evaluation of the within-group variation of the family Tupaiidae
The image of the Indian in the popular imagination
Aboriginal cultural development in eastern Venezuela and their relationships with the Lesser Antilles

PROGRAM IN HISTORY OF ART AND MUSIC:

- Robert E. Eliason
U. of Missouri, K. C.
Francis V. O'Connor
Johns Hopkins U.
Shelley Fletcher
New York U.
William D. Morgan (6 mo. appt.)
U. of Delaware
Richard N. Murray
U. of Chicago
Phylis North (6 mo. appt.)
- Early American wind instruments and their makers
Historical studies of American art
Pigment analysis of the American painting collection at NCFA
Henry Vaughan, 1845-1917, Gothic revival architect
A study of figurative mural painting, public and private, in the U. S. 1890-1920
Max Weber paintings, 1905-1920

PROGRAM IN AMERICAN HISTORY:

- Leonard P. Curry
U. of Kentucky
William B. Floyd (7 mo. appt.)
George Washington U.
Yvonne Marie Lange
U. of Pennsylvania
Peter H. Smith
George Washington U.
- Roots of American urbanism, 1800-1850
An historical study of Thomas Sully
Santos, the household wooden saints of Puerto Rico
The Great American Wheel Conspiracy: Hoopes Bros. and Darlington, 1890-1920

PROGRAM IN HISTORY OF SCIENCE AND TECHNOLOGY:

- Sandra S. Herbert (partial support) Erasmus Darwin's materialistic physiology and its importance for his grandson Charles' discovery of evolution through natural selection
Brandeis U.
- Stephen Cooper History of American science and technology with emphasis on interrelationships between science and government
Princeton U.
- Barbara Ann Kaplan The relevance of alchemical and hermetic ideas to 13th and 14th century medicine in western Europe
U. of Maryland
- Sally G. Kohlstedt The American Association for the Advancement of Science, 1840-1860; the formation of a national scientific community
of U. of Illinois

PROGRAM IN MUSEUM STUDIES:

- Joan W. Mishara Conservation studies of metals, particularly metallic objects of art
NYU Inst. of Fine Arts

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

RESEARCH AWARDS PROGRAM

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>0</u>	<u>0</u>	<u>0</u>
11 Personnel Compensation.....\$		\$	\$
12 Personnel Benefits.....			
21 Travel & Transp. of Persons			
22 Transportation of Things			
23 Rent, Comm. & Utilities			
24 Printing & Reproduction.....			
25 Other Services	400,000	50,000	450,000
26 Supplies & Materials			
31 Equipment			
41 Grants			
TOTAL.....	<u>\$ 400,000</u>	<u>\$ 50,000</u>	<u>\$ 450,000</u>

Analysis of Total

Pay Increase	0	0	0
Program	\$400,000	\$50,000	\$450,000

Specification of Increase (Program):Funding Multiyear Awards (\$50,000)

The Research Awards Program funds worthy, intramural research projects not funded either by the regular plans of operation of the Smithsonian's science bureaus or by outside agencies. Since its inception in fiscal year 1966, 234 proposals have been funded and there have been more than 200 publications in the fields of biology and anthropology directly attributable to this support. The program also has enabled Smithsonian scientists to engage in productive field research with colleagues from other institutions. An additional \$50,000 is requested to help fund multiyear awards for better stability, continuity, and planning of research. This additional sum will also help to combat the higher costs of basic research brought about by inflation in the costs of laboratory supplies, equipment, and services.

RESEARCH AWARDS PROGRAM

1970 Actual	\$400,000
1971 Estimate	\$400,000
1972 Estimate	\$450,000

The purpose of the Smithsonian Research Awards Program is to support worthy, intramural research projects not funded either by outside agencies or through the regular plans of operations of the science bureaus.

Prior to fiscal year 1966, the Smithsonian Institution received funds from the National Science Foundation for research projects of individual staff members. In the fiscal year 1966 appropriation, the Congress prohibited the NSF from making grants for scientific research to other Government agencies. The NSF instituted a further limitation that it would no longer make grants to any agency or institution receiving direct federal appropriations. The Research Awards Program was begun in fiscal year 1966 by an appropriation of \$350,000 to the Smithsonian Institution for the purpose of financing new or continuing research projects formerly eligible for support from the NSF. Funding for the program increased to \$400,000 in fiscal year 1967 where it has remained level.

Proposals are submitted each year by members of the Smithsonian Institution staff only and cover all phases of research in the scientific bureaus. All proposals have undergone a careful scientific or scholarly review in their respective bureaus before they are reviewed by members of the Research Awards Advisory Committee. The members of the Committee are selected on the basis of their broad experience in scientific research, their understanding of scholarship, and their ability to discern basic values in almost any field.

An increase of \$50,000 is requested to help fund multiyear awards and offset inflation in the cost of basic research.

Need for Increase--From its inception in fiscal year 1966 through fiscal year 1971, 234 proposals were funded through the Research Awards Program. There have been more than 200 publications in the fields of biology and anthropology directly related to the research accomplished from this support. Also, an initial research effort activated by a research award, in many cases has been continued through funding by other federal granting agencies, and research and development foundations.

In fiscal year 1971, members of the Smithsonian staff were allowed for the first time to submit proposals for funding up to three years in order to provide for better stability, continuity, and planning of research. There were 72 proposals received for fiscal year 1971 amounting to \$1,654,771, of which 40 were funded in the amount of \$400,000. Amounts of \$224,000 are committed to second-year funding and \$71,000 to third-year funding. Thirty-two proposals had to be rejected for lack of funds. The salary of the principal investigator is never included in the budget of the proposal; it is borne by the Smithsonian Institution.

Following pages show a comparison of proposals funded for fiscal year 1970 and fiscal year 1971 (Table I), a comparison of proposals by dollar volume (Table II), and a comparison of proposals by bureau (Table III).

The Research Awards Program is intended to cope with a serious problem confronting many scientists who wish to undertake non-routine fundamental research of the kind normally undertaken by university research scientists but which cannot be supported from the federal "Salaries and Expenses" appropriation. The large number of proposals that were not funded in fiscal year 1971 and in previous years is of grave concern to the Institution. This concern is based on the fact that the work supported by the Research Awards Program is often the

best of the Institution's productivity and the reason for acquiring scientists of the highest competence and imagination. If the Smithsonian cannot provide this kind of support, it might not attract a high caliber of scientists nor retain them thereafter. Further, it serves as an important means whereby scientists of the Smithsonian Institution may engage in collaborative field research with colleagues located in other institutions. Many opportunities for participation in expeditions and other field projects would be lost were it not for the Research Awards Program providing modest, but essential, research assistance. The problem affects all the research bureaus, but is especially acute in the National Museum of Natural History where most of the operational funding must go to the maintenance of the National Collections.

TABLE I

RESEARCH AWARDS PROGRAM
COMPARISON OF PROPOSALS FUNDED
FY 1970 and FY 1971

	FY - 1970			FY - 1971		
	Total Number of Proposals Received	Amount of Proposals Received	Total Amount Funded	Total Number of Proposals Received	Amount of Proposals Received	Total Amount Funded
SUMMARY - RESEARCH AWARDS PROGRAM:						
NATIONAL MUSEUM OF NATURAL HISTORY	45	594,886	295,785	31	1,067,557	281,915
RADIATION BIOLOGY LABORATORY	3	25,643	11,000	1	147,957	33,000
NATIONAL MUSEUM OF HISTORY AND TECHNOLOGY	3	7,799	910	1	5,856	5,785
SMITHSONIAN TROPICAL RESEARCH INSTITUTE	2	61,610	45,000	2	105,584	43,400
SMITHSONIAN ASTROPHYSICAL OBSERVATORY	5	173,741	34,960	3	317,780	26,000
NCFA/NPG CONSERVATION LABORATORY	1	16,050	-0-	-0-	-0-	-0-
INFORMATION SYSTEMS DIVISION	1	16,716	-0-	-0-	10,037	9,900
NATIONAL ZOOLOGICAL PARK	1	20,851	12,345	1	-0-	-0-
TOTAL	61	917,296	400,000	39	1,654,771	400,000

TABLE II

FY 1971 RESEARCH AWARDS PROGRAM
COMPARISON OF PROPOSALS BY DOLLAR VOLUME
FY 1967 - FY 1971

MORE THAN	LESS THAN	NUMBER OF PROPOSALS				
		FY 1967	FY 1968	FY 1969	FY 1970	FY 1971
-0-	5,000	16	19	6	13	7
5,000	10,000	19	21	22	14	17
10,000	15,000	19	18	12	12	6
15,000	20,000	4	6	7	7	10
20,000	25,000	3	2	5	5	10
25,000	30,000	1	3	6	3	6
30,000	35,000	3	3	1	4	4
35,000	---	<u>1</u>	<u>2</u>	<u>1</u>	<u>3</u>	<u>12</u>
TOTAL		66	74	60	61	72

TABLE III

FY 1971 RESEARCH AWARDS PROGRAM
COMPARISON OF PROPOSALS BY BUREAU
FY 1967 - FY 1971

	NUMBER OF PROPOSALS					AMOUNT REQUESTED				
	FY 1967	FY 1968	FY 1969	FY 1970	FY 1971	FY 1967	FY 1968	FY 1969	FY 1970	FY 1971
OFFICE OF THE SECRETARY	1	1	-0-	-0-	-0-	10,000	9,351	-0-	-0-	-0-
MUSEUM OF NATURAL HISTORY	52	62	45	45	43	545,902	699,819	538,933	594,886	1,067,557
RADIATION BIOLOGY LABORATORY	2	5	4	3	4	23,523	59,296	41,759	25,643	147,957
MUSEUM OF HISTORY AND TECHNOLOGY	3	2	3	3	3	17,158	23,420	33,266	7,799	5,856
SMITHSONIAN TROPICAL RESEARCH INSTITUTE	3	1	2	2	4	45,274	22,645	57,763	61,610	105,584
SMITHSONIAN ASTROPHYSICAL OBSERVATORY	1	2	5	5	17	163,000	39,800	118,780	173,741	317,780
NATIONAL AIR AND SPACE MUSEUM	1	-0-	-0-	-0-	-0-	14,500	-0-	-0-	-0-	-0-
OFFICE OF OCEANOGRAPHY AND LIMNOLOGY	2	-0-	-0-	-0-	-0-	14,984	-0-	-0-	-0-	-0-
OFFICE OF ECOLOGY	1	1	-0-	-0-	-0-	9,251	8,956	-0-	-0-	-0-
NCFA/NPG CONSERVATION LABORATORY	-0-	-0-	1	1	-0-	-0-	-0-	12,300	16,050	-0-
INFORMATION SYSTEMS DIVISION	-0-	-0-	-0-	1	1	-0-	-0-	-0-	16,716	10,037
NATIONAL ZOOLOGICAL PARK	-0-	-0-	-0-	1	-0-	-0-	-0-	-0-	20,851	-0-
TOTAL	66	74	60	61	72	843,592	863,287	802,801	917,296	1,654,771

ADMINISTRATIVE AND CENTRAL SUPPORT

Increases being requested in this section cover primarily the central administrative and technical services which operate in support of the program units. Included are the Office of the Secretary, Office of the General Counsel, Office of the Treasurer, Office of Personnel Administration, Libraries, Press, Smithsonian Archives, Photographic Services Division, Supply Division, Administrative Systems Division, Travel Services Office, Duplicating Section, and the Information Systems Division. As a group, the requested increases for fiscal year 1972 amount to \$602,000 or about 7 percent of the total requested Institutional increases.

For the last several years, actual operations indicate that the costs of administering and supporting the diverse program activities have amounted to 15 percent to 18 percent of total obligations. The Smithsonian desires to keep the actual costs of the support function in this range, and the requests presented reflect what is necessary to strengthen certain areas. The expenditures of these units are viewed as necessary to cover general administrative and technical activities, in the manner of an operating overhead account, with the exception of the amounts requested for physical plant operations, maintenance, and protection by the Buildings Management Department which are presented separately. These are an increase of \$807,000 or 9 percent.

Since the needs of the support group follow rather closely the developmental pattern of the program units, in future years' budget presentations an effort will be made to consolidate the number of organizational requests and reduce the complexity of several separate budget submissions. For fiscal year 1972, however, in order to promote an understanding of the overall operations, individual descriptions and requests are submitted for the administrative support units.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

OFFICE OF THE SECRETARY

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>38</u>	<u>2</u>	<u>40</u>
11 Personnel Compensation.....	\$ 534,000	\$ 49,000	\$ 583,000
12 Personnel Benefits.....	43,000	3,000	46,000
21 Travel & Transp. of Persons	10,000	1,000	11,000
22 Transportation of Things			
23 Rent, Comm. & Utilities	1,000	0	1,000
24 Printing & Reproduction.....			
25 Other Services	4,000	3,000	7,000
26 Supplies & Materials	3,000	1,000	4,000
31 Equipment	3,000	1,000	4,000
41 Grants			
TOTAL.....	<u>\$ 598,000</u>	<u>\$ 58,000</u>	<u>\$ 656,000</u>

Analysis of Total

Pay Increase	\$22,000	\$12,000	\$34,000
Program	\$576,000	\$46,000	\$622,000

Specification of Increase (Program):Operations Officer and Public Service Assistant and Program Funds (2 positions \$46,000)

An operations officer at a cost of \$20,000 is needed to assist the Under Secretary in the planning, direction, coordination, and development of the administrative and central support activities in order that they will be of maximum service to the requirements of our museums, galleries, and laboratories. An assistant to the Assistant Secretary (Public Service) also is required to help plan and produce a range of educational materials such as books, kits, and recording cassettes drawing upon the Institution's resources. This position would cost \$20,000. And, lastly, an additional \$6,000 is required for office support costs.

ADMINISTRATIVE AND CENTRAL SUPPORT ACTIVITIES
OFFICE OF THE SECRETARY

1970 Actual.....	\$462,000
1971 Estimate.....	\$598,000
1972 Estimate.....	\$656,000

The Office of the Secretary is composed of the immediate offices of the Secretary, the Under Secretary, the Assistant Secretary (Science), the Assistant Secretary (History and Art), the Assistant Secretary (Public Service), and the Office of Audits.

For fiscal year 1972, a program increase of \$46,000 is requested to employ an operations officer for the Office of the Under Secretary and an assistant to the Assistant Secretary (Public Service) and to provide funds for general operations. An additional \$12,000 are required for necessary pay.

Need for Increase--At the May 1970 meeting of the Board of Regents, the former Assistant Secretary was named to the post of Under Secretary. This was in recognition of the very substantial responsibilities of this office. In order to meet an increasing workload involving Regents matters, construction, legislation, and program and policy matters concerning the entire Institution, additional staff for his office is required. An operations officer is needed to serve in an advisory capacity to the Under Secretary, and be responsible for the direction, coordination, long-range planning, and development of certain of the administrative and central support activities of the Institution, particularly in their service relationships to the museums, galleries, and laboratories. These services include personnel administration, management analysis, procurement, contract administration, property management, buildings management, buildings security, photographic services, and other administrative and technical support units. A position for the operations officer is requested (\$20,000).

An assistant to the Assistant Secretary for Public Service to help plan and produce a range of educational materials is requested also. The Smithsonian has many opportunities to cooperate with private industry and organizations in developing educational materials for the public. These materials include such items as pamphlets and books, construction kits, television programs, recording cassettes for home instruction and mini exhibits. Smithsonian activities that would be involved in these efforts include the Press, the Office of Exhibits, the Elementary and Secondary Education Office, and others, drawing upon the vast subject matter resources of our museums, art galleries, laboratories, and the Zoo. This position would cost \$20,000.

Although the Office of the Secretary has developed a management group responsive to the broad and complex nature of the Smithsonian, it currently has a serious deficiency of funding in other objects of expense to enable it to perform in an effective way. This is a request for essential funds for travel, advisory services, supplies and materials, and basic office equipment and furniture (\$6,000).

ADMINISTRATIVE AND CENTRAL SUPPORT ACTIVITIES
OFFICE OF THE GENERAL COUNSEL

1970 Actual	\$110,000
1971 Estimate	\$135,000
1972 Estimate	\$158,000

In 1964 the Office of the General Counsel was established, some 118 years after the Institution was founded. Prior to 1964, outside counsel was retained from time to time to handle significant legal matters for the Institution's private side affairs; the Department of Justice handled a few legal suits on the Federal side; and other questions were decided by Smithsonian administrative personnel. However, such a system was inadequate; it failed to provide the continuous legal counsel necessary for consistency in the day-to-day operations of the Institution.

An increase of \$18,000 is requested for staff and other support. A further increase of \$5,000 is requested for necessary pay.

Need for Increase--As a non-Governmental establishment which nevertheless operates in substantial part with appropriated funds, the legal problems of the Institution include those arising from the operations of a private, university-like, charitable corporation, as well as those common to Government organizations. Many otherwise routine matters are complicated by the pervasive necessity to maintain a rational, effective, and legal relationship between these two capacities in which the Institution functions. In addition, the OGC is responsible for the continuous analysis of Congressional activities and legislation and their impact on the Institution, and has a major role in the furtherance of the Smithsonian's own legislative program.

The Institution has grown considerably since 1964. There have been added to its already numerous responsibilities the Renwick Gallery, the Hirshhorn Museum and Sculpture Garden, the Cooper-Hewitt Museum, the Archives of American Art, the Chesapeake Bay Center for Environmental Studies, and the Woodrow Wilson International Center for Scholars. It has taken on such programs as the National Museum Act and the Foreign Currency Program. Each of these required OGC staff participation in its establishment and each places demands on the staff for its continued development and operation within the framework of applicable laws.

The Office of the General Counsel has grown from three attorneys in 1964 to four full-time attorneys and two part-time in 1971. During this same period, the Institution's appropriations for salaries and expenses have more than doubled, with a concomitant increase in the workload of this office. This limitation of staff has made it increasingly difficult to meet the rising needs of the Institution and has created a growing backlog of matters on which action has had to be deferred.

At the same time, funds for other objects, which averaged about 4 1/2 percent of salaries in fiscal years 1966 through 1969, have been curtailed to three percent during the last two fiscal years. This has been achieved by funding some necessary travel from sources which will not be available in fiscal year 1972, and by deferring the replacement of essential office equipment, which can no longer be postponed without impairing the quality and efficiency of the services provided by the office.

To help overcome these deficiencies, an increase of \$18,000 is requested; \$17,000 for an additional part-time attorney and a secretary, and \$1,000 for other expenses of the office.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

OFFICE OF THE TREASURER

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>31</u>	<u>2</u>	<u>33</u>
11 Personnel Compensation.....	\$331,000	\$ 28,000	\$359,000
12 Personnel Benefits.....	26,000	3,000	29,000
21 Travel & Transp. of Persons	2,000	0	2,000
22 Transportation of Things			
23 Rent, Comm. & Utilities	192,000	20,000	212,000
24 Printing & Reproduction			
25 Other Services	37,000	10,000	47,000
26 Supplies & Materials	14,000	7,000	21,000
31 Equipment	2,000	0	2,000
41 Grants			
TOTAL.....	<u>\$ 604,000</u>	<u>\$ 68,000</u>	<u>\$ 672,000</u>

Analysis of Total

Pay Increase	\$22,000	\$13,000	\$ 35,000
Program	\$582,000	\$55,000	\$637,000

Specification of Increase (Program):Accounting, Budgeting, Financial Reporting, and Postage Requirements
(2 positions, \$55,000)

The Office of the Treasurer provides comprehensive financial management assistance and technical services to the Smithsonian. This includes financial planning, budgeting, accounting, contracts administration, and reporting. An increase of two employees and funds to meet Institutional needs are requested. A systems accountant is required to continually review and improve the Institution's accounting procedures and records to keep them responsive to needs. A budget technician is required to assist the three budget analysts in a wide variety of data gathering and summarizing assignments. These two positions would cost \$18,000. An additional \$17,000 are needed for forms and computer services used in financial reporting to the museums, galleries, research laboratories, and other units. Under recent postal reform legislation, a near future substantial increase in postal rates is anticipated. An additional \$20,000 are requested for postage indicia.

ADMINISTRATIVE AND CENTRAL SUPPORT ACTIVITIES
OFFICE OF THE TREASURER

1970 Actual.....	\$573,000
1971 Estimate.....	\$604,000
1972 Estimate.....	\$672,000

This office provides financial management assistance and technical services to the Smithsonian. It is composed of the Treasurer's immediate office, the Office of Programming and Budget, and the Accounting Division. Financial planning, budgeting, accounting, contracts administration, and reporting are the responsibilities of these several units.

An increase of \$55,000 is requested to strengthen the budgeting and accounting functions, to provide forms and computer services required in financial reporting, and to meet anticipated higher postage indicia costs. Funding of \$13,000 is required also for necessary pay.

Need for Increase--Selective staff increases and funds for program improvement are required in order that the Office of the Treasurer can provide responsive services to the Smithsonian's museums, galleries, research laboratories, and to the other organization units that are themselves providing similar technical support in the way of personnel management, buildings management, and other services. The diversity of the Smithsonian's operations and geographic distribution, and the variety of funding sources for its programs pose unusual demands of financial management services. The effectiveness and efficiency with which the program offices carry out their assigned research, curation, exhibit, and other public services depend in large measure on the accuracy and timeliness of good financial information.

Two additional employees are required: a systems accountant and a budget technician. The systems accountant would assist in the design, adaptation, installation, evaluation, and updating of the Institution's accounting systems, including reports, records control devices, and related procedures. There are at present three budget analysts responsible for agency-level budget planning, formulation and execution including the year-round job of review and monitoring of obligations and outlays for some 40 budget line items as well as foreign currency and construction accounts. A budget technician (no such position now exists) is required to assist in a wide variety of data gathering and summarizing assignments. Funding of \$18,000 is requested for these two positions.

Additional funds for forms and computer services are requested for financial reporting to the heads of the Institution's museums, galleries, research laboratories, and the other administrative and central support activities including the Buildings Management Department (\$17,000).

Funding of the Institution's postage indicia requirements is provided centrally from the Office of the Treasurer. Approximately \$165,000 will be spent for this purpose in fiscal year 1971 primarily for first class mail. The U.S. Post Office Department indicates substantially higher postage rates late this fiscal year or early next. Under the recent postal reform legislation, the board of governors are empowered to make an emergency increase in postage rates. An eight-cent first class rate is likely as well as other increases. An additional \$20,000 are requested for postage indicia.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

OFFICE OF PERSONNEL ADMINISTRATION AND HEALTH UNITS

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>28</u>	<u>1</u>	<u>29</u>
11 Personnel Compensation.....	\$ 368,000	\$16,000	\$ 384,000
12 Personnel Benefits.....	29,000	2,000	31,000
21 Travel & Transp. of Persons	2,000	0	2,000
22 Transportation of Things			
23 Rent, Comm. & Utilities			
24 Printing & Reproduction			
25 Other Services	32,000	10,000	42,000
26 Supplies & Materials	1,000	4,000	5,000
31 Equipment			
41 Grants			
TOTAL.....	<u>\$ 432,000</u>	<u>\$ 32,000</u>	<u>\$ 464,000</u>

Analysis of Total

Pay Increase	\$20,000	\$10,000	\$30,000
Program	\$412,000	\$22,000	\$434,000

Specification of Increase (Program):Health Services and Employee Training (1 position, \$22,000)

This Office has responsibility for personnel administration and the operation of health services for visitors and staff. On an annual basis the health units provide about 14,000 treatments. An additional \$12,000 are requested to provide one more nurse position and necessary supplies and equipment to augment the health services provided in the History and Technology Building, the Natural History Building, and the buildings on the south side of the Mall. Similarly, the Smithsonian needs to provide more employee training especially of supervisors and of low-level, low-skill employees. The Office of Personnel Administration has only about \$10,000 available to it for training expenses. An additional \$10,000 are requested.

ADMINISTRATIVE AND CENTRAL SUPPORT ACTIVITIES
OFFICE OF PERSONNEL ADMINISTRATION AND HEALTH UNITS

1970 Actual.....\$388,000
1971 Estimate....\$432,000
1972 Estimate....\$464,000

This Office has responsibility for personnel administration and the operation of health services. It helps to formulate policy over a wide range of activities from manpower planning and managerial development, through employee training, performance evaluation, and labor relations. These programs generally fall into six broad categories; the table below indicates the nature of these endeavors with estimated man-years and expenditures for fiscal year 1970.

Activity	Effort and Dollars	
	FY 1970	
Manpower and Organization	.75 man years	\$ 12,000
Career Development	2.75 "	40,000
Management and Personnel		
Consulting	9.00 "	153,000
Technical and Administrative		
Support	5.00 "	34,000
Health Services	3.50 "	51,000
Recruitment and Placement	2.00 "	29,000
Admin. and Direction	3.50 "	69,000
	26.50 man years	\$388,000

Annual reports indicate that over the last few years the number of actions handled on a yearly basis by the staff has grown to 72,000. This is a sizable workload. The ratio of staffing for carrying out personnel office functions is one personnel employee per 125 employees serviced. While no fixed standard has been developed, this is considerably higher than comparable government agencies which average approximately one personnel employee per 80 employees serviced.

The requested program increase of \$22,000 will be used to correct shortages in the areas of health services and employee training. An additional \$10,000 are required for necessary pay purposes.

Need for Increase--The health units provide services to Smithsonian Institution employees as well as to visitors and tourists. On an annual basis, these units provide about 14,000 treatments to tourists and staff. This figure has been steadily increasing over the years. There is a critical need to improve and increase the availability of these services in the History and Technology Building, the Natural History Building, and the buildings on the south side of the Mall. An amount of \$12,000 is requested for an additional nursing position plus necessary supplies and equipment.

The Smithsonian has been administering an austere program of employee training. In fiscal year 1970, the amount spent by the Office on training was approximately \$10,000, yet the needs for training have been steadily mounting. Additional funding is required just to meet programs of special emphasis with the Administration. For example, the Civil Service Commission recently has required specially tailored training for first-level supervisors. In the near future, the CSC will issue strong recommendations that equivalent training be provided for all supervisors. There are more than 400 supervisors currently in the Institution. A second area of emphasis is training for supervisors and

and managers in labor-management relations. A third area is "upward mobility". The present Administration is putting much emphasis on the Public Service Careers Program and other programs to provide training for low-level, low-skill individuals who are currently Federal employees. The Institution has at present more than 600 employees in the latter category, i. e., GS-5 and below and WG-5 and below. The Institution has at present no programs in the second and third areas, and only minimal programs in supervisory training. For these reasons an additional \$10,000 are being requested to strengthen training programs.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

SMITHSONIAN INSTITUTION LIBRARIES

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions . . .	<u>54</u>	<u>9</u>	<u>63</u>
11 Personnel Compensation	\$ 600,000	\$ 74,000	\$ 674,000
12 Personnel Benefits	47,000	6,000	53,000
21 Travel & Transp. of Persons	6,000	2,000	8,000
22 Transportation of Things	1,000	1,000	2,000
23 Rent, Comm. & Utilities	2,000	2,000	4,000
24 Printing & Reproduction	10,000	20,000	30,000
25 Other Services	15,000	23,000	38,000
26 Supplies & Materials	51,000	33,000	84,000
31 Equipment	7,000	50,000	57,000
41 Grants			
TOTAL	<u>\$ 739,000</u>	<u>\$ 211,000</u>	<u>\$ 950,000</u>

Analysis of Total

Pay Increase	\$ 24,000	\$ 21,000	\$ 45,000
Program	\$715,000	\$190,000	\$905,000

Specification of Increase (Program):Correction of Shortages and Continued Modernization (9 positions, \$190,000)

Although the Smithsonian will continue to use the resources of other libraries through interlibrary loans and other ways, the availability of adequate in-house library materials and reference services is essential to the effective performance of the Institution's curation, exhibition, and research functions. Presently, the Smithsonian Libraries are not meeting several staff needs. The request for fiscal year 1972 is meant to partially offset a variety of deficiencies such as in purchase funds (\$65,000), development of automated library techniques (\$20,000), materials preservation (\$22,000), and supplies and equipment (\$24,000). Nine additional positions are requested. A librarian and two clerks will provide service to museums and galleries that are unserved by the General Library (\$20,000). One cataloger and one technician will be used to create a core speed cataloging team to reduce the time of processing new materials (\$15,000). A cataloger and a technician will also be utilized to organize and inventory the collections housed at the Lamont Street center (\$14,000). In addition, one technician and one aid are necessary to begin to edit the holdings of the Institution's union catalog (\$10,000).

ADMINISTRATIVE AND CENTRAL SUPPORT ACTIVITIES
SMITHSONIAN INSTITUTION LIBRARIES

1970 Actual \$659,000
1971 Estimate \$739,000
1972 Estimate \$950,000

The Smithsonian Institution Libraries provide reference and information services in support of the research and educational programs of the professional staff of the Institution. Basic library resources consist of about 750,000 volumes in the working collections of the Institution. The Smithsonian Institution's library program has the following basic purposes: (a) to have at hand carefully selected documentary materials containing the best and most pertinent data and results from research done elsewhere that has a direct bearing on our own investigations; (b) to arrange and index the information in ways that make it readily accessible; and (c) to provide reference and information services based on this material and related material in other libraries' collections, under terms and conditions that advance research in the Smithsonian. It is logical and prudent to have an information capability such as this as an adjunct to our research effort. In this manner we speed up our own research effort and make it more efficient by avoiding costly and unnecessary duplication of research.

An increase of \$190,000 is requested to correct shortages in the Libraries' basic program of support to the research efforts of the Smithsonian, and to continue to modernize operations and services to the scientific and curatorial staff of the various museums and galleries. In addition, \$21,000 are being sought to help meet necessary pay increases.

Need for Increase--The Smithsonian has embarked on a program of modernization of its library services. The following table contains information covering the requested additional amount of \$190,000 for 1972 to implement the current phase of this program. The Libraries are being changed from a congeries of

Table 1: Indicates Needs for FY 1972

	<u>1971</u> <u>Base</u>	<u>1972</u> <u>Need</u>	<u>Requested</u> <u>Increase</u>
Positions	54	63	9
Personnel costs, including salaries, benefits, training, and travel	\$647,000	\$727,000 ^a	\$ 80,000 ^a
Information resources (e.g., books, journals, documents, microfilm)	52,000	117,000	65,000
Communications equipment and services (e.g., facsimile, special mail, and transportation)	5,000	8,000	3,000
Materials preservation (current input)	7,000	29,000	22,000
Supplies, equipment, and maintenance	16,000	37,000	21,000
Automation and data processing	12,000	32,000	20,000
Total	<u>\$739,000</u>	<u>\$950,000^a</u>	<u>\$211,000^a</u>

^a Includes \$21,000 for necessary pay increases.

widely dispersed collections in a vast array of subjects in art, the sciences, and the social sciences, into an integrated resource. Integration will be achieved through improved indexing, search and retrieval mechanisms, involving both improved manual and new computer methods, and through consolidation of several

related smaller collections into more serviceable units. Information services are to be upgraded, based on recently developed methods of information science. Further, the collections that hitherto chiefly served discipline-based curatorial and related research are being broadened to provide a base for information services for research in the newer interdisciplinary aspects of science, sociology, and culture.

Of the more than 385,000 books and uncounted tens of thousands of reports and research documents produced throughout the world each year, it is estimated that the Institution must purchase about 18,000 titles in order to maintain information services that are sufficiently well founded to be useful. This is a modest rate of acquisition. Currently, the Libraries are about \$125,000 short of funds for the purchase of library materials. The effects of inflation over the last few years have severely eroded the ability of the Libraries to purchase new materials particularly in subject areas of most concern to the Institution. While selected price indices, using 1957-59 as base years are presented in Table 2, much of the recorded increase has occurred in the last five years.

Table 2

Recent Price Indices: Periodicals in Subject Areas
of Institutional Interest, and Selected Hardcover Books

	1970 Index (1957-59 = 100)
Subject Areas	
Chemistry and Physics	265
Fine and Applied Arts	154
History	143
Mathematics, Botany, Geology, and General Science	267
Sociology and Anthropology	156
Zoology	176
	1969 Index (1957-59 = 100)
Selected Hardcover Books	177

Source: "Price Indexes for 1970," Library Journal
(July 1970), 2427, 2428, and Publishers Weekly
(February 9, 1970), 49.

The Libraries also are \$200,000 short in funds for the application of modern indexing and retrieval techniques to operate this essential service. Also required are about \$50,000 per year for binding and filming of materials for preservation. As indicated in Table 1, the requested increase will be applied to partially offset these and other pressing needs. The requested staff increase of nine positions would be utilized as follows:

To create a team of information service people to provide reference and collection management services at least ten hours a week in each of the unstaffed bureau branches that are now unserved by the General Library (principally the National Air and Space Museum, Radiation Biology Laboratory, Museum of Natural History, Armed Forces Museum Advisory Board, and Museum Services); one professional librarian, two library clerks

\$20,000

To organize a speed cataloging team for rapid processing of priority materials. This is a move to reduce the average time of processing of new materials in cataloging, aiming at a goal of six weeks' lapsed time; one cataloger and one library technician \$15,000

To organize and inventory those parts of the consolidated collections now housed at the Smithsonian Institution Libraries Center at Lamont Street (estimated to be a three-year project); one cataloger and one library technician 14,000

To edit the Institution's union catalog of its holdings, particularly to rationalize conflicts in entry and to provide entries for new subject interests among research projects; one library technician and one library aid..... 10,000

In 1970 the Libraries acquired 3,974 titles (books, journals, and documents) by purchase, and 12,194 titles through gifts and exchanges. The Libraries cataloged 8,158 of these for addition to the collections. This record of accomplishment is offset by severe shortages in every category of service. One quarter of the titles circulated to the professional staff of the Institution in 1969 were not in the Smithsonian's collections and had to be borrowed from other libraries, principally the over-burdened Library of Congress. The 8,010 uncataloged and unindexed items considered pertinent to the work of the Smithsonian acquired in 1969 were added to the existing backlog of 59,000 uncataloged titles remaining from other years. The delays in organizing this material for use have grown to several man-years. Of nineteen major bureaus and offices of the Smithsonian, eight are completely without local service, except as provided by the Libraries' small Central Reference and Circulation staff.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

SMITHSONIAN INSTITUTION PRESS

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>25</u>	<u>0</u>	<u>25</u>
11 Personnel Compensation.....	\$ 319,000	\$ 10,000	\$ 329,000
12 Personnel Benefits.....	24,000	1,000	25,000
21 Travel & Transp. of Persons	3,000	0	3,000
22 Transportation of Things			
23 Rent, Comm. & Utilities			
24 Printing & Reproduction.....	352,000	40,000	392,000
25 Other Services	5,000	0	5,000
26 Supplies & Materials	2,000	0	2,000
31 Equipment	2,000	0	2,000
41 Grants			
TOTAL.....	<u>\$ 707,000</u>	<u>\$ 51,000</u>	<u>\$ 758,000</u>

Analysis of Total

Pay Increase	\$ 18,000	\$ 11,000	\$ 29,000
Program	\$ 689,000	\$ 40,000	\$ 729,000

Specification of Increase (Program):Research Manuscript Printing (\$40,000)

An additional \$40,000 of printing funds are required to reduce a growing backlog of research manuscripts in science and history ready for printing. At the close of fiscal year 1970, 19 major manuscripts could not be printed for lack of funds. Investments in research are wasted unless the results are published on a timely basis.

ADMINISTRATIVE AND CENTRAL SUPPORT ACTIVITIES
SMITHSONIAN INSTITUTION PRESS

1970 Actual	\$700,000
1971 Estimate.....	\$707,000
1972 Estimate.....	\$758,000

For a century and a quarter, the Institution has achieved the diffusion of research knowledge principally through the Smithsonian Press. Most of the Press publication activity is considered as a fundamental extension of the basic research programs of the Smithsonian's museums and research laboratories. The Smithsonian Press also produces and distributes museum guides, exhibit catalogs, and information leaflets. This is an extension of another basic Smithsonian program, public education. Finally, the Press also furnishes the Institution with a variety of internal manuals, reports, specimen labels, and directories. A recent analysis of Press operations reveals that about 70 percent of Press efforts are spent directly on research publications, 20 percent on public education, and the balance on administrative support.

Additional funding of \$40,000 is requested for research publication printing. Funding of \$11,000 for necessary pay also is required.

Need for Increase--Currently, about one hundred research publications a year appear in eight active series in the fields of anthropology, astrophysics, biology, geology, history, and technology. This represents the extent of the Press' current funding capacity for this portion of overall activity and not what could have been published. There has accumulated over the last few years a substantial backlog of research publications generated by Smithsonian scientists and historians. At the close of fiscal year 1970, 19 major manuscripts ready for publication, with estimated printing costs of \$32,000, were withheld from the Government Printing Office because funds were not available. The situation will only worsen in fiscal years 1971 and 1972 since it is virtually certain that the research output of the professional staff will exceed the ability of the Press to fund the publishable reports. The Smithsonian is basically a research institution and support of that research is wasted unless reported on a timely basis to national users. An additional \$40,000 are requested for research publication printing.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

INFORMATION SYSTEMS DIVISION

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions . .	<u>14</u>	<u>2</u>	<u>16</u>
11 Personnel Compensation	\$ 175,000	\$ 37,000	\$ 212,000
12 Personnel Benefits	14,000	2,000	16,000
21 Travel & Transp. of Persons	4,000	1,000	5,000
22 Transportation of Things			
23 Rent, Comm. & Utilities	10,000	0	10,000
24 Printing & Reproduction			
25 Other Services	11,000	18,000	29,000
26 Supplies & Materials	2,000	0	2,000
31 Equipment	3,000	0	3,000
41 Grants			
TOTAL	<u>\$ 219,000</u>	<u>\$ 58,000</u>	<u>\$ 277,000</u>

Analysis of Total

Pay Increase	\$ 12,000	\$ 8,000	\$ 20,000
Program	\$207,000	\$50,000	\$257,000

Specification of Increase (Program):Application of Electronic Data Processing to Smithsonian Requirements
(2 positions, \$50,000)

The Smithsonian, through the work of its museums and research laboratories, is basically an information producer and distributor. Throughout the Institution firm requirements have been identified for the application of electronic data processing to the task of storing, arranging, and reporting data associated with collections and other research. This requirement is especially acute in the National Museum of Natural History but virtually all of our science, history, and art activities have such needs. An illustration in our budget request shows how data related to the collections can be reported for medical research use. For fiscal year 1972, two additional computer specialists are required (\$31,000) with funds for computer services and other support (\$19,000).

ADMINISTRATIVE AND CENTRAL SUPPORT ACTIVITIES
INFORMATION SYSTEMS DIVISION

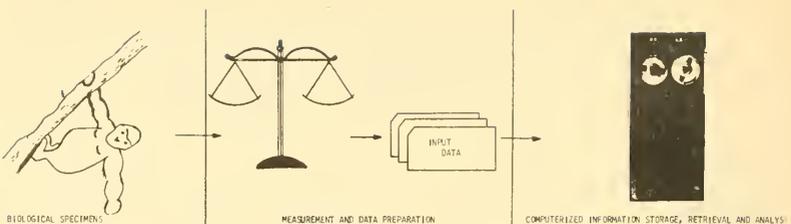
1970 Actual.....	\$217,000
1971 Estimate.....	\$219,000
1972 Estimate.....	\$277,000

The Information Systems Division was established in 1966 in response to a growing awareness that the Institution had to take advantage of computer technology not only in its management areas but to gain access to masses of research data and information associated with its collections. Currently, the Division is comprised of an information retrieval section, a mathematical computation section, a software and maintenance section, and a management systems section. While much of the Division's efforts are currently devoted to administrative and management support functions, in future years attention will be concentrated increasingly on research support and the retrieval of information from the National Collections. Some 350 specific and 50 general computer programs have been developed and much of the time of current staff must go to maintenance and updating. An illustration of the Division's output in support of research and collections management is shown on a following page. Current program shortages include the following, for which a program increase of \$50,000 is requested. An additional \$8,000 are required for necessary pay.

Need for Increase--The Division is not yet able to meet Institution needs in the management systems area. It is utilizing its present capacity in this area developing and installing new systems for library acquisitions and search, fiscal accounting, personnel administration, buildings management work planning and control, and for property management. These systems are only in initial or intermediate stages of development, and a particularly large increase in actual systems implementation and programming time is required to meet the anticipated workload in fiscal year 1972.

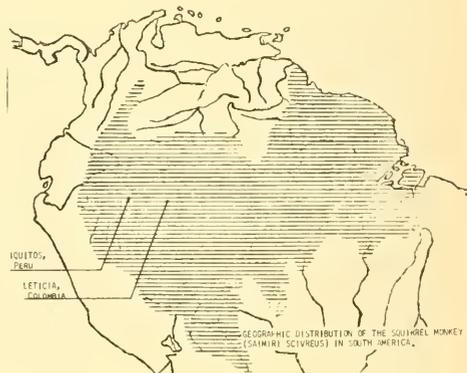
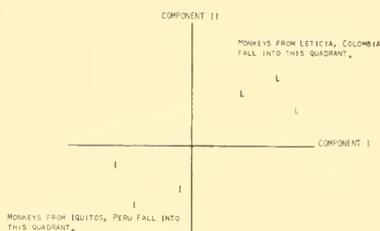
For several years (largely with grant funds which are no longer available) the Institution has been exploring and developing automated methods for capturing natural history collection information in order to make measurements of long term environmental change associated with artifact and specimen characteristics useful for controlled research purposes. The Institution is considered the pioneer in this area by concerned scientists around the nation. One objective, for example, is to recreate environmental conditions for selected animal species which prevailed during specified periods in history, and then through various analyses to speculate about changes which have occurred or will occur and result in contemporary population, distribution, and survival characteristics. The feasibility and usefulness of automation has been demonstrated to the scientific community by the joint efforts which have taken place to date between the National Museum of Natural History and the Information Systems Division. These pilot projects have concentrated on birds, crustacea, rocks, and minerals. The system must now be gradually extended and implemented through the Museum. Collection information systems are needed elsewhere in the Smithsonian. For instance, in the National Portrait Gallery, the Division is helping to develop a program to permit retrieval of a great variety of research data concerning portraits of distinguished Americans. In the Museum of History and Technology similar systems are needed to assist the curators in cataloging, retrieving, and maintaining their collections.

To accommodate these and related needs, two additional computer specialists will be required (\$31,000) along with necessary travel and computer services to support the entire Division (\$19,000).



GROUP *Saimiri sciureus* sp. from Leticia, Colombia

VARIABLE	MEAN	VARIANCE	STANDARD DEVIATION	STANDARD ERROR	VARIATION COEFF
1	63.5875	2.3657	1.5381	.2432	2.4189
2	35.8900	2.1143	1.4540	.2299	4.0514
3	38.9100	6.6102	2.5710	.4065	8.5076
4	33.7425	1.9343	1.3908	.2199	4.1218
5	29.4675	.5546	.7447	.1177	2.5271
6	18.7925	.5299	.7280	.1151	3.8737
7	15.7050	.4174	.6461	.1022	4.1138
8	18.8300	.6473	.8045	.1272	4.2726
9	19.8675	3.4735	1.8637	.2947	9.3809
10	17.6050	1.0666	1.0328	.1633	5.8664
11	43.7525	2.3744	1.5409	.2436	3.5218
12	63.2225	2.8054	1.6749	.2848	2.6493
13	40.0475	1.3436	1.1591	.1833	2.8944
14	40.3675	.8776	.9368	.1481	2.3207
15	32.5325	.8971	.9472	.1498	2.9114
16	53.4950	2.2251	1.4917	.2359	2.7884
17	28.2350	2.4249	1.5568	.2563	5.7473
18	34.5475	2.5549	1.5984	.2527	4.6267
19	27.5475	3.7508	1.9367	.3062	7.0304



SQUIRREL MONKEY (*Saimiri sciureus*) FROM IQUITOS, PERU MAY BE DIFFERENTIATED FROM SQUIRREL MONKEYS FROM LETICIA, COLOMBIA BY THE ABOVE GRAPH. COMPONENT I IS BASED ON SKULL LENGTH, OCCIPITAL LENGTH, AND LENGTH OF TOOTH ROW. COMPONENT II IS DETERMINED BY SKULL HEIGHT AND NOSE-BRIDGE LENGTH.

GEOGRAPHIC DISTRIBUTION OF THE SQUIRREL MONKEY (*Saimiri sciureus*) IN SOUTH AMERICA.

The above illustrates how computerization allows Smithsonian scientists to identify animals used in biomedical research more precisely. Retrieved data on external morphology and skull morphology may be subjected to canonical analysis and discriminant function analysis often resulting in the discrimination among groups of animals which yields a better definition of taxonomy and geographic variation. Investigators are concerned about a variety of physiologic and biochemical differences among squirrel monkeys (*Saimiri sciureus*) used in medical research. An analysis of 19 variables has identified those characteristics most useful in discriminating between groups and has demonstrated that squirrel monkeys differ according to the place obtained: Iquitos, Peru or Leticia, Colombia. This task could not readily be accomplished without benefit of the computer system as manifold computations must be made on each of the 19 variables.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

SMITHSONIAN ARCHIVES

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>6</u>	<u>0</u>	<u>6</u>
11 Personnel Compensation.....	\$ 50,000	\$ 3,000	\$ 53,000
12 Personnel Benefits.....	4,000	0	4,000
21 Travel & Transp. of Persons ..	1,000	0	1,000
22 Transportation of Things			
23 Rent, Comm. & Utilities			
24 Printing & Reproduction.....			
25 Other Services	3,000	5,000	8,000
26 Supplies & Materials	2,000	0	2,000
31 Equipment	1,000	0	1,000
41 Grants			
TOTAL.....	<u>\$ 61,000</u>	<u>\$ 8,000</u>	<u>\$ 69,000</u>

Analysis of Total

Pay Increase	\$3,000	\$ 3,000	\$6,000
Program	\$58,000	\$ 5,000	\$63,000

Specification of Increase (Program):Microfilming Archival Records (\$5,000)

The Archives maintains records dating from the 1830's on the Smithsonian's history, and makes these available for administrative purposes as well as to scholars studying the history of American science. The requested increase of \$5,000 is aimed at microfilming deteriorating documents for preservation and to make them more accessible to researchers.

ADMINISTRATIVE AND CENTRAL SUPPORT ACTIVITIES
SMITHSONIAN ARCHIVES

1970 Actual.....	\$33,000
1971 Estimate.....	\$61,000
1972 Estimate.....	\$69,000

The Smithsonian Archives is both the official memory of the Smithsonian Institution and a valuable research resource for scholars in the history of American science in the 19th century. Exclusive of materials located in the research and curatorial areas of the Smithsonian (which also should be identified and protected), the Archives' current holdings amount to over one million documents from the 1830's to the present. Within available resources, the Archives' staff identifies permanently valuable records throughout the Institution, preserves them for administrative, legal, and fiscal value, and provides service on these records to Smithsonian staff. This constitutes the Archives' management or service function. The Archives also makes available and interprets its holdings to the scholarly community, an activity which makes the greatest demands upon the professional capacity of the staff.

Current resources of staff and funds are distributed approximately equally among the following activities: identifying, selecting, and preserving valuable records; preparing finding aids; and providing reference services. In fiscal year 1970, about one-half of the reference service effort went to student, scholar, and federal agency users.

An increase of \$5,000 is requested for microfilming valuable records. An additional amount of \$3,000 is requested for necessary pay.

Need for Increase--A major current program shortage is the lack of sufficient funds for contract microfilming and supplies. Only about \$3,000 is currently available for this purpose. This requested increase of \$5,000 for fiscal year 1972 is aimed at microfilming deteriorating documents as a preservation function, and to increase the availability of these records to staff and visitors through microfilm medium.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

PHOTOGRAPHIC SERVICES DIVISION

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>20</u>	<u>0</u>	<u>20</u>
11 Personnel Compensation....	\$ 211,000	\$ 8,000	\$ 219,000
12 Personnel Benefits... ..	17,000		17,000
21 Travel & Transp. of Persons			
22 Transportation of Things ...			
23 Rent, Comm. & Utilities ...			
24 Printing & Reproduction ...	10,000	15,000	23,000
25 Other Services	1,000	0	1,000
26 Supplies & Materials	13,000	4,000	17,000
31 Equipment	0	3,000	3,000
41 Grant			
TOTAL.... ..	<u>\$ 252,000</u>	<u>\$ 28,000</u>	<u>\$ 280,000</u>

Analysis of Total

Fed. Inclusion	12,000	8,000	20,000
Program	\$240,000	\$20,000	\$260,000

Justification of Increase (Program):General Photographic Support (\$20,000)

As a result of a virtually level allotment and some pay cost absorption, funds available for other object classes have decreased over the past several years. Yet the price of films, chemicals, and outside processing has increased 10-15 percent. In addition, many pieces of equipment are 10-12 years old and obsolete or frequently in need of repair. An amount of \$20,000 is requested to purchase supplies, replacement equipment, and specialized processing services.

ADMINISTRATIVE AND CENTRAL SUPPORT ACTIVITIES
PHOTOGRAPHIC SERVICES DIVISION

1970 Actual.....	\$265,000
1971 Estimate....	\$252,000
1972 Estimate....	\$280,000

The Smithsonian photographic services are unique in that the Institution's activities require more quality and custom work as compared to the photographic needs of most government agencies. The photographic work is under public scrutiny almost entirely. In view of the importance of photographic services to the entire Institution, the centralized Photographic Services Division was formed to exercise a more stable and positive control over the application of procedures and techniques. It maintains laboratories in three museum buildings.

This Division is charged with supplying all types of photographic and related services that the Smithsonian's museums and research activities may require. This involves filling photographic requests, obtaining outside contractual services, and providing technical assistance and training to Smithsonian staff members. The Division supports programs of research, documentation, and conservation of collections, exhibitions, education, training, publication, and public service.

An increase of \$20,000 is requested to provide for general photographic support. An additional \$8,000 are required for necessary pay.

In the past several years, there have been several Government-wide increases in salaries, resulting in funds being directed from other object classes and used for the payment of salaries and benefits. In fact, funds available for other object classes have decreased from \$52,000 in fiscal year 1968 to \$25,000 in fiscal year 1970. This situation is further aggravated by the fact that the prices of films, chemicals, and processing have increased 10-15 percent during this period. Equipment replacement needs have had to be deferred in order to purchase necessary supplies and materials. Many pieces of equipment are now 10 to 12 years old and obsolete or frequently in need of repair. Outside processing (color work) has been held below minimum needs to compensate for the shift of funds for salaries and benefits. Additional funds in the amount of \$20,000 are urgently needed to purchase supplies, equipment, and specialized processing services.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

SUPPLY DIVISION

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions..	<u>21</u>	<u>0</u>	<u>21</u>
11 Personnel Compensation.....	\$236,000	\$ 7,000	\$243,000
12 Personnel Benefits.....	17,000	1,000	18,000
21 Travel & Transp. of Persons			
22 Transportation of Things			
23 Rent, Comm. & Utilities	8,000	0	8,000
24 Printing & Reproduction.....			
25 Other Services	6,000	3,000	9,000
26 Supplies & Materials	59,000	15,000	74,000
31 Equipment	1,000	2,000	3,000
41 Grants			
TOTAL.....	<u>\$327,000</u>	<u>\$28,000</u>	<u>\$355,000</u>

Analysis of Total

Pay Increase	\$ 10,000	\$ 8,000	\$ 18,000
Program	\$317,000	\$20,000	\$337,000

Specification of Increase (Program):Stockroom Operations (\$20,000)

The growth in research, exhibit, and educational programs has increased demands for stockroom supplies. These commonly used items are centrally bought, stocked, and issued for economy and efficiency. Reserves of many needed items have been depleted, however, and prices continue to rise. An additional \$20,000 are required for stockroom supplies, equipment, and office machine repair services.

ADMINISTRATIVE AND CENTRAL SUPPORT ACTIVITIES
SUPPLY DIVISION

1970 Actual	\$318,000
1971 Estimate	\$327,000
1972 Estimate	\$355,000

The Supply Division procures supplies, materials, contractual services, and equipment for research, curatorial, exhibition preparation, and other Smithsonian activities. It stocks and issues office, laboratory, and other supplies required in daily operations. It operates a property management program, obtaining excess property in lieu of new procurement wherever possible. The Division maintains property records and takes periodic inventories to insure adequate control and utilization of equipment items.

An increase of \$20,000 is required primarily for stockroom operations. An additional \$8,000 are requested for necessary pay.

Need for Increase--The growth in research, exhibit, and educational programs has increased demands for stockroom supplies. For economy and efficiency of purchasing, general supply items are bought centrally and stocked by the Division for issue. The Division has had to reduce its expenditures for supplies in order to absorb part of higher pay costs. About \$76,000 are available in fiscal year 1971 of which about \$18,000 will be used for duplicating supplies. Because of limited funds, the Division has been unable to conduct an orderly planned procurement and stocking program. It has been forced to buy often in small lots, making for uneconomical procurement. To save funds, the inventory has been purged of slow-moving items and specialized items used by only one or a few units. The reserves of many necessary items, however, have been reduced to dangerous levels. Stock prices are rising. An additional \$20,000 are requested for stockroom supplies, equipment, and office machine repair services.

The Division's workload of purchase orders, contracts, imprest fund uses, and other transactions associated with operating funds, foreign currency matters, and construction projects continues to increase. This increase is the result of general expansion and the assignment of major procurements for the National Zoological Park. Although improved methods and techniques (a new procurement manual has been issued recently) will continue to increase productivity, it is anticipated that the procurement workload will outpace available manpower in fiscal year 1972. There is also the problem of adequate control of receiving and prompt delivery services to additional building facilities (for instance, the Renwick Gallery and the new laboratory building for the Radiation Biology Laboratory in Rockville, Maryland). Notwithstanding the foregoing, an increase in personnel is not being requested at this time. Further expansion will require additional personnel.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

ADMINISTRATIVE SYSTEMS DIVISION

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>9</u>	<u>0</u>	<u>9</u>
11 Personnel Compensation.....	\$ 117,000	\$ 4,000	\$ 121,000
12 Personnel Benefits.....	9,000	0	9,000
21 Travel & Transp. of Persons	0	0	0
22 Transportation of Things	0	0	0
23 Rent, Comm. & Utilities	0	0	0
24 Printing & Reproduction.....	25,000	7,000	32,000
25 Other Services	1,000	0	1,000
26 Supplies & Materials	4,000	3,000	7,000
31 Equipment	1,000	0	1,000
41 Grants			
TOTAL.....	<u>\$ 157,000</u>	<u>\$ 14,000</u>	<u>\$ 171,000</u>

Analysis of Total

Pay Increase	\$8,000	\$4,000	\$12,000
Program	\$149,000	\$10,000	\$159,000

Specification of Increase (Program):Forms Management Program (\$10,000)

An additional \$10,000 (on a base of approximately \$25,000) is required to purchase a variety of forms for management purposes.

ADMINISTRATIVE AND CENTRAL SUPPORT ACTIVITIES
ADMINISTRATIVE SYSTEMS DIVISION

1970 Actual.....\$140,000
 1971 Estimate.....\$157,000
 1972 Estimate.....\$171,000

The Administrative Systems Division provides management analysis and system and procedures work in the development of sound business administration and management improvement programs within the Institution. This unit develops organizational, functional, staffing and flow charts, procedural manuals and other administrative issuances, makes studies and special surveys, provides management advisory services, and maintains a forms management program.

A program increase of \$10,000 is requested in order to provide supplies for the forms management program. An additional \$4,000 are required for necessary pay.

Need for Increase--As the complexity of the Institution has increased, the use of forms has increased also. Formerly, the Institution could utilize a relatively small number of simple forms for management and reporting purposes. However, the increase in the number of bureaus and programs of the Smithsonian requires that sophisticated reporting systems, including computer reports, be developed to insure that heads of bureaus and offices as well as other Smithsonian officials receive the information essential for effective management. These new reporting systems use many types of forms in relatively large quantities. Unfortunately, in spite of inflationary increase in the cost of forms, the funds available for their purchases have remained constant at about \$25,000. This has now reached a point where the printing or purchase of many required forms has been deferred due to the lack of funds. An additional \$10,000 are urgently needed for the purchase of forms.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

DUPLICATING SECTION

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>7</u>	<u>0</u>	<u>7</u>
11 Personnel Compensation.....	\$ 54,000	\$ 3,000	\$ 57,000
12 Personnel Benefits.....	4,000		4,000
21 Travel & Transp. of Persons			
22 Transportation of Things			
23 Rent, Comm. & Utilities	7,000		7,000
24 Printing & Reproduction.....			
25 Other Services	5,000	0	5,000
26 Supplies & Materials			
31 Equipment	0	15,000	15,000
41 Grants			
TOTAL.....	<u>\$ 70,000</u>	<u>\$ 18,000</u>	<u>\$ 88,000</u>

Analysis of Total

Pay Increase	\$3,000	\$3,000	\$6,000
Program	\$67,000	\$15,000	\$82,000

Specification of Increase (Program):Replacement of Old Equipment (\$15,000)

The Duplicating Section produces a wide range of high quality printed materials for Smithsonian research, curatorial, exhibits, and administrative needs. Much of its current equipment is old and, while well maintained, frequently breaks down. No funds are available for replacements. An amount of \$15,000 is requested to replace a 13-year-old offset press and a platemaker to reproduce materials with greater fidelity.

ADMINISTRATIVE AND CENTRAL SUPPORT ACTIVITIES
DUPLICATING SECTION

1970 Actual	\$83,000
1971 Estimate	\$70,000
1972 Estimate	\$88,000

The Duplicating Section is responsible for producing a wide range of printed materials for the Smithsonian Institution. Included are administrative issuances, news releases and reports, and informational materials produced by the research, curatorial, and exhibits activities.

A program increase of \$15,000 is requested to replace old and obsolete equipment. An additional funding of \$3,000 for necessary pay is required.

Need for Increase--The current budget meets the costs of essential personnel (no staff reductions can be made and meet the workload), some supplies, and essential repairs to existing equipment. No funds are available to purchase replacement equipment. Much of the current equipment is old and while well maintained frequently breaks down. One of the four offset presses is thirteen years old. When out of operation there is a loss of production as well as costly repairs. Funds are requested for a replacement offset press and for a new itek platemaker in order to reproduce photographs and other originals with greater fidelity.

The service furnished by this unit is essential to many of the overall programs of the Smithsonian Institution. The personnel are well qualified to handle this type of work and do an excellent job. Work must be kept at a current level to be of any value to those requiring the work.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

ADMINISTRATIVE SYSTEMS DIVISION

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>9</u>	<u>0</u>	<u>9</u>
11 Personnel Compensation.....	\$ 117,000	\$ 4,000	\$ 121,000
12 Personnel Benefits.....	9,000	0	9,000
21 Travel & Transp. of Persons	0	0	0
22 Transportation of Things	0	0	0
23 Rent, Comm. & Utilities	0	0	0
24 Printing & Reproduction.....	25,000	7,000	32,000
25 Other Services	1,000	0	1,000
26 Supplies & Materials	4,000	3,000	7,000
31 Equipment	1,000	0	1,000
41 Grants			
TOTAL	<u>\$ 157,000</u>	<u>\$ 14,000</u>	<u>\$ 171,000</u>

Analysis of Total

Pay Increase	\$8,000	\$4,000	\$12,000
Program	\$149,000	\$10,000	\$159,000

Specification of Increase (Program):Forms Management Program (\$10,000)

An additional \$10,000 (on a base of approximately \$25,000) is required to purchase a variety of forms for management purposes.

ADMINISTRATIVE AND CENTRAL SUPPORT ACTIVITIES
ADMINISTRATIVE SYSTEMS DIVISION

1970 Actual.....\$140,000
1971 Estimate.....\$157,000
1972 Estimate.....\$171,000

The Administrative Systems Division provides management analysis and system and procedures work in the development of sound business administration and management improvement programs within the Institution. This unit develops organizational, functional, staffing and flow charts, procedural manuals and other administrative issuances, makes studies and special surveys, provides management advisory services, and maintains a forms management program.

A program increase of \$10,000 is requested in order to provide supplies for the forms management program. An additional \$4,000 are required for necessary pay.

Need for Increase--As the complexity of the Institution has increased, the use of forms has increased also. Formerly, the Institution could utilize a relatively small number of simple forms for management and reporting purposes. However, the increase in the number of bureaus and programs of the Smithsonian requires that sophisticated reporting systems, including computer reports, be developed to insure that heads of bureaus and offices as well as other Smithsonian officials receive the information essential for effective management. These new reporting systems use many types of forms in relatively large quantities. Unfortunately, in spite of inflationary increase in the cost of forms, the funds available for their purchases have remained constant at about \$25,000. This has now reached a point where the printing or purchase of many required forms has been deferred due to the lack of funds. An additional \$10,000 are urgently needed for the purchase of forms.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

DUPLICATING SECTION

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions..	7	0	7
11 Personnel Compensation.....	\$ 54,000	\$ 3,000	\$ 57,000
12 Personnel Benefits.....	4,000		4,000
21 Travel & Transp. of Persons			
22 Transportation of Things			
23 Rent, Comm. & Utilities	7,000		7,000
24 Printing & Reproduction.....			
25 Other Services	5,000	0	5,000
26 Supplies & Materials			
31 Equipment	0	15,000	15,000
41 Grants			
TOTAL.....	\$ 70,000	\$ 18,000	\$ 88,000

Analysis of Total

Pay Increase	\$3,000	\$3,000	\$6,000
Program	\$67,000	\$15,000	\$82,000

Specification of Increase (Program):Replacement of Old Equipment (\$15,000)

The Duplicating Section produces a wide range of high quality printed materials for Smithsonian research, curatorial, exhibits, and administrative needs. Much of its current equipment is old and, while well maintained, frequently breaks down. No funds are available for replacements. An amount of \$15,000 is requested to replace a 13-year-old offset press and a platemaker to reproduce materials with greater fidelity.

ADMINISTRATIVE AND CENTRAL SUPPORT ACTIVITIES
DUPLICATING SECTION

1970 Actual	\$83,000
1971 Estimate	\$70,000
1972 Estimate	\$88,000

The Duplicating Section is responsible for producing a wide range of printed materials for the Smithsonian Institution. Included are administrative issuances, news releases and reports, and informational materials produced by the research, curatorial, and exhibits activities.

A program increase of \$15,000 is requested to replace old and obsolete equipment. An additional funding of \$3,000 for necessary pay is required.

Need for Increase--The current budget meets the costs of essential personnel (no staff reductions can be made and meet the workload), some supplies, and essential repairs to existing equipment. No funds are available to purchase replacement equipment. Much of the current equipment is old and while well maintained frequently breaks down. One of the four offset presses is thirteen years old. When out of operation there is a loss of production as well as costly repairs. Funds are requested for a replacement offset press and for a new itek platemaker in order to reproduce photographs and other originals with greater fidelity.

The service furnished by this unit is essential to many of the overall programs of the Smithsonian Institution. The personnel are well qualified to handle this type of work and do an excellent job. Work must be kept at a current level to be of any value to those requiring the work.

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

OTHER CENTRAL SUPPORT

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>13</u>	<u>0</u>	<u>13</u>
11 Personnel Compensation.....	\$ 155,000	\$ 5,000	\$ 160,000
12 Personnel Benefits.....	14,000		14,000
21 Travel & Transp. of Persons			
22 Transportation of Things			
23 Rent, Comm. & Utilities	5,000	0	5,000
24 Printing & Reproduction.....			
25 Other Services	2,000	0	2,000
26 Supplies & Materials			
31 Equipment	1,000	0	1,000
41 Grants			
TOTAL.....	<u>\$ 177,000</u>	<u>\$ 5,000</u>	<u>\$ 182,000</u>

Analysis of Total

Pay Increase	\$8,000	\$5,000	\$13,000
Program	\$169,000	0	\$169,000

Specification of Increase (Program):

No program increase is sought for fiscal year 1972.

ADMINISTRATIVE AND CENTRAL SUPPORT ACTIVITIES
OTHER CENTRAL SUPPORT

1970 Actual.....	\$168,000
1971 Estimate.....	\$177,000
1972 Estimate.....	\$182,000

Included are the activities of the Equal Employment Opportunity Office, the special project involving writing and research efforts associated with producing the Joseph Henry Papers, the Travel Services Office, and the record keeping duties of the Secretary's Files. No increases are being sought for these activities other than necessary pay (\$5,000).

SMITHSONIAN INSTITUTION--"Salaries and Expenses," Fiscal Year 1972

BUILDINGS MANAGEMENT DEPARTMENT

<u>Object Class</u>	<u>1971 Base</u>	<u>Increase Requested</u>	<u>1972 Estimate</u>
Number of Permanent Positions ..	<u>768</u>	<u>25</u>	<u>793</u>
11 Personnel Compensation.....	\$ 6,032,000	\$504,000	\$ 6,536,000
12 Personnel Benefits.....	453,000	40,000	493,000
21 Travel & Transp. of Persons	3,000	0	3,000
22 Transportation of Things			
23 Rent, Comm. & Utilities	1,425,000	168,000	1,593,000
24 Printing & Reproduction			
25 Other Services	1,033,000	45,000	1,078,000
26 Supplies & Materials	275,000	40,000	315,000
31 Equipment	50,000	10,000	60,000
41 Grants			
TOTAL.....	<u>\$ 9,271,000</u>	<u>\$ 807,000</u>	<u>\$10,078,000</u>

Analysis of Total

Pay Increase	\$606,000	\$382,000	\$988,000
Program	\$8,665,000	\$425,000	\$9,090,000

Specification of Increase (Program):Renwick Gallery (25 positions, \$195,000)

The Gallery will be undergoing exhibit preparation in early fiscal year 1972, and is now scheduled for public opening in the fall of 1971. Additional security and maintenance personnel are needed for the Gallery operations. Twenty-five positions (17 guards, five custodial employees, and three mechanics) and personnel funding (\$162,000) are requested. Support funding for related maintenance expenses such as supplies, communications, materials, and equipment are also requested (\$33,000).

Other Institutional Maintenance (\$230,000)

Because of inflationary costs and greater utilization of facilities, an additional \$230,000 are sought for utility and related expenses in all other buildings of the Institution.

BUILDINGS MANAGEMENT DEPARTMENT

1970 Actual.....	\$ 8,067,000
1971 Estimate.....	\$ 9,271,000
1972 Estimate.....	\$10,078,000

The Buildings Management Department provides essential services to the program units and helps them accomplish the Institution's important goals. These responsibilities include the protection, operation, and maintenance of eight major buildings. These include the original Smithsonian Institution Building, the History and Technology Building, the Natural History Building, the Arts and Industries Building, the Freer Gallery of Art, the National Air and Space Building, the Fine Arts and Portrait Galleries Building (housing the National Portrait Gallery and the National Collection of Fine Arts), and the Renwick Gallery. The Department performs various combinations of these functions for nine other research, collection, special purpose, and support facilities, including the Chesapeake Bay Center for Environmental Studies, the Oceanographic Sorting Center, the Belmont Conference Center, and the Silver Hill facility (which provides for the restoration and preservation activities of the National Air and Space Museum, and houses reference collections of aircraft, and other objects of science, technology, art, and natural history). The total floor space of all the Smithsonian buildings is 3,300,000 square feet, and includes exhibition and public areas, research laboratories, reference collection areas, libraries, offices, and supporting facilities located at 17 different sites in the Metropolitan Area.

This Department provides utilities (electricity, steam, gas, water, and compressed air), including servicing, repairing, and operating the refrigeration, heating, temperature and humidity control systems, and related machinery and accessories. It furnishes transportation and communications, performs repairs, improvements, and alterations to the buildings. Among the Department's responsibilities are the safety, physical security, and disaster programs, as well as engineering and architectural services, construction management, space management, feasibility studies, and professional services.

A program increase of 25 positions and \$425,000 are required in fiscal year 1972 to provide basic services to the Renwick Gallery; and to meet increased costs of utilities, communications, contract work, supplies and materials, and equipment for all of the buildings. An additional \$382,000 are requested for mandatory increases in pay and benefits.

Need for Increase

1. The Renwick Gallery. Located at 17th Street and Pennsylvania Avenue, the Renwick was turned over to the Smithsonian Institution in February 1969, and extensive and essential restoration and renovation work remained to be done in succeeding fiscal years. The Buildings Management Department has been providing basic protection to the building and its contents, and other services such as heating, air conditioning, and the humidity control systems. This is done on a 24-hour basis, seven days a week. Fiscal year 1971 costs will be approximately \$125,000.

The Gallery will be undergoing exhibit preparation beginning in early fiscal 1972, and is now scheduled for opening to the public in the fall of 1971. The additional positions required to provide adequate staffing for fiscal 1972 include 17 guards, five custodial employees, and three mechanics (electrician, painter, and carpenter). In addition to \$162,000 for personnel costs, funds are also requested for related expenses such as communications, supplies, materials, and equipment to support these necessary functions (\$33,000). This is a requested total increase of \$195,000 for building operation costs of this significant additional Institutional facility.

2. Other Institutional Maintenance. An increase of \$230,000 is required to meet the following known additional utility and related expenses:

--\$138,000 to meet an approximate 11.5 percent increase in the cost of electricity over the last two fiscal years.

--\$35,000 for contract services (\$20,000 for contract services for the removal of trash and debris resulting from higher labor costs; \$15,000 to fund the increased cost of miscellaneous contract work for such items as laundry, cleaning and repair of uniforms, and rodent control).

--\$30,000 to meet the increasing costs of supplies and materials (this estimate is based on an average increase of 12 percent to 15 percent for essential supplies and materials for the maintenance, operation, and protection of all the Smithsonian buildings).

--\$20,000 to meet the increasing costs for communications (of this amount \$16,000 are needed for the Federal Telecommunications System intercity telephone services as projected by the General Services Administration).

--\$7,000 to meet the increasing costs for equipment (cost increases averaged 12 percent to 15 percent during the past fiscal year).

The cost of electricity, steam, and communications for all Smithsonian buildings and activities continues to increase along with an upward trend in consumption as indicated in the following table.

Type of Expense	1969	1970	1971 Est.	1972 Est.
Electricity	\$595,000	\$650,000	\$685,000	\$823,000
Communications	235,000	268,000	288,000	318,000
Steam	322,000	372,000	425,000	425,000
Gas	31,000	25,000	29,000	29,000
	<u>1,183,000</u>	<u>1,315,000</u>	<u>1,427,000</u>	<u>1,595,000</u>

In a four-year period, the cost of Institutional utilities has increased by approximately 35 percent (or an average rate of 12 percent per year) with no prospect of this trend diminishing. For example, the General Services Administration has increased the price of steam about 19 percent this fiscal year.

Although higher consumption and increased costs reflect some growth in building areas, to a substantial degree they result from the fact that Smithsonian buildings and museum operations are not normal office-type activities. Air conditioning, heating, and lighting must be provided for the comfort of approximately 14,000,000 visitors during day and evening hours. Many activities are continuous, such as operating engineers being available seven days a week, 24-hours a day, for maintaining environmental control systems. Continuous operations are absolutely essential in many phases of the Department for the conservation and preservation of the National Collections. Supporting services must be provided not only during the normal hours, but also for Institutional activities in the evenings, weekends, and holidays. Peak workload periods are during the spring and summer months when the museum and gallery exhibitions are open until 9:00 p.m.

The mechanical services employees are also responsible for inspecting, servicing, repairing, and operating the 9,850-ton capacity environmental control equipment. This is a complex and intricate system of machinery used for air conditioning, refrigeration, heating, and humidity control purposes. In addition to price increases, the capacity of this machinery has increased five percent in

the last year. The volume and complexity of work orders for mechanical trades assistance continue to grow and to place heavy demands on this Department as indicated below:

<u>Fiscal Year</u>	<u>Work Orders</u>
1969	8,180
1970	9,500
1971	10,500 est.
1972	11,000 est.

These work orders represent a broad range of assistance and support to such activities as exhibitions in history, science and the arts, educational and research programs, and increased use of all buildings, grounds, and facilities by the visiting public.

Building services employees give support to the many programs of the Smithsonian including moving collections and objects, and cleaning exhibit areas, research laboratories, offices, shops, and several public lounges. Employees are also responsible for motor vehicle services, switchboard operation, checkroom services, office moves, and operation of the Institution's 55 elevators.

Over the past several years adequate protection of the visitors to our museums and art galleries has become increasingly complex. The design of exhibit halls and configuration of space requires effective protection. Many more exhibits are being designed to permit the public to view the objects without the intrusion of protective devices such as enclosures and cases. The National Collections must be given maximum protection against loss through arson, theft or vandalism. There has been no significant decrease in the number of such incidents (211 in fiscal 1969; 205 in fiscal 1970). The recently established special salary rate for guard positions will aid in recruiting and retaining qualified guards. The rates are more commensurate with the responsibilities of these positions.

The scope and complexity of the activities of the Buildings Management Department require continuing management improvement efforts and cost reduction programs to ensure that a maximum quality of service is provided with available funds. In recognition of this need, a study by a reputable management consultant firm has been made regarding the organizational structure, financial management, and work control systems of the Department. Several of the recommendations in this study are in the process of implementation. For example, work standards are being developed and implemented, and an inventory control unit has been established. A work control unit has been initiated to plan, estimate, and schedule all major work requests. This will ensure that the preventive maintenance program for plant equipment and buildings is conducted effectively and at minimum cost.

VACANCIES IN PERMANENT POSITIONS

Mrs. HANSEN. You have 2,373 permanent positions authorized in 1971. How many vacancies existed as of your last reporting date?

Mr. BRADLEY. Under "Salaries and Expenses", Madam Chairman, we had an actual employment of 2,165 as of February 28, 1971, which gives us a lapse of 208 positions or about 9 percent of the amount authorized.

Mrs. HANSEN. What do you attribute the lapse of 208 positions to? Attrition, part time?

Mr. BRADLEY. A very large amount of it is under our Buildings Management Department where the salaries are relatively low and the turnover is relatively high. In our endeavors to get good guards, mechanics, laborers, and cleaners our personnel office is hard pressed to find good people who will stay with us.

Mrs. HANSEN. There are many charges that there isn't equal opportunity for minority groups in Federal agencies. Is this true in the Smithsonian Institution?

Mr. BRADLEY. That is not true.

Dr. RIPLEY. We have personnel of minority groups as high as bureau director in the Institution. So I think we can hardly be accused of practicing discrimination.

Mrs. HANSEN. What is your average percentage rate of personnel turnover?

Mr. BRADLEY. About 8.5 percent, Madam Chairman, annually.

Mrs. HANSEN. Is this relatively high?

Mr. BRADLEY. I would think it is comparable, let's say, to the General Services Administration, but it would not be comparable to a stable, professional organization such as the Geological Survey, for example. It depends upon the type of employment.

Mrs. HANSEN. In the Smithsonian Institution you actually have a wide range of positions.

Mr. RIPLEY. That is right. The guard services and janitorial services are essential for maintaining, cleaning, and guarding our buildings. We have a mix of more rapid turnover with these employees and the more stable technical and professional employment.

COST OF PROMOTIONS

Mrs. HANSEN. You have budgeted \$185,000 to finance the cost of promotions. When you replace employees usually it is at a lower salary step. To what extent have you included these savings in your computations of "necessary pay increases?"

Mr. BRADLEY. Madam Chairman, we have estimated our pay increases after taking into consideration savings by reason of employees separating and being replaced by new employees coming in at a lower rate. In other words, the so-called apparent cost is estimated first. From that we deduct the savings and we ask here only for the net difference.

MUSEUM OF NATURAL HISTORY SUPPORT DEFICIENCIES

Mrs. HANSEN. Justify your requested increase of \$576,000 and 34 positions for museum support deficiencies.

Dr. COWAN. Madam Chairman, this request is the beginning of an effort to eliminate an accumulation of needs which have occurred over a number of years of less than adequate support for the Museum of Natural History. We anticipate that this is the first of 3 years' support deficiencies.

The 34 positions are exclusively for technical assistance by which we mean museum technicians, museum aides, and people of that sort which will permit the scientific people to do the thoroughly scientific job they have been trained for and indeed employed for. The \$171,000 for all other objects includes the kinds of things that will raise the per scientist support in terms of materials, equipment, and so forth, up to a reasonable level but still well below the national average for this kind of support for individual scientists. It will change from the present \$900 per year per scientist to about \$2,000. The third item is a request for \$200,000 for nonrecurring equipment. It is a nonrecurring item which will help make up part of our deficit in equipment and supplies.

Now, there is a general outline of this first section of our budget. I can go into more detail, if you like.

Mrs. HANSEN. In your justification you use the unflattering word "menial" to describe some of the work.

Dr. COWAN. If it is not in a quotation, then it is my fault.

Mrs. HANSEN. I don't think you should describe any type of work as menial just because it doesn't require a lot of training or skill.

Dr. COWAN. May I add something? We have for that reason in the Museum of Natural History for several years now refused to use the term subprofessional because it has a negative connotation. Supportive staff can be very professional technicians, secretaries, and research assistants.

Mrs. HANSEN. "Menial" is a very ugly word.

Dr. COWAN. Yes, it is.

Dr. RIPLEY. I was interested, Madam Chairman, in that connection, to hear that in Germany until recently maids were referred to as Haus Doktor, and this activity of being a maid was considered so highly professional and skilled that they were given the honorific title of Haus Doktor, and they made many of the decisions about how people got married and who they married in contrast to the parents, and they ran the house.

ENVIRONMENTAL STUDIES IN THE NATURAL HISTORY MUSEUM

Mrs. HANSEN. Justify your requested increase of \$532,000 and 28 positions for environmental sciences.

Dr. COWAN. Here I would like to say first of all something about the kind of environmental studies we do in the museum and perhaps it will be easier if I say ecological studies since ecology is the study of environmental matters.

Our people in the museum are concerned with basic ecological data. Baseline information forms the foundation for more esoteric, more applied kinds of solutions to our environmental problems in the country.

The people in the museum are concerned first of all with descriptive biology, describing what is in the environment, what are the living

and physical parts of the environment, what grows where, when, and with what. The descriptive function, if it ended at that point, might not be the most satisfying result, but it goes on to what we call monographic work which is the synthesis, the drawing together, of all information about major groups of organisms, including ecology.

In recent times, within the last 5 years our people have become increasingly interested in community studies, how organisms interact with each other. In the present period we are deeply involved in what I would call basic ecological studies. Most of these interdisciplinary studies involve people in various museum departments. So, what we have asked for in our budget statement is a minimum number of professionals, because in fact we are not keen on developing a greatly larger scientific staff, certainly not until we support those that we have in a much better fashion. We are asking for only nine professional positions and 19 technicians and technical support positions.

GENERAL PUBLIC ENLIGHTENMENT

Mrs. HANSEN. You are requesting \$337,000 for the education of the public. What is involved in this request?

Mr. JAMESON. Madam Chairman, the 1972 estimate for education of the public of \$337,000 is an estimate of staff time largely of the museum professional and supporting people in planning exhibits, preparing scripts for those exhibits, which set out what is going to go into the exhibit, what kind of story should it tell, and then assistance to our museum exhibit designer staff in the Office of Exhibits by actually writing out good descriptive labels of the items that will be on display. I believe this figure that we have is an estimate of the amount of staff time which goes into this and related activity.

Mrs. HANSEN. This is not a public relations activity?

Mr. JAMESON. Not that, Madam Chairman. In addition, we do get a large volume of public inquiries, such as, "Please tell me what this rock is I found or what kind of spider is this." This estimate also includes the time that is spent answering these kinds of public inquiries.

STUDY OF DETERIORATING FRESHWATER HABITATS

Mrs. HANSEN. I understand. Justify your requested increase of three positions and \$50,000 for study of deteriorating fresh water habitats.

Dr. COWAN. We are anticipating the employment of a single professional aquatic investigator to study aquatic flies and aquatic insects. The aquatic insects are very important because they show something about the quality of the water by their presence or absence. They are also a vital part of the freshwater food-chain, leading up to fish and ultimately to man. The other two positions are for research assistance to go along with this program and to expand what we are doing already.

We are working with crayfishes now. I might point out to you the title of one of the publications recently released—"Water Quality Indicative Organisms." This is by one of our senior scientists. Crayfishes likewise are very good indicators of the quality of water.

(Discussion off the record.)

Mrs. HANSEN. What is the justification for the other two positions?

Dr. COWAN. The other two are research assistants. These will be highly-skilled, well trained people to work right in the research process.

ANIMALS OF THE SEA

Mrs. HANSEN. You are requesting an increase of \$121,000 and seven positions for animals of the sea.

Justify this request.

Dr. COWAN. Right. This is a cluster of related projects and again there is only a single professional in the whole list. That one is a cetologist, a specialist on marine mammals: whales, seals, sea elephants, and walruses. The other positions are illustrators, museum technicians, and one clerk-typist. This program involves working up the Indian Ocean materials, one of the richest areas of the world, and in the early 1960's, the U.S. Government backed the U.S. portion of a 4-year international program, in understanding the biology of the Indian Ocean. Much of this material is still unstudied. It is still in bottles and jars unworked. So part of this program is to get the material worked up scientifically so it is useful for the many purposes that we need to have information these days. That is one example.

BALANCE OF NATURE

Mrs. HANSEN. In your justifications I notice you mention marine mammals. I think you know that there has been a bill introduced in Congress to prevent the killing of seals.

Dr. COWAN. Yes.

Mrs. HANSEN. I want to ask you something as a scientist. What happens to a seal herd when it expands tremendously and has not enough feeding grounds?

Dr. COWAN. I will make an attempt at an answer and Mr. Ripley may like to supplement it.

I think that with any organism, including man, when the population grows beyond its ability to sustain itself, you begin getting psychological changes and a lot of physical death, too. There was an article about this in the paper just last week, with mice.

Mrs. HANSEN. I talked to a scientist not too long ago about the Pribilof Islands. On one island all the vegetation is gone because it has just been completely used by the seal herds. Suppose that all nations agreed that no seals would be killed. They are a rather rapidly reproducing breed. Then you are going to have the inevitable problem of starvation, are you not, for these herds?

Dr. COWAN. Yes. The whole thing is that if you had the balance of nature that we started out with, we wouldn't have to worry, because there is an inherent balance in nature which is controlling.

Mrs. HANSEN. What do you consider as, "the inherent balance of nature?"

Dr. COWAN. Well the balance of nature, as nearly as we can come to it, would require a survey, and we would have to go back to our own National Collections as a means of establishing what was "natural" at a point in time. But even then man, at the time our collection began to develop, had already begun to affect this balance of nature.

So, now that we have affected it and changed it so markedly, it is inevitable that we have to talk about "management" of the environment. We have to begin inserting man as a manager, as with deer for example. I can describe it better with deer. Right here in Virginia, if you left the deer alone and said you mustn't kill deer, there soon would be major economic problems in the State of Virginia in that area. We have to manage by resorting to a hunting season.

Mrs. HANSEN. I do think we have to understand the basic background of the sea mammals because there can be no sadder destruction than to have starvation of a species.

Dr. COWAN. Yes. If I can add a word about another danger, the fact that you can deplete the population to the point that it's no longer reproductively sound. That is, males and females just don't get together frequently enough, so you get reduced numbers.

Dr. CHALLINOR. Madam Chairman, I might mention that one of the results if you do stop killing or controlling is that the population builds up and you get animals reintroduced to places where they formerly existed. On the Channel Islands off Santa Barbara two years ago there were one male and about five dozen females of the Pribilof herd that established a breeding colony on San Miguel Island. The first time they had been found breeding there. We can conceivably get them to return in the same way we did the sea otter. The Guadeloupe seal herd had been declared extinct off Mexico several times, and now the Guadeloupe seals also are being found again in the Channel Islands because of protection or because of controlling the hunting. This does not mean, however, that you can't maintain a sustained yield if it's carefully managed.

Mrs. HANSEN. I think the legislation that is pending provides that there shall be no killing.

Dr. RIPLEY. I think it is subject to review, Madam Chairman. The question of the balance of nature is in effect a philosophical myth. There is no such thing as a balance of nature because all natural balances are continually in a state of flux, and it is impossible to say at any one date or any one moment in time that in that moment there is a stable balance between various kinds of competing organisms competing for food or space habitat, environmental living space. This is constantly changing. We can say that the prairies which previously produced marvelous buffalo grasses, most of which are extinct today, were in a balance, but we have no real way of knowing what the prairies in the preceding cycle were producing in the way of foods in contrast to the grasses. So it's very difficult to say at any moment that nature is in balance.

Mrs. HANSEN. Nature is ever-changing.

Dr. RIPLEY. Ever-changing, and the one thing we do know is the presence of man with advanced technology is accelerating the rate of change and we do think that most of the changes are not beneficial.

Mrs. HANSEN. What do you suggest, rid the planet of man?

Dr. RIPLEY. Well certainly the easiest thing would be to work out some kind of population control, and I was fascinated to note that one of my assumptions of many years back is beginning to be of an indication that there is something to it, and that is the presence of DDT in

the atmosphere may have some effect on human fertility. So there again a new kind of balance can be imposed.

Really it's a strange phenomenon. Everybody wants to cut the population, and every doctor on Earth is embarked in the program to keep people alive.

(Discussion off the record.)

CROWN OF THORNS STARFISH

Mrs. HANSEN. How are you participating in the crown of thorns starfish control program?

Dr. RIPLEY. Madam Chairman, I have spoken recently to Mr. Rogers Morton, Secretary of the Interior, our new colleague, and asked him about this, and I am told that funding for this program is not in Interior's 1972 budget. The agreement made when the legislation was passed was that the Smithsonian would not request the funds, but would work with the Department of the Interior and receive the appropriate portion for our basic research out of the funds appropriated to the Interior Department. There are no funds in Interior's budget this year, because they seem to be doing very well out there with just paying a bounty on the starfish.

Mrs. HANSEN. I see. There are no scientific aspects to the control program.

Dr. RIPLEY. The legislation called for a budget and the budget has not been asked for by the Department of the Interior.

Mrs. HANSEN. Did the Department of the Interior ask the OMB for funds for this activity? We find a great deal of difference between the two budgets.

Dr. RIPLEY. I am afraid we do not know at this stage.

Mrs. HANSEN. I hope you will find out.

Dr. RIPLEY. I asked Mr. Morton if we were going to have a commitment from them this year and we found out that we would not because they had not asked for the money under that legislation. As you know, Madam Chairman, the Smithsonian has discovered that the crown of thorns exists off the Panama coast.

Mrs. HANSEN. The thing that the committee was concerned about was a sudden rise in the number of the starfish.

Dr. RIPLEY. This is basic research which we were willing to undertake and perform, but for which we agreed we would not ask for the funds.

Mrs. HANSEN. You may be able, for example, to get rid of the starfish in the trust territories by the bounty system, but you might not be able to get rid of them in some other areas of the world where some particular situation might arise that brings them back into existence.

Dr. RIPLEY. Animals may reenter an area where they have been wiped out temporarily if they continue to exist in adjacent areas.

Mrs. HANSEN. This is why I asked my question.

Dr. RIPLEY. We were very much interested in this discovery in Panama because, as you know, of the discussion of a sea level canal. If the starfish are waiting on the Panama side to seed itself through the canal into the Caribbean where it has never been known to occur even in fossil history, this would provide an interesting problem.

Mrs. HANSEN. Isn't this a matter scientists should be having discussions about to see what will be introduced into the Caribbean from the Pacific and vice versa?

Dr. RIPLEY. Yes; my own feeling has been that the rigorous conditions of life in the marine environment on the Pacific side are such as to adjust the average kind of animals to overcoming competition on the Atlantic side, and we may look for an invasion of specific species. This includes several species. We mentioned the crown of thorns, sea snakes are another, which are currently unknown in warm Atlantic waters. We look for an interesting change in real estate values along the Florida coast.

ORIGINS OF OCEANIC ECOLOGICAL SYSTEMS

Mrs. HANSEN. Please justify your requested increase of \$104,200 and nine positions for origins of oceanic ecological systems.

Dr. COWAN. There are three professionals requested in the budget. The whole point of this program is to look deeper than the surface of the floor of the sea along the Atlantic coast. This includes two fossil mollusk specialists. The mollusks were chosen for special attention, because they are very sensitive to the changes in environment. By looking through the fossil record, we will be able to tell a lot about what happened to the environment in the last hundreds of thousands of years.

Mrs. HANSEN. Do you work or consult with the Department of Agriculture? I notice in your justification that insects and plants sensitive to insecticides and herbicides can be used as indicators of soil pollution.

Dr. COWAN. We have the Department of Agriculture systematic entomologists who work with us. In fact, they are housed in the same building with us and work closely with us.

We do not attempt to fill positions that they have and they do not attempt to fill positions we have. We work cooperatively so that we have staffs which complement each other.

STUDIES IN TERRESTRIAL BIOLOGY

Mrs. HANSEN. You are requesting an increase of six positions and \$74,400 for studies in terrestrial biology. What is involved in this request?

Dr. COWAN. One of the major parts of this program concerns probably the least known part of the animal kingdom, that which is in the soil. There are literally millions of organisms in an acre of rich soil. These are terribly important as part of the biology of the soil because of the fact they circulate dead material and break it down so it can be reabsorbed.

So we have requested positions for a soil biologist (an entomologist) and three support people.

The systematic ecological research on tropical birds and mammals is an attempt to study communities less affected by man, by looking at those in the tropics.

CHANGING CLIMATES AND MAN'S ADAPTATIONS

Mrs. HANSEN. Justify your requested increase of \$124,000 and three positions for changing climates and man's adaptations.

Dr. COWAN. This is another of our inter-disciplinary attempts to add to the basic information for assaulting environmental problems. By joining paleobotany, in the form of fossil pollens, and paleo-Indian artifacts, one can learn a great deal about the changing of climates and man's ways of meeting these changes in the environment.

Mrs. HANSEN. Who else is doing this same type of research?

Dr. COWAN. The University of Arizona has some programs going, also the University of Michigan, Harvard, and Pennsylvania.

Mrs. HANSEN. Do you exchange information?

Dr. COWAN. Indeed, yes.

CRYSTALLOGRAPHY LABORATORY

Mrs. HANSEN. Justify your requested increase of \$58,000 for a crystallography laboratory?

Dr. COWAN. This item really should be considered a new program rather than part of the environmental program. The structure of the presentation makes it look like an environmental project. Actually, it initiates the development of a museum-wide facility in the form of a special piece of equipment, which will be a major part of a crystallography laboratory. It can be applied to anything from archaeology to mineral sciences because wherever there is crystalline structure, this piece of equipment in the laboratory can be critical.

EDP APPLICATIONS TO COLLECTIONS MANAGEMENT

Mrs. HANSEN. An increase of 16 positions and \$200,000 is requested for improvement in collection management and availability of data through electronic processing. May we have your comments in this regard?

Dr. COWAN. This is one where you may have to stop me because of my enthusiasm. We mentioned earlier the increasing need for scientific information and of scientists coming to use our collections. I might say this in passing because I had the figure a moment ago, of all of the scientific visitors in all of the natural history museums in this country, 20 percent of all those visitors come to the National Museum of Natural History. Of all the loans sent out by museums of this sort in this country, about half are made by our museum. I would like to call your attention to the publication which is the source of these statistics. This I point out was done by the museum community of the country and not ourselves.

The data processing applications that we have made this year, I think are very interesting in light of the funds we have had to work with. With \$55,000, we undertook four projects from which we could anticipate a product by the end of the fiscal year.

You may remember at the end of the volume of photographs we provided to illustrate our budget requests, there are letters—one from an oil company, another from Indiana University, The American Museum of Natural History, and the Department of Interior, speak-

ing about the value of one of these products from our data processing efforts this year.

This was a file of our specimens of conodonts, which are tooth like fossils. Nobody is quite sure what animal group they belong to. They do help in exploration for oil and for other practical applications.

That is just one example from last year. This year we would expect to go on further with some of the same applications because of the initial success.

We will be able to provide not only more scientific information but in more forms than ever before. This is a very long project. We are only barely starting. We are approaching the threshold, as it were.

In this next year, we want to extend the successes of last year and pick up about five or six more areas of the National Collections to make the information available on them as well.

We are working with the museum community of this country and, to a certain extent internationally, to set up a data network that will provide a means by which people in the university community and in other museums can link with our information and we can literally interchange information by means of economical data-terminals in our respective research spaces.

INCREASE IN COSTS OF LIBRARY MATERIALS

Mrs. HANSEN. I notice a very interesting paragraph in a report you have given me entitled, "The Systematic Biology Collections of the United States: and Essential Resources." With a decade rise of 46 percent in the average cost of hard-cover books, (from \$8.14 in 1957-1959 to \$11.69 in 1969), the doubling of U.S. periodicals subscription costs in biological science (176 percent in Zoology and 266 percent in Botany from 1957-1959 to 1969), and the near sixfold boost in costs of subscriptions to serial services in science and technology for the same period, (from \$13.50 in 1957-1959 to \$79.05 in 1969), it is clear that these libraries can't function responsibly on their present essentially static financial base.

Doesn't this also affect your library work?

Dr. COWAN. Yes, indeed. It certainly does. All libraries are affected by these problems of information generation and distribution to the extent that I think not only do we have to do something with the libraries but probably figure out other ways of making the information available. Computer technology is one of these ways because computers can produce a lot of information in what you might call soft-cover copy that does not need to be preserved because it can be updated and regenerated at a moment's notice from the data bank.

DEVELOPMENT OF A LARGE OPTICAL TELESCOPE

Mrs. HANSEN. Justify your requested increase of \$533,000 to continue the development of a large telescope.

Dr. WHIPPLE. Madam Chairman, the astronomical advances in the last few years have pointed to the extreme scientific value of the infrared part of the spectrum, because of new sensing devices which are enormously more sensitive than we used to have.

Mrs. HANSEN. Give the committee some practical applications of this.

Dr. WHIPPLE. I will be as practical as I can be. For example, we cannot see the center of our galaxy. We get some evidence from radio. But in between us and the center there is a layer of extremely fine dust, a few millionths of an inch in diameter.

In the longer wave-lengths of infrared, however, the radiation can come through and we find very exciting things happening, which we do not understand very well. In our galaxy and other galaxies, including the quasars, which are very distant at the "edge" of the known universe, these activities represent—well, we are not sure whether they represent material that is being made there or material that is falling in and releasing enormous energy. It is a great puzzle. By infrared radiation we can see through this absorbing layer of dust. You may have read recently about the new galaxy that has been discovered in the local system of galaxies.

And also we find that there are regions of gas and dust where we know that stars are forming and we believe solar systems are in the process of being formed. Some of these infrared objects or cool clouds are like our idea of the solar system before the planets developed.

These are the types of studies that are opened up by this greater sensitivity in infrared. But the large telescopes are not well-suited for the infrared. We have the opportunity of working with scientists at the University of Arizona who have had the advantage of some help from the Air Force in designing a new type of mirror structure and a new system of mirrors. In cooperation with them we can build a large infrared telescope at a very much reduced cost. I took the liberty of bringing along an example of what we call an egg-crate mirror. Instead of being solid, the supporting structure is mostly hollow so that the upper surface—we are only interested in that upper millionth of an inch—is held in precise position. By using this type of design we can reduce the weight of a large mirror by about a factor of 4 to 5.

The Air Force actually had made, in an experimental program, six of these large mirrors, each six feet in diameter. They are now available, belonging to the University of Arizona. We can obtain effectively a 175-inch diameter telescope, which we now can build for about two and a half to three million dollars; whereas if we started out to build a classical solid one, it would cost some five times as much. It would have to be some three feet thick weighing some 70,000 pounds whereas these mirrors only weigh say 6,000 or 7,000 pounds in all.

Because all the costs are now scaled down, we can build it for around a fifth of the cost of a comparable large classical telescope and design it so it will work at optimum in the infrared, but also be effective in the usual optical regions of the spectrum.

We are working with the University of Arizona, their Optical Service Center, their Lunar and Planetary Laboratory, and their Department of Astronomy. Our hope is that we could contribute about half of the cost and they would contribute the remainder. They have the mirrors already. The cooperative effort would then give us jointly a large infrared telescope at a very low cost.

INFORMATION RESULTING FROM SPACE MISSIONS

Mrs. HANSEN. Does NASA contribute sizable amounts of information for your use as a result of their space missions?

Dr. WHIPPLE. This is a most interesting question. I am glad you asked it because when they go into the ultraviolet and X-ray regions, they obtain information that can only be gotten outside of the atmosphere. At the same time, we discovered that many active regions observed from space are also contributing light in the infrared, which just recently we were able to measure from the ground. So the two observational programs are completely complementary in scope. They both add to the solution of new problems that have developed.

Mrs. HANSEN. Then outer space is directly related to many aspects of our life on earth and the understanding of it. At this particular time in our history, many people are saying, "We don't need any more scientific knowledge."

Dr. WHIPPLE. I know that criticism.

Mrs. HANSEN. So NASA is not only developing information about outer space, they are developing information that can in the future be extremely relevant to life on earth. Is that not correct?

Dr. WHIPPLE. I am certain that that is true. And galaxies are most exciting to us. Recently we have discovered a form of matter which is not possible to make in a confined environment; namely, the neutron stars. If you took all of the automobiles in the world and stuffed them into a thimble, you would come out with just about the density of this material. Now, you cannot make anything like that on earth, but here we find stars of it. The centers of galaxies, where infrared will penetrate, may even contain more exotic material. I have the feeling that there are new physical laws governing these processes which we do not understand.

I think we can not only determine something about the evolution of stars and the evolution of galaxies going back 10 billion or so years ago, but also find out new laws that may play a tremendous role in our practical lives. I cannot prove that. It is just a confidence that I have in this type of research that—

USE OF KNOWLEDGE FOR MAN'S PROGRESS

Mrs. HANSEN. Is it not true the total sum of knowledge has always been used conventionally for man's progress?

Dr. WHIPPLE. I maintain that thesis strongly. I always have, and I am glad to see you express it.

Mrs. HANSEN. That is what I thought was the purpose of education, but I am somewhat dismayed that now we seem to be returning to a know-nothing philosophy. Some people apparently have no desire to try and conquer some of our problems. I cannot believe that that is the purpose of man, and I cannot believe that that is the purpose of education and science.

Dr. WHIPPLE. If I can reassure you a little bit. In our universities, and I have been connected with Harvard University since 1931, the students do not in general take this attitude. There are just a very few who are very vocal and negative.

Mrs. HANSEN. The danger is not from the students. The danger is from vocal elements glad to grab a slogan to serve a momentary purpose. Is this not true?

Dr. WHIPPLE. That is the size of it.

Mrs. HANSEN. I think science and education are going to have a better decade when some people realize it is important to explore, understand, and relate.

Dr. WHIPPLE. I may say, if I may express a generality, that I think there has been no time in the history of the world when we needed to study science more than we do today.

NEED TO STUDY SCIENCE AND THE HUMANITIES

Mrs. HANSEN. But you have to study science together with the humanities. Your scientific development will not be successful unless your humanities are able to interpret those developments.

Dr. WHIPPLE. And to apply the scientific method to the humanities, to human relationships. This is so vital because we have a tool in the sense of a methodology that is vitally important. I think, to the world.

Mrs. HANSEN. What to do with science should be the province of humanity.

Dr. WHIPPLE. Exactly.

(Discussion off the record.)

SMITHSONIAN TROPICAL RESEARCH INSTITUTE

Mrs. HANSEN. Justify your requested increase of three positions and \$34,000 for research support.

Dr. RIPLEY. I would like to have Dr. Challinor speak to that.

Dr. CHALLINOR. Three positions and \$34,000 for support of professional research efforts. The pressure on the Smithsonian Tropical Research Institute has increased tremendously mainly because of requests for information we receive from all sorts of universities and agencies of the government.

Mrs. HANSEN. Such as?

Dr. CHALLINOR. Such as, for example, the Inter-Oceanic Sea-Level Canal Commission which has asked us for information on the biological consequences of the proposed sea-level canal. This has been part of our research that has been ongoing for many years, although we had to reassign people and change priorities very slightly within our own research efforts to try and furnish some of these answers. In other words, we sought to learn what were the dangers of fish migrating across the sea-level canal, or how effective has been the existing fresh water lake that ultimately filled up in about 1914. For example, in this particular case it was found that the fresh water lake was an extremely effective barrier for organisms going from the Pacific to the Atlantic. Fish have transited it. Tarpon, for example, are now found in the Pacific. This is not crucial unless they start to breed in the Pacific. The technical term is propagule; in other words, enough fish coming across the Isthmus and finding conditions ideal enough to proliferate.

The only fish that has ever gotten across, we have found from our research, is a small fish, the gobi, about 2 or 3 inches long that now

inhabits the third locks, which were started during World War II. This project was abandoned toward the end of the war. It is a rather artificial niche because the locks are connected with the Bay of Panama by a large culvert. The culvert only allows the tide in the locks to change 2 or 3 feet, which approximates the very low tidal range on the Atlantic side. The Pacific side has normally about an 18 foot tidal range; the Atlantic side has a 1 or 2 foot tidal range. This artificial niche that was created by building the third lock has been occupied now, all the evidence shows, by a fish that has come all the way through the canal. This is the only case so far where we have actually found fish that travelled through the canal and set up a breeding population on the other side.

What we are finding now in this sort of research is that the existing canal is an effective barrier. We are requesting a launch operator, field aides, and related support to carry on our existing research of this nature.

FACILITIES OPERATION SUPPORT

Mrs. HANSEN. You are requesting an increase of five positions and \$64,000 for facilities operation support. May we have your comments in this regard?

Dr. CHALLINOR. This is primarily concerned with our facilities on Barro Colorado, a 3,600 acre island in the middle of the canal which the Smithsonian has administered for 25 years. The pressure there has been immense for research in tropical biology. To maintain these facilities and the two marine stations that we now operate, we are asking for a marine station manager and a janitor, an electrician, a messenger to get word back and forth and carry materials from these three research facilities, and a maintenance laborer so that we can respond better to requests for information and research that we are continually getting.

Now, for example, on page A-27, the graph shows some indication of the enormous increase in visitor use. We have many visiting scientists who come to the Smithsonian Tropical Research Institute. This request is necessary to fulfill our share of the burden, furnishing them the services they need.

SMITHSONIAN TROPICAL RESEARCH INSTITUTE AS A NATIONAL FACILITY

Dr. RIPLEY. I am sure you are aware, Madam Chairman, if I may interject, that this is the U.S. sole-supported tropical biological facility.

Mrs. HANSEN. I was going to ask if there were any other facilities with the information available to the United States in such an area.

Dr. CHALLINOR. There is one small experimental station at the Luquillo Experimental Forest in Puerto Rico, on a much smaller scale. They are there primarily concerned with some of the tasks of the Atomic Energy Commission on radiation biology. This is more applied research in this case on such questions, for example, as whether the tropical sea-level canal should be dug with nuclear devices, and what effect such activity would have on the tropical environment. This

is quite different from the sort of basic research we do on Barro Colorado, where we have been keeping records now for the last 25 years.

Dr. RIPLEY. And as a national facility our laboratories are open and accessible to people from all over the United States. There is a great demand and this is what we try to supply as well as we can.

USE OF STRI BY INTERNATIONAL SCIENTISTS

Dr. CHALLINOR. Not only the United States, but we have had scientists from Poland, Madagascar and other countries from all over the world who come to the Smithsonian Tropical Research Institute because of the facilities. The few other Federal tropical research stations are much more restricted in their activities and accessibility.

Mrs. HANSEN. Can you explain to me why Poland would be interested in this program?

Dr. CHALLINOR. The Poles? Yes, we have had for about 5 years foreign currency available in Poland where we have supported some rather small projects in biology. The people who have worked with us in Poland are now very interested in a comparison between what happens in a fir forest in Poland, for example, where the needles fall off the trees, the mice live in the ground, the owls eat the mice, thus creating a whole energy cycle and to see how this, in turn, compares with what happens in a tropical forest where the whole nutrient turnover is a great deal more rapid than it is in a temperate forest in Poland.

I just mention this. We have had two scientists from Poland down there. We have had scientists from France. We have had them from both sides of the Iron Curtain.

Dr. RIPLEY. One of the principal prides that we have in this is the number of Latin American students who come and work with us when we are in this Nation so desperately short of ways of appealing to Latin America.

Mrs. HANSEN. The United States is short of friends, period.

Dr. CHALLINOR. We have a very good relationship with the University of Panama, joint seminars and such things as this. We give it a high priority.

ENVIRONMENT AND BEHAVIOR RESEARCH

Mrs. HANSEN. Justify your requested increase of \$44,000 and two positions for environment and behavior.

Dr. CHALLINOR. This particular request is for a marine ecologist and a forest ecologist, two scientists in total. We are now trying to understand the tropical environment as it relates to the whole cycle of life, and the two main areas in which the Smithsonian Tropical Research Institute is concerned is the marine environment on either side of the canal, on the one hand, and Barro Colorado and its terrestrial environment on the other.

We are looking now for ecologists in each discipline, terrestrial and marine, to help us start to understand some of the enormous problems in trying to cope with the life cycle in the tropical world.

ADMINISTRATIVE SUPPORT AND INTERAGENCY RESEARCH

Mrs. HANSEN. You are requesting an increase of two positions and \$34,000 for administrative support and interagency research. Justify this request.

Dr. CHALLINOR. Madam Chairman, we have been requested by the Federal Water Pollution Control Administration to work on marine pollution in tropical oceans. In 1969, for example, at our station at Galeta on the Atlantic end of the canal, and under a recent contract with the Federal Water Pollution Control Administration, we have been conducting research on how quickly the oil particles which reached the shore from a wrecked tanker will break down in a tropical environment.

Mrs. HANSEN. How quickly will oil particles break down in a tropical environment?

Dr. CHALLINOR. We found that they break down considerably faster than they do if they are in cold water off the coast of Maine.

At the end of a year after the tanker accident not much was left of the oil that washed up ashore. We were, incidentally, able to get rid of a great deal of this oil because of the fortunate circumstance of the wind concentrating the oil in a narrow cove, where the water was warm enough and shallow enough so that the oil could actually be ignited on the surface of the water, which would be much more difficult if the water temperature had been low. So not as much actually got on the beach as it would have under other circumstances.

Thus after a year, say between 12 and 14 months, on the surface of the beach you would virtually see no oil at all left. You would have to dig under the sand surface to find globules of oil.

We did find that at the end of 12 to 14 months the natural oil-decomposing bacteria had been extraordinarily effective in breaking this down.

Now what we are trying to study is what effect did this spillage have on the fish and on the coral. We have been working on this now for two years. We have a good idea what was there before the oil spill, and we are trying to concentrate our efforts to see what did really happen with this oil on the surface of the water. It will take several more years.

Mrs. HANSEN. The Bureau of Sport Fisheries and Wildlife made a comment in a report that to date no one had good answers on what the total results of oil spills were on fish.

Dr. CHALLINOR. This was because we have not accumulated enough basic data to know how many fish and how many kinds were there before the oil spill.

Mrs. HANSEN. There were no answers available.

Dr. RIPLEY. This is the only tropical study of its kind that I know of, and, of course, tropical waters are going to be just as vulnerable to oil spills as the temperate are.

SEA SNAKES

Mrs. HANSEN. Congressman Obey had several questions about the sea snakes. If you have any further comments, I am sure he would be very happy to have them.

Dr. CHALLINOR. Dr. Rubinoff at the station has published a journal article on the sea snakes, which I think would probably answer most of his questions. I will be happy to send him a reprint of the journal article.

Mrs. HANSEN. Please do.

Dr. CHALLINOR. We certainly will.

Mrs. HANSEN. There are quite a number of people interested in the sea snakes.

Dr. RIPLEY. This has crept into the literature; there is something rather fascinating about the idea of sea snakes coming into the Carribean.

RADIATION BIOLOGY LABORATORY

Mrs. HANSEN. Please justify your requested increase of \$369,000 for the Radiation Biology Laboratory.

Dr. RIPLEY. Dr. Challinor, would you speak to this?

Dr. CHALLINOR. Madam Chairman, the Radiation Biology Laboratory is requesting an additional six positions and \$369,000. They have at the present time a base of 40 positions and 37 of these are filled. They are now negotiating for three more people and expect to have these three people on board shortly so that they will soon be at full authorized strength.

In this case, we are primarily interested in putting into full operation our new laboratory facility at Rockville, Maryland. We are in the status of relocation there. It is about 65 percent fully operational, equipment is being installed in another 25 percent of the area, and it should be completed by about now, that is around the first of April.

In making this move, we had to shut down the old facilities that were built in the early sixties on the Mall and we are now requesting new environmentally controlled growing rooms. What we would primarily do with these units is study the effect of solar radiation on plants by isolating the various wave lengths from the light of the sun, to see what effect these wave lengths have on the growth of plants; that is, when they blossom and how long they grow. To do this we have developed controlled growing areas so we can block off different portions of the spectrum.

DECREASE IN LIGHT REACHING THE MALL

Now, this is useful, for example, because we started an experiment about 1907, I believe it was, on the Mall where we began measuring solar radiation hitting the grass. This was started by Dr. Abbott, who is still alive and well at 98, a Smithsonian physicist who later became its fifth secretary. We concluded this experiment in 1969, with at least one of the same scientists still around to see that we did not have an individual bias in the taking of the measurements.

In any case, we discovered that since about 1949, there was a 16 percent decrease in the amount of light at the ultraviolet end of the spectrum hitting the grass in front of the Smithsonian Building on the Mall.

Now, we have various theories. This result applies only here in Washington, and we attribute this decline in the ultraviolet end of the

spectrum to various particles in the stratosphere interfering with the solar energy coming through.

The question, of course, immediately comes up, how worried should we be about a 16 percent decline in the ultraviolet end of the spectrum. The grass is still green, the tourists still walk by, and everything looks fine.

This is what we are attempting to look into now. We know that the ultraviolet end of the spectrum has a direct relation to the vitamin A synthesis in plants. We are not growing crops on the Mall for food, so, consequently, the decline there does not yet seem to be crucial.

We are setting up another facility out at Rockville, Md., to see if there is any difference in the light quality between the suburbs and downtown Washington. We have also gone up to Alaska to find an isolated part of the globe for further comparison, where there should be relatively little carbon dioxide pollution from automobiles.

We will help set up a similar monitoring station in Israel in cooperation with the universities there, and financed under a Public Law 480 currency project. We hope to set up another one in Panama.

This is in the future.

In answer to your question, part of the increase we are requesting now is needed to try to get a broader idea of what is affecting the sun's energy in the upper atmosphere.

DIMINUTION IN SUN'S ENERGY

Mrs. HANSEN. Is there any diminution in the sun's energy itself? We talk about the intervening layer of pollution.

Dr. CHALLINOR. Not that we have been able to measure, Madam Chairman. To the best of my knowledge, there is no measurable diminution in the sun's energy that we have been able to detect.

Dr. RIPLEY. The question of wave lengths, of course, is crucial in terms of the effect on certain kinds of plants and animals. The synthesis of certain vitamins, if it is lowered in a particular area because of smog, would increase, let us say, rickets in children without the addition of vitamins.

Mrs. HANSEN. If calcium deposits decrease due to the use of DDT, I would think, a serious nutrition problem would occur. And if you have a diminution of calcium and an increase in radiation, then you have another problem.

Dr. RIPLEY. The ultraviolet is very critical for plant growth especially, and it may be one reason why in cities certain kinds of trees and plants do not grow well anymore.

In connection with the international biological program we are interested in monitoring around the world, as you know, using certain tender plants which are particularly susceptible to the changes in light absorption due to smog and due to pollution.

USE OF SMITHSONIAN BY OTHER AGENCIES

Mrs. HANSEN. This committee appropriated funds to the Forest Service for an urban forests project to see what effect urban tree growth could have on decreasing pollution. Do you work with the Forest Service in this connection?

Dr. CHALLINOR. Yes, Madam Chairman. For example, the ESSA has come to us to learn what we are finding. They have now been charged with studying atmospheric pollution and the administration has established the Environmental Protection Agency. Some of the newer agencies now realize that some of these monitoring efforts have been going on for several years. They have come to us for just exactly this sort of information.

The Forest Service and particularly the Department of Agriculture at Beltsville have been working on some of the very same kinds of projects. For instance, on plants, what makes them blossom, and how this knowledge could be applied for commercial use such as how to keep sugar cane from blossoming. The longer you keep it from blossoming, the longer it will grow vegetatively. They have found from the basic research that we and other agencies are doing that by breaking the darkness at night the cane can grow twice as tall by keeping it from blossoming. The sort of work we are doing may or may not always have economic benefits, but they might be expected in the same manner from the results of experiments using the control rooms that we hope to install.

By controlling the light, we can allow different portions of the spectrum to hit on particularly photosensitive plants to see how they react. We can then try to predict what might happen if this situation gets worse; for example, instead of a 16-percent decline it might get down to 25 percent. What can we anticipate?

Mrs. HANSEN. The Forest Service is working with universities in the Northeast, particularly with the University of Massachusetts on urban forestry. The committee had hoped they would be able to develop some answers that would be useful for planning future cities.

COOPERATION WITH THE ATOMIC ENERGY COMMISSION

I was going to ask you on the Radiation Biology Laboratory. Do you work with the AEC in connection with your Radiation Biological Laboratory?

Dr. CHALLINOR. Yes, we do, Madam Chairman. We have close working relations with them. Probably more of our work has been done with the Department of Agriculture in Beltsville. And they are studying solar radiation. When we use the term "radiation biology," is primarily concerned with solar radiation as opposed to nuclear radiation.

We also have in the radiation biology laboratory our Carbon-14 dating apparatus, working on the dating of various artifacts discovered by archeologists by the breakdown of radioactive carbon in these items.

OFFICE OF ENVIRONMENTAL SCIENCE

Mrs. HANSEN. You are requesting an increase of \$243,000 for Office of Environmental Sciences. Would you give us the history of this activity?

Dr. CHALLINOR. Yes; first, we are asking for six positions and \$81,000 for the Smithsonian Oceanographic Sorting Center. This now has 18 people working there.

Mrs. HANSEN. Where is this facility located?

Dr. CHALLINOR. This is located now at the Washington Navy Yard down by the South Capitol Street Bridge, where we have been operating the sorting center now for at least 8 years.

Here, because of the increasing demand from such international programs as the cooperative investigations in the Mediterranean and the International Decade of Ocean Exploration, the demands for sorting marine specimens is getting out of hand with the existing resources that we have.

This is rather specialized work. We have been able to train people to make initial sorts and we have a training program in these operations. With the increasing interest in fresh water pollution, we are now equipped, or we hope to be equipped, to start sorting fresh water samples of indicator species so that we can judge how fresh or how good the water is based on the animals that live in it.

Mrs. HANSEN. What is involved in your Chesapeake Bay Center for Environmental Studies?

CHESAPEAKE BAY CENTER FOR ENVIRONMENTAL STUDIES

Dr. CHALLINOR. Now for the Chesapeake Bay Center for Environmental Studies, as you may know, we have accumulated about 1,300 acres. We are in the process of negotiating for about 800 more.

This is located, as you know, 7 miles below Annapolis on an estuary of the Rhode River.

What we are primarily interested in doing is accumulating enough contiguous land to cover the Muddy Creek watershed, which flows into the Rhode River. This will then give us a base for understanding how land-use effects the watershed and what is happening in the estuary, such as the condition of the fish that live there, the clams, the oysters, et cetera.

Mrs. HANSEN. Are you participating in the estuarine study?

Dr. CHALLINOR. Yes, we are, Madam Chairman. Not only that, but we are doing this through a consortium arrangement with Johns Hopkins University and the University of Maryland. We are requesting two positions here. One is for a security officer, which we need very badly.

NEED FOR SECURITY OFFICERS

Mrs. HANSEN. Security officers are needed badly in several of your facilities.

Dr. CHALLINOR. As you know, the farm that we initially got in 1965 had been abandoned from 1946. This had become a very well-known area for people to come in and use it to strip automobiles. We spent the first year trying to get rid of the junk that had accumulated there. Word gets around slowly and we have to be sure that our neighbors and other people know that this area is now occupied and used for research.

Mrs. HANSEN. The people in this country have to realize how important their own environment is.

Dr. CHALLINOR. Indeed, Madam Chairman. This is sometimes one of the most frustrating aspects of what we are trying to do down there. We are really trying to protect them from themselves.

We have run studies on the waterfowl there, or the small mice that live in the forest floors to see how many of them are there and what sort of things they eat and what eats them. We have to set snap traps out there, for example. Now, if children should start roaming around and a child should catch his toe in a snap trap, you can imagine the uproar. We need the guard really to protect the visitors—what is the term? An “attractive nuisance” I believe is the legal term. The Center has nice woods and normally you could say, “Let’s go walking in the woods.” Well, this is all right if you do not have such hazards to the layman as snap traps.

The scientist knows where they are because he has them plotted, but the child who wants to go fishing does not. We really need badly a guard to protect the—I hesitate to use the word trespassers—but that is in effect what they are, from themselves. And we get considerable poaching, that is, people coming in and shooting woodchucks or even deer and other animals. We have to keep some sort of roving patrol. That is one of the two positions that we need badly at the Chesapeake Bay Center. The other is for a botanist to carry on long-term studies.

COOPERATIVE RESEARCH ON THE CHESAPEAKE BAY

Mrs. HANSEN. You say in your justifications, “Guidelines are being developed to identify the ecological consequences of river basin development . . .” The Department of the Interior participates in many river basin studies. Are you working with the Department of the Interior in this connection?

Dr. CHALINOR. Yes, we are, Madam Chairman. In fact, the Division of Water Resources of the U.S. Geological Survey now has stationed at the Chesapeake Bay Center two full-time scientists for the continuous work of water quality monitoring. These monitoring instruments are now being set up in the Rhode River estuary.

Not only that, we have plotted out in quadrants about one-half of the Bay Center so that at any one time a researcher can see and know where he is at the Bay Center by referring to the quadrant map. The NASA, for instance, is very interested in infrared photography to see if they can determine by flying over, or from a satellite even, what the vegetation is below.

If you know exactly which tree is growing where on a given plot, and you then take an infrared photograph of it and interpret the different shades of red or pink or blue that infrared photography produces you can identify exactly what types of trees these are, at least here in the Temperate Zone. The experience gained would be extremely valuable for vegetation mapping all over the world. As you develop this technique, one could identify trees along the Chesapeake shore, for example, by knowing specifically that a pine tree produced a certain shade of pink in the infrared photograph. We are doing this with NASA now.

Professor Seliger at the Johns Hopkins University has a grant from the AEC. He has seven full-time people working for him at the Bay Center.

His work is concerned with the siting of nuclear powerplants and what effect those might have on aquatic organisms if the temperature

of the water is raised. This is the sort of research we are doing at the Bay Center.

Mrs. HANSEN. How long has that research been going on?

Dr. CHALLINOR. That has been going on for about a year and a half.

MODEL COMMUNITY ACTION PROGRAM

Mrs. HANSEN. In your justifications you discuss a model community action program. What does this involve?

Dr. CHALLINOR. We have found at the Bay Center quite unexpectedly that adjacent to our land there was a 19-acre tract that a local group funded by the Office of Economic Opportunity, I believe, assembled from small parcels to put in low-cost public housing. There is a small black community there adjacent to us. This is not a very prosperous community. The residents mostly work on the tobacco farms and some work in Annapolis.

There is an urgent need for low-cost housing in this area.

The State and the Federal Government agreed to support this, but a secondary sewer treatment plant was all this housing project could afford. The discharge from it would empty into Muddy Creek, on which we have been working since 1965. We said that we must have tertiary treatment. In other words, the discharge coming into the creek must be at least as pure as it would be if it drained off somebody's hayfield.

As a result of some rather long negotiations, we have now been able to work out, I believe it is now in the final stages, a system whereby the extra outside money can be raised to build the tertiary treatment plant.

But what interests the Housing and Urban Development people here is a perfect local example, 40 minutes from where we are sitting, of exactly what is happening as areas are developed, adjacent to a completely undeveloped one such as we have accumulated at the Chesapeake Bay Center.

How do you resolve these conflicts that are going to come up perpetually as land is being developed?

This is certainly happening in Anne Arundel County, particularly along the shore.

We have been extremely fortunate in assembling almost 2,000 acres of undeveloped land which is very accessible to Baltimore and Washington. Such land is very scarce along the shore.

This is why Housing and Urban Development and other relevant Government departments have come to saying that this is a perfect place to do some of the studies about which we are all now becoming increasingly concerned.

We are working very closely with the Federal Water Pollution Control Administration and the Environmental Protection Agency, and other new agencies of the Government.

Mrs. HANSEN. Thank you very much for a very interesting presentation.

NATIONAL AIR AND SPACE MUSEUM

Justify your requested increase of \$105,000 for the National Air and Space Museum.

Dr. RIPLEY. Madam Chairman, we are concerned with trying to pave the way with what we hope will be a phased program to open this vital new link in our chain of public museums on the Mall; namely, the National Air and Space Museum, by the bicentennial year 1976. In order to do that, we are requesting an increase of three persons and \$105,000. This includes related funding in the form of pay increases and program increases.

VISITORS TO AIR AND SPACE EXHIBITS

Mrs. HANSEN. How many visitors do you have per year in the National Air and Space Museum? Also, which other museum is this comparable to?

Dr. RIPLEY. The only other museum which is comparable, I think, is the Museum of History and Technology.

These two museums have approximately the same visitation each year, with the Museum of National History a very close third.

In the last year, for example, the Air and Space Building, and the Arts and Industries Building which also has important air and space exhibits, had a total of about 4,400,000 visitors. The problem is how to segregate those people who entered both buildings.

We cannot tell whether they are coming to see the moon rock or to see other non-air and space exhibits. But the number was well over 4 million people. The Museum of History and Technology had well over 5 million.

Mrs. HANSEN. The public would not have been able to see the moon rock if we had not had a space program.

Dr. RIPLEY. No; they would not have.

And the Museum of Natural History ranks third with about 3,300,000. So it is one of the two principal activities for our visitors, I think I can say without any hesitation.

KITTY HAWK COMMAND MODULE

Mrs. HANSEN. Mr. Galifianakis wants to ask a question about the Kitty Hawk command module.

Mr. GALIFIANAKIS. I have written a letter about the Kitty Hawk command module. There has been much interest in North Carolina. It has gotten right much coverage. It was proposed that since Kitty Hawk is in the State of North Carolina, this was the perfect place for it to be. I was trying to devise a scheme of maneuvers so as not to cause the Smithsonian any special circumstances that might create a precedent. I was trying to devise a way whereby you waived your right to receive the Kitty Hawk, which is coming to you in July, and thereby direct it to North Carolina to remain there as a permanent monument.

I think because you have other craft of that similar type you could well afford to do this. I was wondering about the likelihood of spreading out the Smithsonian to the banks of North Carolina.

Dr. RIPLEY. Well, we are constantly being asked to develop regional centers and regional branches for the Smithsonian, and we are some-

what reserved about this by request of our Board of Regents and by our own natural inclinations because of our limited budgetary resources.

Mr. GALIFIANAKIS. This would eliminate the expense of housing. I would like to request that you give it—I take it you have not acted on it.

Dr. RIPLEY. No, we have not. We have your letter, don't we, Dr. Challinor?

Dr. CHALLINOR. The Kitty Hawk command module has not yet come to us from NASA.

Mr. GALIFIANAKIS. Should I try to preclude it from coming to your jurisdiction? Would that make you happy?

Dr. CHALLINOR. When it comes to us, then we can have a say about where it can go. At this time, in all honesty, I think I should say, "Let's get it first instead of getting it sidetracked." And then we can send it around, perhaps to the museum in North Carolina.

Mr. GALIFIANAKIS. Actually, we prefer it under the auspices of the Smithsonian. This is why I said "scheme of maneuver" the gentleman who was head of the space program for public relations is a North Carolinian and I just thought of getting assistance moving in that direction. But I would really like the attendant prestige of getting it from the Smithsonian. It would give it that something extra, something added. You get my point.

Dr. CHALLINOR. Under the Space Artifacts Agreement that we have with the National Aeronautics and Space Administration all the objects which we send up into space, once they have come back down again, and NASA has debriefed them or seen whatever they want to see, after they have come back to the laboratory in Houston, and they have finished working with them or gotten all the information they need, then they come to the Smithsonian.

Mr. GALIFIANAKIS. It depends on your classification. If it is an artifact—you have different classifications on receiving things, and artifacts are easier to get rid of than something else.

Dr. CHALLINOR. We do send space objects around.

Mr. GALIFIANAKIS. You have got a picture in here of a lot of artifacts that you cannot use, and they are stored somewhere because you neither have the experts nor the space to put them. That is in your budget justification.

Dr. CHALLINOR. Exactly, Mr. Congressman. One of our problems is we often have to hang onto these objects long enough so that they do not get lost for later public use.

Mr. GALIFIANAKIS. Well, this one would be exposed publicly with an appropriate plaque, recognizing coordination with the NASA program and the Smithsonian Institution. I would earnestly urge that you give it your serious consideration. If you need me to help you draft the method and means by which I think we can legally accomplish it, I will just cease and desist from going the other route. Is that fair?

Dr. CHALLINOR. That is fair.

Mr. GALIFIANAKIS. Thank you very much, Madam Chairman. You were very kind to anticipate my request.

PACIFIC SCIENCE CENTER

Mrs. HANSEN. What is the status of the Pacific Science Center in Seattle?

Dr. RIPLEY. Mr. Bradley has just returned from the Center.

Mr. BRADLEY. Madam Chairman, we found a most exemplary museum program going on at the Pacific Science Center in Seattle. The physical plant is good. The staff is small, but very good and enthusiastic. They have something like 350,000 visitors a year. They put on programs of learning in the sciences. They would like, I believe, to affiliate with the Smithsonian. The Center has been in operation for 9 years and they are still solvent.

Mrs. HANSEN. Which is remarkable considering the present economic conditions in Seattle.

Mr. BRADLEY. Total revenues for their fiscal year 1971 operation; for example, are expected to be about \$420,000. This will provide for an operating budget of about \$330,000 and about \$90,000 for various restricted uses. About 45 percent of these revenues arise from admission charges and memberships. The remainder comes from donations, business support, and from State, county, and district school support. School support amounts to about 30 percent of total revenues.

The Smithsonian Board of Regents has been considering this matter, just as we are asked to consider other requests.

Mrs. HANSEN. For example the Kitty Hawk module?

Mr. BRADLEY. Yes, as an example. Or the San Francisco Mint.

Dr. RIPLEY. The St. Louis Post Office is another example.

Mr. BRADLEY. And the Mid-America project in Arkansas.

The Regents, I think, wanted additional information, and, of course, it gets down to financial responsibility sooner or later.

(Discussion off the record.)

CENTER FOR THE STUDY OF MAN

Mrs. HANSEN. You are requesting an increase of \$68,000 for the Center for the Study of Man. What is involved in this request?

Dr. RIPLEY. We are involved here with a major project, Madam Chairman, to prepare a comprehensive updated set of encyclopedias on the Indians of North America.

Mrs. HANSEN. When are you going to be able to complete this project?

Dr. RIPLEY. We estimate we will publish it in 1976. That is the magic date, Madam Chairman. We think publication date by 1976 is valid provided we can get the project firmly on the road with the funds that we are requesting.

Mrs. HANSEN. How much has been completed to date? I am very interested in this project.

Dr. RIPLEY. I know you are.

Mrs. HANSEN. I am waiting for you to complete this project to do some further research on Indians.

Dr. RIPLEY. Over the last year we have laid out the exact time schedule which would bring us to this date of publication of the planned 17 volumes. Now, I happen to know something about projects

such as this because I have worked on similar projects myself. I am doing a 10-volume publication at the moment, on which I hope my basic manuscript work will be finished this year.

If we can get all the collaborators signed up, which we think we now have, about 850 of them across the Nation, and if we can further develop a small working staff, clerical, editing, and supervisory personnel with those people we already have aboard, we can produce and we can deliver this encyclopedia on American Indians. This is tremendously important to us too.

IMPORTANCE OF THE INDIAN ENCYCLOPEDIA

Mrs. HANSEN. It is important to the Nation because your legal and historical studies on North American land base are very important especially now.

But, more than that, some of the material that should be in the encyclopedia on North American Indians is vanishing as the older members of the tribes die.

Dr. RIPLEY. We know that there are some 32 dialects which are still not spoken by anybody outside of the small tribal entities, and in some cases, are spoken only by people over 70. So that each year we delay documenting some of these dialects, we lose a chance of ever doing so.

Mrs. HANSEN. One of the reservations in my district has many tribes, all with different dialects. But these dialects are vanishing as the older people pass away.

Dr. RIPLEY. There is a difficulty in all of this and that is that some of these dialects which remain with people who would prefer to have the language go out.

Mrs. HANSEN. There was one woman I happened to talk to on this reservation who was trying to teach her great grandson the language. She was giving him directions in a particular dialect on how to make baskets, and he was not particularly enthused about learning the language nor making the baskets. She wanted someone to have the language and to understand the language.

Dr. RIPLEY. This is a vital part of this project. This spring we will have the writing assignments parcelled out. The main contributors will be expanded by over 800 ancillary contributors. There is going to be a tremendous job of coordinating these people's contributions.

We expect to start getting in manuscripts in August of this year. We believe that all manuscripts will be received and revised by May, 1974. This gives us a publication date of mid-1976.

Mrs. HANSEN. I understand. I have five shorthand books filled with legends told to me, for instance by one Indian woman who passed away over 25 years ago. I am waiting for the day when I can have time to transcribe them. Their legends, customs, medicines, burial places are all very fascinating.

Dr. RIPLEY. Have you got any of that transcribed?

Mrs. HANSEN. I will eventually.

Dr. RIPLEY. Well, we are optimistic at the moment. We have had a great deal of progress in the basic organization during the past year. We are optimistic that we can hit this target date.

CENTER FOR SHORT-LIVED PHENOMENA

Mrs. HANSEN. Justify your requested increase of \$90,000 for the Center for Short-Lived Phenomena.

Dr. RIPLEY. Dr. Challinor, would you like to speak on that?

Dr. CHALLINOR. Madam Chairman, we now have one person from federally appropriated funds and we are asking for three more people and additional support funding of \$90,000. This Center has grown tremendously. We now have 2,600 reporting scientists all over the world.

Mrs. HANSEN. This is where you report meteorites and other natural events.

Dr. CHALLINOR. Yes; meteorites, oil spills, earthquakes. As you recall, this program was initially instigated because we had a worldwide communications network connected with the activities of the Smithsonian Astrophysical Observatory, especially their satellite tracking program. As a result of this network, we realized the enormous value of being able to inform scientists of natural phenomena as they were actually occurring.

We have set up this network which operates from Cambridge, Mass. Publications have resulted directly from these network reports because scientists have actually been able to get on location while a volcano was erupting, for example, or very shortly after an earthquake was going on.

Mrs. HANSEN. Was the earthquake in Los Angeles such an event?

Dr. CHALLINOR. There were very many people in Los Angeles at the time of the earthquake, including scientists. I was going to give, as an example, a volcano in the Philippines. There were plenty of people in the area, but there were no scientists. Notification by this network allowed a Smithsonian scientist to observe a phenomenon called *nuees ardentes*, which is a glowing cloud of gases that comes down the mountain at a very, very rapid rate. Evidently people have known about these, but very few scientists had ever seen them. This phenomenon has often caused large numbers of fatalities from volcanic eruptions and it is important that we understand it.

For this service we have initiated a subscription fee system to various governmental agencies and to scientists all over the world, or to government science offices, I should say. For individual scientists who cooperate by furnishing us the service of making these reports, we in turn, do not charge them a subscription fee but give them the worldwide information back for their service to us.

We have been trying as hard as we can to get from such agencies as the U.S. Geological Survey, for example, which is primarily concerned with earthquake reports, a stipend to help support this program.

We have been successful in some cases.

Mrs. HANSON. The Geological Survey is as short of funds as you are.

Mr. CHALLINOR. We have gotten some support from the AEC. They realize the value of the service enough that they have been able to put up some of their hard-earned funds as well as a few others.

GLOBAL MONITORING

This service is now monitoring part of the global environment, a task which has been charged to new agencies of the government, such as the Environmental Protection Agency. The Department of Commerce has been asked to prepare a report on what the United States is doing to monitor the environment for the Stockholm 1972 Conference on World Environment. This is a United Nation sponsored meeting.

What they are finding is that there are already existing monitoring systems so that we don't really have to build large numbers of new ones. The Smithsonian's system is one that has been operating on a relative shoestring, whose very existence now is dependent somewhat on the support we can get from actual Federal dollars. We have squeezed out from other agencies and from our own budget about all we can to keep the Center going.

I have here a letter which emphasizes that this is a global operation.

This is a letter from Professor Silkin of the Soviet Geophysical Committee, which tells how he uses the information and shows an article he published. I do not read Russian so I am not sure what he said, but here is reproduced one of our event notification cards.

Mrs. HANSEN. Who does your Russian translations for you?

Dr. CHALLINOR. We would have to get this done through Poland. We have lots of friends in Poland who speak Russian. I just mention this letter to stress the global aspect. This is not just benefitting the United States. We have a network now in 148 countries and territories, with about 2,600 scientists feeding information to us continually on oil spills, sudden explosions of natural populations, whether these are in Africa, or, for example, there was one report of an enormous population explosion of squirrels in eastern Tennessee and North Carolina about 2 years ago. Some tried to swim across reservoirs and everything else. This was a case of interest to scientists at the University of Maryland. Why was this sudden population explosion? How often does it happen? This has happened all the way back to the time of Audubon, who reported a similar event.

We have received and reported data on fish kills. And this information is now all recorded. We use a computer to mail this information out. However, it does take money to run this system.

The schools are using this information for conservation courses. And we think that with the money we are requesting here, an increase of three people, and \$90,000 in new funds, a total of \$127,000, we can really get this system going since it is already in existence, rather than spend many times that much in one of the bigger agencies for the start of a new system.

Mrs. HANSEN. Do you know what your problem is? You somehow do not get this point across to the people who make these decisions.

Mr. McDade and I spent an endless amount of time talking to the Department of Interior about doing something about mine fires. When I tried to get some information from the EPA on mine fires they did not have one bit of information on these fires that have been burning for 70 years. Two hundred seventy-nine of them are still burning!

Mr. GALIFIANAKIS. What did you do after you got the report on multiplying squirrels?

Dr. CHALLINOR. When we got the report we sent the information to Professor Flyger of the University of Maryland, who sent down a team of graduate students. He was interested in finding out, for example, the direction the squirrels were moving. In this case, they drove along several roads. When squirrels migrate like this there are a great many that get hit by cars and the team could count the number of squirrels per mile of highway. Then they went on another road, perhaps 3 miles west, to see if the squirrels had gotten that far.

The squirrels that were not too mangled could be dissected to see whether this migration was due to the reproductive cycle, or were they hungry or were they fat. Well, it turned out, as well as we can tell, that there was a combination of weather conditions that had produced a very low yield of acorns. Migrations generally take place in a low acorn crop year after a very high acorn crop. The population of squirrels was way up. All of a sudden, the squirrels started to move out of the hills and came down to the cornfields in a great massive migration. This was a chance to monitor this event as it went on.

Mr. GALIFIANAKIS. Where did those squirrel refugees come from?

Dr. CHALLINOR. They come from up in the hills. Now they are coming down to the gardens.

Mr. GALIFIANAKIS. Do you all have a pat speech on Smithsonian?

Mrs. HANSEN. It's all right here in their justifications.

NATIONAL ZOOLOGICAL PARK

You are requesting an increase of \$655,000 and 48 positions for the National Zoological Park. This activity was formerly funded by the District of Columbia.

Mr. JAMESON. Yes, Ma'am.

Mrs. HANSEN. How much was the budget of the National Zoological Park when it was funded by the District of Columbia?

Dr. RIPLEY. I would like to ask Dr. Reed to reply to this, if I may. He is right here, Madam Chairman. He has, as you know, been testifying for some years before the District committees.

Mrs. HANSEN. The District of Columbia has shifted many of their functions to the Federal budgets.

Dr. REED. We have done this with the concurrence of the Office of Management and Budget.

Mrs. HANSEN. I understand.

(Discussion off the record.)

Dr. RIPLEY. The fiscal year 1970 budget, which was the last under the District Subcommittee, was \$2.8 million. The current year's budget was the first before this committee and it has \$3,150,000 as a base, including pay supplemental.

SIZE OF ZOO, NUMBER OF ANIMALS, AND VISITORS

Mrs. HANSEN. How many acres of land do you have in the National Zoological Park?

Dr. REED. We are estimating that it is 167 acres at the present time.

Mrs. HANSEN. How many animals do you have?

Dr. REED. As of our last inventory, we had 811 different species and 2,527 individual animals. These figures fluctuate.

Mrs. HANSEN. Does that include snakes?

Dr. REED. Absolutely, Madam Chairman.

Mrs. HANSEN. How many visitors per year do you have?

Dr. REED. We estimate that we had 5,200,000 as of last year. It remains at about 5 million a year.

Mrs. HANSEN. How many of those visitors come from the metropolitan area of Washington, D.C., and how many are from outside the metropolitan area?

Dr. REED. We ran a survey some years ago which showed that 20 percent of the visitors are District residents, 30 percent are from the metropolitan area outside of the District, and 50 percent are from outside the metropolitan area.

Mrs. HANSEN. Then visitors from the metropolitan area are about 50 percent of the total visitors?

Dr. REED. Yes.

Mrs. HANSEN. Of this 50 percent, about 20 percent come from the District of Columbia? Is this correct?

Dr. RIPLEY. Approximately. This was a surprise to us because we had not realized prior to this that we are indeed a national zoo because we have such a visitation from all other States.

Mrs. HANSEN. This is a national zoo. The visitors to the zoo come from all over the Nation.

Dr. RIPLEY. Absolutely. This is, in fact, the only national zoo.

Mrs. HANSEN. Is this the only national zoo in the world?

Dr. RIPLEY. Well, it is the only national zoo in the United States.

Mrs. HANSEN. How many other nations maintain national zoos?

Dr. REED. That is a little difficult to answer. There is a national zoo, I believe, in Delhi. New Delhi would be a national zoo. Some of the zoos in capital cities assume the role of the national zoo.

Dr. RIPLEY. Also in Buenos Aires, Argentina. Rome is a national zoo in Italy. And in Paris, the National Zoological Branch of the Museum of Natural History. These are such examples.

MAINTENANCE AND PROTECTION STATISTICS ON THE ZOO

Mrs. HANSEN. How many miles of road do you have in the zoo?

Dr. REED. We have 3 miles of automobile road and 8 miles of sidewalks.

Mrs. HANSEN. How many trails do you have?

Dr. REED. We have no trails as utilizable trails. I suppose there is a mile or so of paths, informal paths that visitors have developed, but which we do not encourage.

Mrs. HANSEN. How much space do you have allotted for parking?

Dr. REED. The parking lot space at the present time will accommodate about 1,200 cars. Our parking lots at the present time have 30,000 square yards.

COST OF SECURITY

Mrs. HANSEN. How much of your funds are spent for security personnel? Increasing amounts of funds are having to be spent for

law and order and in the security of the installations themselves. I think the public should understand what the costs are for this activity. Please insert the information in the record.

(The information follows:)

COST OF SECURITY

The National Zoological Park has an authorized police force of 29 men. The cost of this service is estimated for fiscal year 1971 at \$307,000. This includes vehicles, radios, uniforms, supplies, and equipment as well as salaries and related benefits.

COST OF TRASH CLEANUP AND WASHROOM CLEANUP

How much are you spending for trash clean-up per year?

Dr. REED. It is a sizable sum. We can supply that for the record.

Mrs. HANSEN. Also insert in the record what you have spent for washroom cleanup.

Dr. RIPLEY. I will say we will get those figures. We do not have enough people to keep the washrooms as clean as they should be.

Mrs. HANSEN. I understand.

(The information follows:)

COST OF TRASH CLEANUP

The collection and disposal of visitor trash on the public grounds will cost an estimated \$40,000 for the fiscal year 1971. Sweeping the streets, sidewalks, and steps, which account for 50 percent of the visitor trash, will cost approximately another \$40,000. Sweeping and cleaning the public spaces in the animal buildings, much of which is visitor engendered trash, is estimated to cost an additional \$60,000 per year. This is a total of \$140,000.

If the public disposed of their waste in the trash baskets, these figures could be reduced by one third; however, the zoo would still have to empty the trash baskets, sweep the streets, and scrub and clean the buildings. Nevertheless, it is a fact of life that picking up after visitors and trying to keep the zoo presentable is an extremely expensive and time-consuming operation.

COST OF WASHROOM CLEANUP

For the care and maintenance of washrooms the zoo spends about \$52,000. This includes salaries and related benefits as well as supplies. This, of course, is a 365-day operation and our heaviest demands are on weekends and holidays. The zoo is badly under-staffed in this area.

COST OF FIRST AID

Mrs. HANSEN. How much do you spend on first aid?

Dr. REED. First aid is part of the police function. I can break that out.

Mrs. HANSEN. That is fine.

(The information follows:)

COST OF FIRST AID

First aid for zoo visitors is taken care of by the police. Each man has taken an advance first-aid course. The annual cost is estimated at \$10,000. This includes service to the general public as well as to employees.

CORRELATION BETWEEN COSTS AND TAXES

Dr. RIPLEY. The correlation is very, very exact between a country like the United States and a country like the Iron Curtain countries

where these objects are not wrapped up in such expensive wrappings, where in contrast with half the labor supply, the zoo looks much neater on the morning after the weekend because the whole effort of cleaning up is a project.

Dr. REED. This morning after going through the zoo after a Sunday, I had very similar thoughts. It was terrible.

Mrs. HANSEN. All you have to do is go down any street in Washington, D.C., to find litter.

JUSTIFICATION OF ZOO BUDGET INCREASE

Please justify your requested increase of \$655,000 and 48 positions for the National Zoological Park.

Dr. REED. The 48 positions are scattered pretty well throughout the zoo. As mentioned before, this is the first budget we have placed from the Smithsonian Institution. Last year's budget was started under the auspices of the District of Columbia, and was later transferred. The purpose of this request is to try to bring our zoo up to the level of operating efficiency which we feel it should maintain.

In the Office of the Director, we are asking for eight positions. These are secretaries, a technician for the pathologist, and other necessary staff.

ANIMAL HEALTH

Mrs. HANSEN. How many of your personnel are associated with the health activities of the animals?

Dr. REED. At the present time there are five engaged in animal health. These are a veterinarian, a secretary, a medical technician, a zookeeper, and a biological technician. We have a pathologist, a histotechnician and his secretary; that would make eight. In addition to these, we have a pathologist assigned to us from the George Washington Medical School, and we have eight pathologists who are working with our pathologist from the Armed Forces Institute of Pathology. So our staff is augmented by visiting scientists.

POLLUTION CONTROL

Mrs. HANSEN. In your justifications you say, "Construction of a trunk sewer to eliminate most of the pollution discharged into Rock Creek." Where does the rest of the pollution go?

Dr. REED. I would say that all pollution has been eliminated as of the present moment. That is, the materials that were considered pollution sources have been corrected. The runoffs from the parking lots, et cetera, are not considered pollutants. All pollutants of animal origin have been corrected at the present time.

COOPERATION IN RESEARCH

Mrs. HANSEN. You are requesting an increase of 3 positions and \$34,000 for the Hospital Research Building. What is involved in this request?

Dr. REED. The Hospital Research Building is devoted to veterinarian medicine. Dr. Gray, our veterinarian, and his staff are cooperating

with many groups throughout the country and throughout the city in particular problems of animal health as they relate to zoo animals.

The pathologist is doing the same. He is involved in studies of effects of lead poisoning. Of course, this is a human as well as an animal problem.

We told you last year about our studies on the gorilla with rheumatoid arthritis. We are cooperating with the medical schools on this particular problem. We are continuing to make progress with our one patient.

There are a number of groups with which we are cooperating. I can give you a complete rundown or breakdown if you wish.

Mrs. HANSEN. Please insert the information in the record.
(The information follows:)

COLLABORATIVE RESEARCH PROJECTS

Institution :	<i>Project</i>
Marquette School of Medicine----	Hemoglobin study in the feline.
Dartmouth Medical School-----	Chromosome composition studies.
Cornell University-----	Neurology of the white tiger.
Northern Virginia Arthritis Institute -----	Rheumatoid-like illness in the gorilla.
Duke University-----	Camel physiology.
Veterans' Administration Hospital Minneapolis, Minn.-----	Polar bear rearing regimen, Milk analysis in exotic animals, Physiological norms, Reindeer reproduction.
George Washington University School of Medicine-----	Reindeer blood studies, SMA blood chemistries, Protein electrophoresis blood.
National Institute of Health-----	Aging studies and bone degeneration.
National Institute of Health-----	Blood parasite studies.
National Institute of Health-----	Urinary estrogens and gonadotropin in the pregnant great apes.
University of Minnesota-----	Physiology and metabolism in ursidae.
Patuxent Wildlife Research Center	Epidemiology of avian malaria in zoological parks.
Johns Hopkins University-----	Hemoglobin studies.
Norden Laboratories-----	Antibody responses to feline panleucopenia vaccination in exotic felidae.
Veterans Administration Hospital Bronx, N.Y.-----	Feline blood studies.
University of Ceylon-----	Elephant reproductive physiology.
Mayo Clinic-----	Tuberculosis typing.
National Institute of Health-----	Primate neurological studies.
Long Island Duck Research Laboratory -----	Diet deficiency studies in waterfowl and other exotics.
George Washington University Medical Center-----	Tuberculosis in the great apes.

BENEFITS OF ZOO ANIMAL RESEARCH

Dr. REED. In the behavioral research we are again cooperating with other universities. We have a professor from the University of Maryland and we have graduate students who are doing work at the zoo in the behavioral sciences. We are cooperating with other universities and professional groups.

Mr. GALIFIANAKIS. Is this in the interest of the animals that you are doing this research?

Dr. REED. Yes, this is an important point. The work that we do at the zoo is based primarily on the needs and requirements of the

animals, the behavior and health of the animals. There is a spinoff relationship, of course, sometimes, such as the arthritis project in relation to humans. But we are concerned with the problems of the animals.

Mr. GALIFIANAKIS. Would you permit, say, a pathologist who was not primarily interested in animals to come in for general research, do you make the animals available for that purpose?

Dr. REED. Not unless it ties into a problem which the animal has itself. For instance, there are very few instances of cancer in animals. In animals, cancer is not an extensive problem. It is an individual problem.

Mrs. HANSEN. Why?

Dr. REED. Well, I wish I knew the answer to that. Perhaps the animals live a little cleaner than people do; they certainly do not smoke as I do. They do not eat the same type of foods that we do. Perhaps it is the genetic makeup that makes them more resistant. So, in general, we would not be particularly interested in a cancer problem. This is NIH's bailiwick.

However, the problem of calcium metabolism is a serious problem with animals. In the zoo we are actively studying this particular problem. There might be some spin-off, but we are studying it from the animal's standpoint.

Dr. RIPLEY. We do, Madam Chairman, maintain a registry of tumors in animals for the use of NIH. We have found tumors in animals like oysters and mollusks. It is a phenomenon not just confined to humans or higher animals.

ANIMALS REQUIRING MOST CARE

Mr. GALIFIANAKIS. Which animals require the most intensive care?

Dr. REED. I think probably the most intense care has to be given to the reptiles. They seem to respond a little more to their environmental conditions that they are so close to. However, we give a lot of care to just about all animals we have.

Mr. GALIFIANAKIS. Which is the most expensive operation?

Dr. REED. That is a very hard question. At the risk of being facetious, I would say taking care of the human beings. But I do not believe we have ever broken down which group requires the most care or is the most expensive to take care of.

Mr. GALIFIANAKIS. I was just wondering whether the giraffe is.

Mrs. HANSEN. Do you have to lavish more attention on the animals who are out of their own environment?

Mr. GALIFIANAKIS. Like the polar bear?

Mrs. HANSEN. Well, any animal that is moved from one zone of extreme temperature to a zone like we have in Washington, D.C.

Dr. REED. Probably the most intense care that any zoo must give would be to the penguins, where you have taken them from the Antarctic conditions which you must then duplicate in the zoo. We do not have them at the present time, but we will have them in the future. We have had them in the past.

Dr. RIPLEY. There, again, you have the condition in the Antarctic where they are subjected to less kinds of infection. They are adapted

to a somewhat insulated environment, without the presence of viral infections that would produce a lot of lung diseases and so on.

Mr. GALIFIANAKIS. What do you do with the animals when they expire?

Dr. REED. There is a post mortem examination made of the animals to determine the cause of death. Tissue is collected and distributed to those people who are interested in particular specimens. The skins, skulls, and skeletons frequently go to the National Museum of Natural History depending on their study and exhibit needs. So the maximum utilization is made wherever it is possible.

Mr. GALIFIANAKIS. Is taxidermy part of your function?

Dr. REED. That would be a museum function for a particular mounted specimen.

Mr. GALIFIANAKIS. Thank you very much.

OPERATIONS AND MAINTENANCE OF THE ZOO

Mrs. HANSEN. Justify your requested increase of \$293,000 and 30 positions for operations and maintenance.

Dr. REED. This is the unit that takes care of the physical plant that services the entire zoo. We are trying to build up a sufficient corps of mechanics, laborers, and skilled trades persons to meet the needs of taking care of the zoo. Included in this request is some equipment that is needed, such as replacement of our sky-worker to take care of the trees.

As you will notice, the spread of the request is through all the departments. In the maintenance and construction department we need asphalt workers, pipefitters, carpenters, and general maintenance helpers.

The addition of new buildings has increased the number of sewer lines, pipes, and pumping facilities which now must be serviced. We are also requesting additional grounds workers and a clerk-typist in the Garden and Tree Maintenance division to take care of our grounds. Some 12,000 trees are scattered all over the zoo and we must take care of them and service for appearance and public safety.

LABELING OF TREES

Mrs. HANSEN. Do you label your tree species on your grounds? I have found more people, particularly from other sections of the country, who are interested in trees as I myself am.

Dr. REED. We have long wanted to do that, and we have looked into this particular problem. However, our labeling problem throughout the zoo is a serious one not yet resolved. We are devoting our first effort to labeling animals within the cages, but we have long wanted to label all the trees also. It is our plan that in the redevelopment of the zoo we will have more different kinds of trees, including specimen trees from different parts of the country, and we will have them labeled as an exhibit.

Mrs. HANSEN. When you have animals from all over the world, it would seem to me reasonable and sensible to provide some of the same type of environment from which they came.

Dr. REED. I could not agree with you more, as our master plan now envisions. We do intend to complement the animals wherever possible.

Dr. RIPLEY. May I say, Madam Chairman, that in this connection Joseph Henry in 1848 suggested that the Smithsonian label the trees in Smithsonian Park. And we still have not done it. The reason is not that we lack motivation but we no sooner develop a new kind of labeling then someone takes it away. It is a souvenir for a visitor.

Just last year we put up a memorial tree, for example, for the wife of one of our longest term associates, Mrs. Frank Taylor. She had been on our Women's Committee for Smithsonian since it was founded. And overnight that label was gone.

We have not been able to work out a plan by which we can successfully label a tree and have the label remain.

Mrs. HANSEN. I think it is necessary to make people conscious that when they destroy something they are destroying their own investment.

Dr. RIPLEY. Exactly. I could not agree with you more.

Mrs. HANSEN. The committee will recess until tomorrow morning at 10 o'clock.

Dr. RIPLEY. May I say that tomorrow there is an exhibition opening on music machines in the National Museum of History and Technology. I hope it may be possible for some of the members of the committee to come and see it. It is very exciting and very well done. It is tomorrow evening.

TUESDAY, APRIL 6, 1971.

DEPARTMENT OF LIVING VERTEBRATES

Mrs. HANSEN. The committee will come to order.

Please justify your requested increase of \$72,000 and five positions for the Department of Living Vertebrates.

Dr. REED. Yes, Madam Chairman, this is for one position on the professional level, a wildlife biologist, to take care of the hoof stock and one stenotypist to assist the curators and head keepers.

Mrs. HANSEN. I'll bet that is an interesting job.

Dr. REED. The girls seem to like it, because it is a very stimulating job particularly when they get vicariously involved in the love life of various and sundry animals. We also are asking for three keeper specialists. These are, as Dr. Cowan was stating, technicians, special keepers, to assist the curators in some of their very specialized problems. There is also a request for an increase in animal food, which is a cost-of-living increase, some money for sundries and travel, and an additional \$5,000 for the purchase of animals.

Mrs. HANSEN. What does your travel costs consist of?

Mr. REED. The travel consists of each curator attending his professional meeting, such as the Curator of Mammals should attend the meeting of the American Society of Mammalogists; the Curator of Reptiles should attend the meeting of the American Society of Ichthyologists and Herpetologists; and the Curator of Birds should attend the

American Ornithological Union's meeting. Several of the keepers should attend the annual regional workshops that are designed specifically for training and upgrading their skills. It may be of interest to you to know that funds for the purchase of animals at our zoo are a relatively small amount as compared to those of some other major zoos in this country.

Mrs. HANSEN. Is this because you receive so many gifts?

VALUABLE GIFT ANIMALS

Dr. REED. We did a study that showed that the value of gift animals and the descendants of gift animals now on exhibition amounts to about \$750,000. These animals were given to the U.S. Government.

Mrs. HANSEN. Please insert a list of some of the gift animals you have received and whom they were donated by.

Dr. RIPLEY. Yes. We are in the midst of a very complicated negotiation through American Ambassador Kenneth Keating. We sent out to India a young male bison, because their male bison had died, and the Indian Government was so thrilled, except for the fact that it was a bit young and therefore when it was released in the same pen with the lady bison it went over and nuzzled her, hoping to get a drink of milk. However, aside from that, it will soon grow up. They are going to give us a lesser panda which we have wanted very, very much for a long time. This kind of thing is enormously helpful and the Indian Government takes a great interest in this. I may say the Prime Minister herself is an animal lover and this is the kind of thing that makes for improved international relations.

(The information follows:)

GIFT ANIMALS

The National Zoological Park has always been the repository for gifts of animals to the Presidents. These Presidential gifts have played a major role in building the Zoo's collection to the place of pre-eminence that it enjoys today. In addition, the National Zoological Park receives many gifts of animals from foreign governments and from private citizens just because it is the National Zoo of the United States and a gift of an animal to the Zoo is a gift to all the citizens.

In fact, many of the prized animals in the Zoo's collection today are the result of gifts and were not purchased with federally appropriated funds.

The following list gives some of the important animals and their progeny which are presently on exhibition. This does not include animals born of these non-federally purchased gifts and subsequently exchanged for other animals.

ANIMALS AND DONORS

- 2 Komodo Dragons, Indonesian Government.
- 2 Kiwis, New Zealand Government.
- 3 Red Birds of Paradise, Private citizen.
- 4 Sugar Gliders, Australian Government.
- 3 Wallabies, Private citizen.
- 3 Kangaroos, Australian Government.
- 3 Tree Kangaroos, Private citizen.
- 6 Fruit Bats, Private citizen.
- 30 Barbary Apes, British Government (Originally 2 pairs).
- 2 Gorillas, Private citizen.
- 2 Grizzly Bears, National Park Service.
- 2 Black Bears, U.S. Forestry Service.
- 3 Polar Bears, Private citizen.

- 3 Sloth Bears, Private citizen.
- 1 Fossa, Madagascan Government.
- 2 Spotted Hyenas, South African Government.
- 3 Leopards, Liberian Government.
- 1 Lion, Lion's Club International.
- 5 Tigers (White 3), Private citizen (originally 1 white and 1 yellow).
- 2 Indian Elephants, Indian Government.
- 1 African Elephant, Congo Government.
- 2 Indian Rhinos, Indian Government.
- 7 Pygmy Hippos, Liberian Government (originally 2).
- 6 Reindeer, Alaskan Government.
- 2 Pronghorn Antelope, Private citizen.
- 9 Dorcas Gazelle, Tunisian Government (originally 1 pair).
- 2 Big Horn Sheep, National Park Service.

Combining these currently exhibited major gift animals with those of lesser value, we estimate a total private investment in the Zoo's collection today of nearly one-half million dollars or approximately two-thirds of the collection's total value. This includes the numerous specimens donated each year which considerably adds to the \$25,000 of the appropriated funds for the purchase of animals.

SCIENTIFIC RESEARCH DEPARTMENT

Mrs. HANSEN. Justify your requested increase of \$31,000 and one position for scientific research.

Dr. REED. This position that we are requesting is for a reproduction physiologist, who would study the whole reproductive physiology and processes in some of the very rare and endangered animals. This study concerns itself with the entire scope of the problem; that is the breeding, inbreeding, diet, the conditions of the cages, the photoperiodicity, and nutrition, particularly vitamins and minerals. We would be able to approach our problems of the reproductive cycle of these animals in a logical and scientific manner.

There is no other zoo in the country that is doing this. All zoos are faced with animals being harder and harder to get, so we cannot replenish our collections from the wild. We must do this breeding ourselves to replenish and maintain our zoo stock. We have some rather interesting problems.

For instance, with the rhinoceros, we have got to get the male and the female rhinoceroses synchronized in their cycles of breeding, before we can have babies born. It is not just the female that governs whether there are going to be babies. The male is involved in this, too, and these problems have not been worked out. We know about them. We know it is a problem, but we don't know the answer. This is one of the things we want to find out. This would not only be a service to science, but a service to other zoos throughout the Nation.

ANIMAL HEALTH DEPARTMENT

Mrs. HANSEN. You are requesting an increase of \$54,000 and four positions for the Animal Health Department. May we have your comments in this connection?

Dr. REED. Yes, ma'am. We are requesting an associate veterinarian as an assistant to our clinical veterinarian. We have only one veterinarian taking care of all of the animals on a 24-hour call basis 7 days a week, 365 days of the year. The problems are getting more and more involved regarding the animals in the collection. The more we know,

the more we know that we don't know. We need an additional veterinarian, not only for just the physical time that is required to take care of the animals, but to increase the quality of the care we now give our animals.

We are also requesting a position for a medical technician to assist the veterinarian in his diagnostic work.

Mrs. HANSEN. This is the zoo's medical program.

Dr. REED. That is right; such work as blood studies and parasitological studies. One of the things we are involved in is a rather detailed study of Asian malaria. There is a lot of this type malaria in the birds. This is not infective in human beings; but many of the birds, like sea birds, penguins, birds of the coast, the murrens from out in your country where they live on the rocks are highly susceptible. The wind is constantly blowing. There are no mosquitoes there, but they are extremely susceptible to malaria. They are brought into captivity in Seattle, Portland, or Washington, D.C., and they are faced with this malarian infection. We know a great deal about the mode of transmission, but we don't know anything about the treatment and cure. There is an indication that drugs that work on humans do not work on birds because you have an entirely different type of physiology. The temperature on a bird runs about 107 degrees, whereas the normal body temperature of human and other animals is lower so this malarian parasite responds differently to drugs that are effective on mammalian malaria.

We are also requesting an animal keeper for the veterinarian. There are new developments in X-ray equipment. They have X-ray equipment now that works on ordinary household electricity, so that we can take the X-ray machine to any place in the zoo. Formerly we had to bring the animal to a 220-volt electrical outlet. This machine gives us clearer X-rays, not only of bones, but of soft tissues to aid treatment and diagnosis.

COST OF FEEDING ANIMALS

Mrs. HANSEN. Please insert in the record what you spend per year on food for a representative selection of animals.

Dr. REED. The total this year is \$137,000. We will put that in the record.

(The information follows:)

COST OF FEEDING REPRESENTATIVE ANIMALS

The cost of feeding the animals for 1970 has risen since 1969. It now costs \$3.04 a day on an average to feed a single leopard.

The Jaguar, which receives slightly less, costs \$2.66 for meat on a daily basis.

The tigers vary, depending upon the amount of meat eaten. This year the cost is slightly less because there are no tigers pregnant. The average for the three tigers is 15 pounds a day at 38¢ per pound or \$5.70 per day. In 1969 they consumed more on a daily basis.

The cost for the gorillas has risen dramatically from \$1.98 to \$3.12.

The orangutan's cost has gone from \$1.77 to \$2.88.

The elephant's cost has risen from \$3.97 to \$5.54.

And so on down the line with general increases bearing from slight to dramatic, with a few instances of decreases in the cost for the individual.

NATIONAL MUSEUM OF HISTORY AND TECHNOLOGY

Mrs. HANSEN. Justify your requested increase of \$298,000 for the National Museum of History and Technology.

Dr. RIPLEY. I would like to introduce Professor Boorstin, Director of the Museum of History and Technology, who I am sure would like to speak to some of the issues involved in the museum's request.

Dr. BOORSTIN. You will note that we are not increasing the number of positions. We are decreasing the number of positions from 158 to 157. The increase consists of \$68,000 of pay increases required by Congress and the balance of \$230,000 for program, mostly for essential supplies, items which are itemized which are generally listed on this page, and then itemized on page A-62. These are mostly rather prosaic objects to help us keep operating.

Mrs. HANSEN. That is why we didn't ask you any stimulating questions.

Dr. BOORSTIN. They are not very stimulating objects I am afraid, but we need them certainly, in order to keep operating.

Mrs. HANSEN. What type of position did you lose?

ALEXANDRIA SALVAGE ARCHEOLOGY PROJECT

Mr. BLITZER. The one employee was a salvage archeology technician on the staff.

Mrs. HANSEN. Did that employee assist the city of Alexandria in their archeology project?

Mr. BLITZER. Yes. It reflected a decision by the staff of the museum that this is essentially a local activity and it has been supported enough at Smithsonian expense.

Mrs. HANSEN. Is this archeological salvage project still continuing?

Mr. BLITZER. I am happy to say I went to the city manager of Alexandria and everyone is happy with this arrangement. They recognize the justice of what we have done. We intend to help them in other ways.

Mrs. HANSEN. In what way do you intend to assist them?

Mr. BLITZER. We are making equipment and space available. We are also making available technical and professional staff to look at what gets dug up and to give them advice, but we are not giving them a full-time employee any longer.

Dr. RIPLEY. And we are helping with restoration of objects.

Mr. BLITZER. And we intend to publish information on what is found there.

NATIONAL COLLECTION OF FINE ARTS

Mrs. HANSEN. You are requesting an increase of \$62,000 for the National Collection of Fine Arts. Please give the committee the current status of your activities in this connection.

Dr. RIPLEY. Mr. Blitzer, I think would like to respond to that, Madam Chairman.

Mrs. HANSEN. Also how many visitors per year do you have at the Renwick Gallery and the Fine Arts and Portrait Galleries?

Dr. RIPLEY. The Renwick is not open but we will give you the others.

Mr. BLITZER. We have a total figure of 216,000 visitors, I believe, for the National Collection of Fine Arts and National Portrait Gallery Building. We discovered it is really impossible for us to keep track of the two museums separately especially now with the subway construction. The main entrance of the National Collection of Fine Arts is blocked and people come in almost any way they can get in and wander between the two museums.

Dr. RIPLEY. The whole G Street side of the museum is blocked off so it is impossible for people to get in there. This is very debilitating to our visitor count.

Mrs. HANSEN. I imagine you are distressed about this situation.

EFFECTS OF THE SUBWAY

Dr. RIPLEY. We are, and we are distressed about the subway vibrations, which are a very serious threat to us.

Mrs. HANSEN. What is going to happen when the subway is in operation?

Dr. RIPLEY. I think it is fair to say that we have been given assurance that the rubber tires and so on will minimize the vibrations, but all of us who are concerned with the conservation of objects are seriously worried about the continual vibrations over many years caused by the subway.

We are in favor of the subway completely in terms of getting people around. We are disturbed about our own precious objects, and about conservation techniques, because the conservation laboratories have to operate with special machines which require very careful emplacement, so that there is no vibration while delicate measurements are being made. Technology in the 20th century has many ramifications and some of them are certainly not very helpful.

Mrs. HANSEN. Since this is rather unique soil for subway construction, isn't it going to have an effect on other buildings also?

Dr. RIPLEY. Yes. I am sure it will have an effect on any building which was built in the 19th century. I was able to persuade the subway authority to move the subway out into G Street, by pointing out to them that the Fine Arts and Portrait Galleries Building, the original Patent Office Building, is built on rubble. The 19th century technology of its construction, architecturally speaking, was quite different from the technology of the 20th century.

It is difficult to conceive that they can marry these two technologies together, and have a successful marriage on this basis, because the vibration continually against that rubble will make the settlement rate increase, and the building itself will begin to settle.

We did get a compromise from the subway people, but, on the other hand, the blasting and the construction work has produced minor cracks in the building. It has produced a great deal of dust, and this is potentially damaging to the art objects.

Mrs. HANSEN. How much longer is the subway construction going to continue in that area?

Dr. RIPLEY. We believe it will be another 18 months to 2 years.

Mr. BLITZER. To look at the brighter side of this, there is to be a station called Gallery Place which will be right at that building. This will help attendance at the museums very much, but I don't recall the date for completion of that station.

Dr. RIPLEY. Dr. Boorstin, Madam Chairman, reminds me that the corner of the Museum of History and Technology, his museum, is being invaded by the subway in the Mall area. Unless we can guarantee that the wheels are going to be rubber, for which at the moment there is not an absolute written certainty, this is simply their estimate, we are going to have extremely hazardous conditions for our objects. The assumption on which we accepted the invasion on G Street of the subway next to the Patent Office Building was that the wheels would be rubber tired. Now we find they are also invading our History and Technology Building on the Mall. Unless those wheel also are rubber tired, the vibration will affect such objects as our priceless documents of American history.

Mrs. HANSEN. Have you conferred with the people who are involved in making this decision?

Dr. RIPLEY. We keep in touch with General Graham, I occasionally write him a hortatory letter, but I think the question of proper wheels is absolutely vital for us.

Mrs. HANSEN. I think you had better get this problem settled before you have any damage done.

Dr. RIPLEY. Can we do that, Mr. Bradley?

Mr. BRADLEY. Certainly, sir. Let me be in touch frequently.

Dr. RIPLEY. This is an enterprise which, as I say, we are emotionally highly in favor of for the public and our visitors, but we are deeply concerned about possible physical damage to our buildings and collections.

Mrs. HANSEN. There are a lot things in the city of Washington, D.C. that people are for emotionally until they realize what the consequence will be. I think it would be well to get the matter settled before you have to request funds for major repairs.

Dr. RIPLEY. And major loss of objects.

Mr. McDADDE. What kind of objects?

Dr. RIPLEY. Fragile papers, documents, we are talking about textiles, paintings, soft paintings. We are talking about the great increase in dust, which is generated by vibration, and we are talking about the sensitivity of the conservation machines which are testing some of our objects for things like bronze disease and other conditions.

Mrs. HANSEN. Is the subway route directly under one of your buildings?

Dr. RIPLEY. The route on G Street is next to the Patent Office Building, parallel, and then curving around at 7th Street. Under the northeast corner of the Museum of History and Technology there is a spur of the subway which goes across the Mall.

Mr. BRADLEY. Running north and south.

Dr. RIPLEY. It takes a curve and goes under the corner of the building. Dr. Boorstin might add a word about these objects.

Dr. BOORSTIN. The sorts of objects would run the whole range from objects of art, ceramics, and glass, to objects which we preserve in order to help us understand the history of science, such as microscopes, time

pieces, very delicate pieces of machinery and instruments, which when in use are protected in various ways. Our exhibiting of them would be a travesty if the building was shaking, as it is likely to do with a subway running under it. If it were conceivably possible at least to move that route so it won't go right under our building, it would be a help to us. Failing that, the use of rubber wheels is a minimum thing, but in any case our national collections will surely suffer from the proximity.

Mr. McDADE. Has there been a refusal to move the route from coming under your building?

Mr. BRADLEY. I should say in the case of G Street the construction is in. It is a question now of trying to clean it up, complete the job, and get out. In the case of the Museum of History and Technology, construction is only in the stage where they are laying out where the fence is going to go for the property yard or for the contractor's operations, so there are some few months ahead before actual dirt begins to fly.

Dr. RIPLEY. Couldn't we, Mr. Bradley, get in touch with General Graham, and say that we are very much concerned about this.

PERCENTAGE OF YOUNG PEOPLE VISITING THE MUSEUM OF HISTORY AND TECHNOLOGY

Mrs. HANSEN. Tell him the Appropriations Committee is also deeply concerned, because we have the problem of paying for the damage that might be done.

What portion of your visitors is shared between the Museum of History and Technology and the air and space exhibits? Also what portion of this total are young people?

Dr. RIPLEY. Of the 5,300,000 that visit your museum.

Dr. BOORSTIN. I don't know that we have the visitor figure broken down in that manner.

Mrs. HANSEN. Can you give us an estimate?

Mr. BRADLEY. An educated guess by our senior museum man, Mr. Frank Taylor, was that about half of our visitors are young people.

It depends on the age cut off, for instance, if it is 16 or thereabouts. We did have what amounted to a sampling during one summer, and perhaps we could get from that some approximate conclusions on a sampling basis.

USE OF THE MUSEUM TO SHOW AMERICA'S HERITAGE

Mrs. HANSEN. Isn't it true that through your museum you help to make young people aware of our Nation's history. It is probably one of the best museums to learn about our national heritage.

Dr. BOORSTIN. I would certainly hope so. This, I think, is one of the missions of the National Museum and one of the things that persuaded me to leave the university and come here. It certainly is a responsibility that we are charged with by the Congress, and something that is our duty to perform for the Nation. We can do this because we have the material with which we can show people the sorts of things that this country has been able to accomplish.

Mrs. HANSEN. I notice in your justifications that some of the purposes of the National Museum of History and Technology are toward a more effective connecting with holiday and festive occasions; celebration of national anniversaries, and to emphasize the greatness of individual man by interpreting, dramatizing, and explaining the careers of history-making Americans; the discovery and rediscovery of American heroes. I think we badly need to do this, and to explore and remind Americans of their institutions, and how they came into being. I think we tend in America in the 20th century to look only at our failures. It did take a great deal of courage to build this country, and I think this museum is one place in which you can emphasize it. As you know, the committee has always been very enthusiastic about this particular activity.

NEW EXHIBITS

Dr. BOORSTIN. We are trying to find new ways to do this. We have lately opened on the foyer going in from the Mall side an area which we call Holiday Hall, in which we display exhibits and have musical accompaniment, show slides, pictures and objects, dramatizing the role of individual Americans and relating them to holidays. For example, we have a Washington and Lincoln exhibit which goes up together with the tunes of happy birthday in February. We have a Labor Day exhibit there which celebrates leading figures in the development of labor organizations in America. We have developed the technology of a scheme for projecting on the outside of the building portraits of American heroes from all walks of life. That is something that we have tested, and we hope to have that ready within the next few weeks.

UNIFICATION OF ALL AMERICANS

Mrs. HANSEN. A former colleague who worked with us so long on this committee has asked about the amount of funds requested by the Smithsonian this year to be used in connection with the Bicentennial in 1976, and how much of this is allocated to be used for minority programs such as blacks and Indians. I think you have to make all people in America feel that they are Americans.

Dr. RIPLEY. We have been deeply concerned with this, Madam Chairman. You may recall several years ago we got into the papers, when certain people accused us of trying to illustrate a slum in the Museum of History and Technology complete with smells, rats and so on.

This was thought to be very funny, by the people who discovered this and made fun of us. They poked fun at us, because somehow or other there is an American myth along with other American myths, that all of our ancestors landed here in beautiful silks, lovely laces, textiles, gentlemen in silk breeches, beautiful lace in the 18th century, and that we all stepped off onto Plymouth Rock or onto Ellis Island just impeccable, and that museums should show only the finest examples of chivalry, courtesy and distinction.

Mrs. HANSEN. It was anything but that. This is what makes this country so great.

Dr. RIPLEY. That the Smithsonian Institution, which is known familiarly as the Nation's attic, should have the temerity to attempt to tell it like it was, somehow was thought to be an object of ridicule by these people. But we do have the Growth of America Hall, which I hope we will continue to complete under Dr. Boorstin's able direction, which will tell it like it was and is. This is part of our social planetarium. This is part of our objective as responsible keepers of the American dream, to be able to tell about all the things that happen in America.

Mrs. HANSEN. Most of the young people who I talk to make the comment that the Smithsonian Institution is one of their favorite places to visit in Washington, D.C. Going through the White House is kind of an adventure in logistics and space. But they like the exhibits in the Smithsonian that they can identify with.

Dr. RIPLEY. I think it is a sobering and inspiring experience and, of course, what we hope when they come through our buildings is that they think more about their heritage.

NEED TO MAKE EXHIBITS MORE TOTAL

Dr. BOORSTIN. If I may add a word, it is the feeling that we do want our exhibits to be more total. That really motivates the development of this museum now. We want to reach out in the areas in which Dr. Ripley has suggested, to emphasize the way Americans have lived in the past, Americans of all classes, races and conditions, and also to be a more total museum, which is the purpose of our requested Bicentennial facilities. I don't want to anticipate that item in our request, but that project is to be our principal Bicentennial enterprise, to try to include a more dramatic and vivid and effective presentation of the role of all kinds of Americans in the building of the country.

Mrs. HANSEN. I wish it were possible for every school in America to have one of your catalogs, for instance, or something that would tell the young people what they would be able to see if they visited the Smithsonian Institution. I think it is a rather tragic thing that persons travel perhaps a couple of thousand miles to see their Nation's Capital, and in many instances they are not aware of the many things to see. This is no different than the children who visit State Legislatures for five minutes and maybe the members are all immersed in private conversations, and then they go away with a completely erroneous idea of government.

Dr. RIPLEY. I still remember coming here when I was 16, and the thrill I had when Fiorello LaGuardia stood up and made a speech. That was absolutely the most exciting moment.

(Discussion off the record.)

Mrs. HANSEN. Many teachers are not aware of the processes of government. I was at Mount Vernon one day and there was a teacher from Alabama with a group of teenagers, and she said, "Don't smoke in here. You can set the building on fire, and it belongs to somebody great." She was far more concerned with discipline than with what Mount Vernon meant to this Nation.

ORIENTATION FILM AND PUBLICATIONS

Mr. BLITZER. I might say that we are now engaged in preparation of an orientation film about the Smithsonian and its resources.

Mrs. HANSEN. I wish more people could see the film before they come to visit Washington, D.C.

Dr. BOORSTIN. We are also preparing publications which will go out to high school groups. These groups are organized in advance.

Mrs. HANSEN. I think there is nothing more important today than to make young people aware of our history, because it isn't something to be taken for granted. It wasn't an easy process.

Dr. BOORSTIN. Of course our museum has a major responsibility in that. That is one reason why we need more resources.

NATIONAL COLLECTION OF FINE ARTS

Mrs. HANSEN. Please discuss for us your request of an increase of \$62,000 for the National Collection of Fine Arts.

Mr. BLITZER. Precisely along the lines that you have been following, the National Collection of Fine Arts is the National Museum about the history of American art.

Mrs. HANSEN. Is there any other gallery in the area that has this same goal?

Mr. BLITZER. There are certainly no other national museums that do. The Corcoran has a very fine collection of American paintings.

Dr. RIPLEY. But they don't develop the historical studies which we hope to do. There is no other gallery of this kind.

Mr. BLITZER. This is in the history of American art, really the equivalent of the Museum of History and Technology.

RESEARCH SCHOLAR PROGRAM

Mrs. HANSEN. You are requesting \$15,000 to provide for the continuation of the program for research scholars on a significant scale. You say the funds should be directed toward the research scholars program in American art for both graduate and post-doctoral scholars to encourage sound scholarship in this much neglected field. Do you want to amplify on that statement for us please.

Mr. BLITZER. If I might, Madam Chairman, just make a few general remarks before that.

The National Collection of Fine Arts in a sense has existed as long as the Smithsonian has. The Smithsonian began in 1846 with a gallery of art. The National Collection of Fine Arts has existed in a more precise sense for 35 years since legislation establishing the National Gallery and redefining the National Collection of Fine Arts, but in a very real sense it is only in the last few years that the NCFAs has had a home of its own and a very clear notion of what it is there for and what it should accomplish. It is in the last year I would say, under its present director, a very distinguished American art-historian and educator, that it has begun paying primary attention to the funda-

mental operations of the gallery. By that I mean specifically to its scholarly programs and to the care and use of its own permanent collection. The request this year really goes to those two purposes and to the Renwick Gallery, which is the new responsibility that has been added to the National Collection.

RENWICK GALLERY

Mrs. HANSEN. What will be the purpose of the Renwick Gallery?

Mr. BLITZER. The Renwick we hope will open in the fall of 1971, in November. In operating terms that gallery will be a branch of the National Collection of Fine Arts. The \$15,000 about which you have asked, as you say, is intended to bring research scholars to the National Collection of Fine Arts. The hope is that not only will they study the collection and use the archival materials that now exist in that building, but also that they will contribute to publications and to exhibitions of the gallery.

EXHIBITION PROGRAM AT THE NCFCA

If I may, Madam Chairman, I would like to show you this collection of catalogs of recent exhibitions at the National Collection of Fine Arts. These, I might say, are simply the major kinds of exhibitions that resulted in major scholarly catalogs. There has also been a very welcome tendency in the last year to have small, more informal, less expensive exhibitions of the gallery's own collection. This, I think, is exactly the direction in which the galleries will be going. In fact I can quote one brief passage from an article in the Wall Street Journal last month:

. . . The National Collection of Fine Arts seems to be doing things about right. There is a good sprinkling of contemporary work combined with a genuine concern for the permanent collection demonstrated by such modest but telling triumphs as the two gray-walled rooms in which such American impressionist works as J. Alden Weir's enjoyable "Upland Pasture" are mercifully freed from gold frames and tastefully trimmed with gray stripes lined with white.

There is this combined attention, but not at the expense of larger exhibitions, which produce scholarly catalogs. The hope is that the scholars brought in with this \$15,000 plus the \$8,000 we already have will be very helpful.

NATIONAL PORTRAIT GALLERY

Mrs. HANSEN. You are requesting an increase of \$50,000 for the National Portrait Gallery. Please give the committee a résumé of the status of the Portrait Gallery.

Mr. BLITZER. As you know, the National Portrait Gallery is a new and unique institution in this country. There has never been a National Portrait Gallery before. In summary, I would say that in the 8 years that the gallery has existed, and in the 2 years that it has had a home of its own, it has made really remarkable progress. It is gradually accumulating a collection of portraits of distinguished Americans. It has always been thought of as a history museum, at least as much, perhaps more, than as an art museum. Part of the request this year is to strengthen the history department. This, as you can see, I think, from the justification, is part of a deliberate

effort by the new Director to strengthen the parts of his museum that need strengthening. The justification states on page 68:

Prior to fiscal year 1971 the primary goal was establishment and management of the collection. With stress on developing exhibits staff in the past year, and then plans for history and education departments in fiscal 1972, the gallery is now focusing on relating and exhibiting the collections to the public.

STRENGTHENING THE HISTORY DEPARTMENT

Specifically, the request for the history department is primarily to enable the gallery to employ a chief historian. They have a candidate, a very distinguished professor from the University of Wisconsin, Lillian Miller, who hopes to come to the gallery at the beginning of the next fiscal year. This is an attempt to fund that position.

These are recent catalogs from the National Portrait Gallery. You will notice that the top two, the ones that are thin brochures rather than thick catalogs, were designed explicitly for teaching purposes. They are for distribution to schools and to children who will be visiting the museum. One about James Weldon Johnson, the Negro composer, and one about John Muir, the conservationist. The other part of the gallery's request this year is for some strengthening of the education department, which is responsible for putting out publications like that, and for arranging school visits and educational materials.

Dr. RIPLEY. I wish you had seen that Cropsey show. It was simply beautiful. There had never been a show to bring out this man's work in history.

Mrs. HANSEN. You always invite me to those white tie affairs.

Dr. RIPLEY. We hardly ever wear a white tie anymore, Madam Chairman, except for Presidential inaugurations.

POLICY REGARDING PURCHASE, SALE, OR EXCHANGE OF PAINTINGS IN THE PORTRAIT GALLERY

Mrs. HANSEN. Please define for the record, your current policies with regard to the purchase, sale, and exchange of paintings in the National Portrait Gallery.

Mr. RIPLEY. We will do that for the record.

(The information follows:)

RESOLUTION ON SALE OF PAINTINGS BY THE BOARD OF REGENTS OF THE SMITHSONIAN INSTITUTION

Resolved, That no object of art in the permanent collection of the National Portrait Gallery or the National Collection of Fine Arts valued at more than \$1,000 shall be exchanged or sold without prior approval of the museum Director, the museum's Commission, the Smithsonian's Office of General Counsel, and of the Secretary;

That no object of art in the permanent collection of the National Portrait Gallery or the National Collection of Fine Arts valued at more than \$50,000 shall be exchanged or sold without prior approval of the museum Director, the museum's Commission, the Smithsonian's Office of General Counsel, the Secretary, and the Board of Regents;

That the exchange or sale of any object of art in the National Portrait Gallery and the National Collection of Fine Arts shall be reported to the Board of Regents by the Secretary; and that the proceeds from any such sale shall be used solely for the acquisitions of works of art for the museum from which it came.

Mr. BLITZER. You will recall, Madam Chairman, there was a similar question last year.

Mrs. HANSEN. Yes.

Mr. BLITZER. It was about the National Collection of Fine Arts. This is a new matter that I am not quite aware of, but I may say that the policy in both cases is the same. I would say in the first place that the policy lies very much in the hands of the Director of the respective gallery and his professional staff. We now have a very explicit procedure which starts and can only start at the initiative of the Director and the staff of the museum, if they feel that there are compelling reasons to dispose of a work in the collection. They then take their recommendations to their advisory commission.

Mrs. HANSEN. What would be a compelling reason?

Dr. RIPLEY. I should say, perhaps, Madam Chairman, I am unaware that the Portrait Gallery has ever disposed of anything or has ever contemplated disposing of anything, but, for example, if the Portrait Gallery acquired a fairly good portrait of a person whose portrait belonged in the Portrait Gallery and then had an opportunity to get a really brilliant portrait of the same person, they might feel that the first one was superfluous and it could better be exchanged for a portrait of someone else. Just as in the case of the National Collection of Fine Arts a year ago, the feeling was that works not of American art could perhaps on occasion be translated or turned into works of American art that would serve better the purposes of the gallery. In any event, the next step would be the approval of the advisory commission.

MEMBERSHIP OF ADVISORY COMMISSIONS

Mrs. HANSEN. Who is on your advisory commission?

Dr. RIPLEY. I would have to give you a list.

Mrs. HANSEN. Please insert the information in the record.

Dr. RIPLEY. They are both very distinguished groups of people. (The information follows:)

NATIONAL COLLECTION OF FINE ARTS COMMISSION

Mr. Thomas C. Howe, Chairman
Mr. H. Page Cross, Vice Chairman
Mr. S. Dillon Ripley, Secretary

	<i>Term expires</i>
Mr. S. Dillon Ripley, Smithsonian Institution, Washington, D.C.-----	('1)
Mr. Leonard Baskin, Department of Art, Smith College, Northampton, Mass.-----	1972
Mr. William A. M. Burden, New York, N.Y.-----	1972
Mr. H. Page Cross, New York, N.Y.-----	1972
Dr. David E. Finley, Washington, D.C.-----	1972
Mr. Martin Friedman, Director, Walker Art Center, Minneapolis, Minn.-----	1972
Mr. Lloyd Goodrich, Advisory Director, Whitney Museum of American Art, New York, N.Y.-----	1971
Dr. Walker Hancock, Gloucester, Mass.-----	1971
Mr. Bartlett H. Hayes, Jr., American Academy, Rome, Italy.-----	1971
Mr. August Heckscher, New York, N.Y.-----	1972
Mr. Thomas C. Howe, San Francisco, Calif.-----	1972
Dr. Wilmarth S. Lewis, Farmington, Conn.-----	1973
Mr. Henry P. McIlhenny, Philadelphia, Pa.-----	1973
Mr. Ogden M. Pleissner, New York, N.Y.-----	1973

¹ Ex officio.

Dr. Charles H. Sawyer, Director, University of Michigan Art Museum, Ann Arbor, Mich.....	1972
Mrs. Otto L. Spaeth, New York, N.Y.....	1972
Mr. George B. Tatum, Department of Art History, University of Dela- ware, Newark, Del.....	1975
Mr. Otto Wittmann, Director, Toledo Museum of Art, Toledo, Ohio.....	1975
Mr. Robert Motherwell, Marlborough-Gerson Galleries, New York, N.Y.....	1975

NATIONAL PORTRAIT GALLERY COMMISSION

Chairman, Mr. John Nicholas Brown

	<i>Term expires</i>
Mrs. Catherine Drinker Bowen, Haverford, Pa.....	1971
Mr. John Nicholas Brown, Providence, R.I.....	1972
Mr. Lewis Deschler, Bethesda, Md.....	1972
Mr. David E. Finley, Washington, D.C.....	1973
Mr. Wilmarth S. Lewis, Farmington, Conn.....	1973
Dr. E. P. Richardson, Philadelphia, Pa.....	1972
Dr. Whitfield J. Bell, Jr., Philadelphia, Pa.....	1974
Mr. Andrew Oliver, New York, N.Y.....	1974
Mr. Jules D. Prown, New Haven, Conn.....	1974
Hon. Warren Earl Burger, Chief Justice of the United States.....	(¹)
Mr. J. Carter Brown, Director, National Gallery of Art, Washington, D.C..	(¹)
Mr. S. Dillon Ripley, Secretary, Smithsonian Institution, Washington, D.C..	(¹)

¹ Ex officio.

DISPOSAL OF ARTWORKS

Mr. BLITZER. If the staff, the Director, and the Commission all felt that this was a desirable thing to do, then the recommendation would go to the Secretary. Where small objects, involving small amounts of money are concerned, the Secretary has the authority to say yes or no to this and then to report it to the Board of Regents. Any transaction involving a substantial amount of money under our rules must be approved in advance also by the Board of Regents of the Smithsonian. I may say also that we look to the Commissions, if this should happen, which I doubt, to advise us about proper ways of disposing of these works.

MARKET VALUES OF WORKS OF ART

Mrs. HANSEN. Doesn't the value of any piece of art differ depending on which segment of the population you talk to?

Dr. RIPLEY. The value is essentially the value of the marketplace, and it is difficult to establish without testing the marketplace sometimes. What we do is get outside witnesses who are familiar with the marketplace, who are independent, to make evaluation.

Mrs. HANSEN. Please insert in the record a list of the firms consulted regarding value of works of art.

Dr. RIPLEY. Yes, we would be very glad to.

(The information follows:)

FIRMS CONSULTED REGARDING VALUE OF WORKS OF ART

In recent years, the National Collection of Fine Arts and the National Portrait Gallery have consulted the following firms, among others, concerning the market value of works of art. In almost every case, these consultations related to works that the museums hoped to acquire: Coe Kerr Gallery, James Graham & Sons, Hirchl & Adler, Kennedy Galleries, Parke-Bernet/Sotheby, and Victor Spark.

GAD REPORT ON SALE OF PAINTINGS

Mr. BLITZER. Could I add one other thing. It has occurred to me that since we met here last year there has been a General Accounting Office report on the question of the sale of paintings by the National Collection of Fine Arts and we did not have a chance to tell you about that.

Mrs. HANSEN. What does that report consist of?

Mr. BLITZER. I can summarize very briefly.

(Discussion off the record.)

Mr. BLITZER. The report shows that what we had said a year ago was correct, that the National Collection of Fine Arts has disposed of exactly four works of art.

Mrs. HANSEN. Please insert some excerpts from that GAO report in the record at this point.

Mr. BLITZER. Exactly four works of art have been disposed of, but all four were non-American works of art. The total proceeds of all the transactions were used by the NCFEA to acquire American works of art which are now in the collection. This is really what it comes down to.

Dr. RIPLEY. I think we can satisfy that for the record.

Mrs. HANSEN. Please do.

(The information follows:)

EXCERPT FROM GENERAL ACCOUNTING OFFICE OBSERVATIONS ON THE SALE AND EXCHANGE OF PAINTINGS BY THE NATIONAL COLLECTION OF FINE ARTS OF THE SMITHSONIAN INSTITUTION—JULY 1970

Two of the four paintings which the National Collection disposed of during the last 6 years were sold at auction, another was sold through an art dealer, and the fourth was given to an art dealer in exchange for an American painting.

The paintings were disposed of as the result of plans by the National Collection's former director to provide a means of improving its collection of American art works by selling and trading the European and American paintings—whose dispositions were not restricted by the terms of the gifts and bequests—which it did not intend to exhibit and which it did not need as evidence of the National Collection's history. From the sales and the exchange, the National Collection has acquired a number of American art works and is planning to acquire others.

JOSEPH H. HIRSHHORN MUSEUM AND SCULPTURE GARDEN

Mrs. HANSEN. You are requesting an increase of \$587,000 for the Joseph H. Hirshhorn Museum and Sculpture Garden. How many employees do you now have working on this activity?

Mr. BRADLEY. We have 18 authorized positions, Madam Chairman in the 1971 base.

Mrs. HANSEN. What are their duties?

Mr. BRADLEY. They are running a museum in accordance with the act of 1966 that directed that the Smithsonian should create, staff, and get into operation the museum functions of the Hirshhorn Museum.

Mrs. HANSEN. In other words, these are the activities that are necessary prior to the opening of any museum.

Please insert in the record a list of those positions.

(The information follows:)

JOSEPH H. HIRSHHORN MUSEUM AND SCULPTURE GARDEN, AUTHORIZED POSITIONS
FOR FISCAL YEAR 1971

Director—responsible for overall direction of the Hirshhorn Museum.

Secretary to Director—stenographer, typist, handles telephone calls, initiates correspondence.

Administrative Officer—provides services to the director in the management of the museum, pertaining to personnel, budget preparation and execution, and procurement activities.

Curator—to supervise all curatorial, exhibit and educational programs.

Associate and Assistant Curator—responsible for the cataloging and exhibition of 7,000 paintings and sculpture; responsible for preparation of the catalog for the opening exhibit; develop cultural and educational programs.

Historian—Prepares historical documentation of works in the museum's collections. Answers research inquiries. Consults current auction and other art periodicals for items pertinent to museum collections. Maintains research file on all major modern artists.

Librarian—establish and maintain up to date research, photographic and microfilm library.

Museum assistant—to assist in researching data to document required background on various works in the collection.

Clerk typist—to assist in preparation of catalog for opening exhibit and other clerical duties.

Secretary to Administrative Officer—maintains control of obligations and invoices, typing, answering correspondence.

Museum assistants (6)—responsible for registration and inventory of all paintings and sculpture in collection. Coordinate conservation, photography, framing and other services relating to cataloging and preparing the collection for exhibition at the museum.

Contract clerk—Assisting in the preparation of pertinent data required for issuance of requisitions and contracts covering general procurement and particular items for building furnishings.

Mr. BRADLEY. May I summarize and then I can put it fully in the record. The duties of the staff begin, of course, with the Director who is responsible to the Secretary for the direction of the museum, the staff, and the funds. He has a secretary. Then we have curators who supervise curatorial, exhibit, and educational programs. We have a librarian who is busy with establishing and maintaining a research, photographic, and microfilm library.

Mrs. HANSEN. Is this so that every object is photographed or micro-filmed?

Mr. BRADLEY. Yes, ma'am. The historian assists in researching and developing historical data and in the preparation of suitable provenances. Organization of reference material and displays are carried out. We answer research inquiries the same as the other museums do and we arrange loans.

PUBLIC INQUIRIES ON THE HIRSHHORN MUSEUM

Mrs. HANSEN. How many inquiries do you receive per year on the Hirshhorn Museum?

Mr. BRADLEY. I might ask Mr. Lerner if he has a figure on that. Mr. Abram Lerner is the director, Madam Chairman, of the Hirshhorn Museum.

Mr. LERNER. In fiscal year 1970 we had 98 requests for information on artists and/or on specific paintings and sculpture in the collection,

from scholars, students, publishers, and museum officials which were answered by our curatorial staff. We also had 106 requests for photographs and/or permission to reproduce specific works from the collections received from scholars, students, publishers, and museum officials. Although we have cut down the program of loans, we did lend 69 paintings and sculptures to various institutions.

Mrs. HANSEN. Such as?

Mr. LERNER. Such as the Metropolitan Museum of Art, the Whitney Museum of Art, the Guggenheim Museum of Art, the Los Angeles County Museum of Art, and numerous other museums of art.

NUMBER OF ITEMS IN THE COLLECTION AND TO BE EXHIBITED INITIALLY

Mrs. HANSEN. You say in your justifications that you have approximately 1,200 choice paintings and pieces of sculpture which are apparently in the process of being selected from more than 7,000 items in the collection for exhibit when the museum opens. Will you give us a specific estimate of how many paintings and pieces of sculpture you could accept. Did you arbitrarily set that figure of 1,200?

Dr. RIPLEY. The 1,200 items are for initial exhibition purposes, Madam Chairman, and not for acceptance purposes. These are within the total collection which were deemed especially worthy of being prepared for the opening exhibition in the spring of 1973.

Mrs. HANSEN. So beyond the 1,200 items there are other paintings or pieces of sculpture that are in the process of being prepared for future exhibits. Is this correct?

Dr. RIPLEY. Yes; and I think he could give you the number beyond the 1,200.

Mr. LERNER. There are a total of 7,000 pieces, 5,000 paintings and 2,000 sculptures.

CONSERVATION AND RESTORATION

Mrs. HANSEN. You say in your justifications, "Of these 1,200 items, 600 are paintings and 600 sculptures. Based on a survey of the restoration and framing requirements of these items . . . 100 large paintings will need restoration at an average cost of \$1,000 and 50 will require work at \$300 each." Why were the paintings in a poor condition? Is it because they had not been taken care of?

Mr. LERNER. As you know, paintings suffer from what the insurance people call innate vice, that is to say, that they have a life cycle and in order to conserve them properly they must be looked at with regularity. They must be examined carefully and restored from time to time. In a complex as large as this, 7,000 pieces, it was utterly impossible for Mr. Hirshhorn to look after the pictures the way one would look after them in a museum. He lacked the staff, he lacked the expertise.

In order to prepare these pictures for this great new museum and to prepare them properly for the public, it is necessary to look at everyone of these paintings. We have discovered, on looking at them and examining them carefully, that most of them require some sort of treatment, whether it is a light cleaning, or a conservation treatment which involves a relining, or a restoration of some sort. This is not quite the same with sculpture, but sculpture does suffer from a variety of illnesses, like bronze disease. They do break, they do need repatination.

Dr. RIPLEY. Might I add this is not to imply that because they need such work they are any the less invaluable.

Mrs. HANSEN. I understand. But I think the record should show that something more than just routine care is required when a painting or a piece of sculpture is going to be displayed in a museum.

Dr. RIPLEY. That is true.

Mrs. HANSEN. The paintings and pieces of sculpture are in varying states of disrepair.

Mr. LERNER. They are also in varying stages of aging.

Mrs. HANSEN. This preparation of works of art is known as your pre-exhibition preparation.

Mr. RIPLEY. Absolutely.

LENGTH OF EXHIBITIONS

Mrs. HANSEN. About how long does a particular exhibition last?

Dr. RIPLEY. This would be a permanent collection. Then there are areas for changing exhibitions.

Mrs. HANSEN. That is what I mean.

Dr. RIPLEY. There is a constant change. On the first floor of the museum there is an area for changing exhibitions which will be drawn not only from the collections but from other sources.

Mrs. HANSEN. This is the same type of thing you do in any other gallery.

Dr. RIPLEY. Right, and there will be, of course, gifts, there will be changing exhibitions of loan material that will tie in with the material already there. This will be a full-fledged gallery in its own right.

NUMBER OF ADDITIONAL PERSONNEL REQUESTED

Mrs. HANSEN. How many additional personnel are you requesting for 1972?

Mr. BRADLEY. For 1972, Madam Chairman, three additional personnel.

Mrs. HANSEN. Give me the specific locations as to where these 21 employees will be working in the fiscal year 1972. Please insert the information in the record.

Mr. BRADLEY. Yes, Madam Chairman. The essential answer is New York City, but we will be very precise.

(The information follows:)

LOCATION OF HIRSHHORN

All employees of the Hirshhorn Museum and Sculpture Garden will be based in New York City in the fiscal year 1972. This is true also of prior years. Over the course of the next year or so as the museum nears completion it may be desirable to station one or more of these employees in Washington to begin preparations for facilitating the transfer to Washington. Upon completion of the museum, scheduled in the fall of the calendar year 1972, the staff and the art collection will be transferred to Washington, D.C.

All duties performed are directly related to the establishment and planned operation of the Joseph H. Hirshhorn Museum and Sculpture Garden.

DUTIES OF THE POSITIONS

Mrs. HANSEN. Describe in full detail the scope of the activities of the three additional employees.

(The information follows:)

JOSEPH H. HIRSHHORN MUSEUM AND SCULPTURE GARDEN

NEW POSITIONS REQUESTED FOR FISCAL YEAR 1972

Registrar, GS-11—supervises activities at the warehouse, where there are six museum assistants involved in preparing collection for exhibition in the Museum.

Clerk-typist, GS-5—furnishes clerical and typing support to Registrar.

Administrative assistant, GS-9—responsible for maintaining budget allotment. Analyzes status of budget, assists in budget preparation.

LEGALITY OF SPENDING FEDERAL FUNDS ON PREPARING
THE COLLECTIONS

Mrs. HANSEN. A question has been raised as to the legality of expending Federal funds in connection with properties that are not the possession of the U.S. Government. What is your legislative authorization for this work at this time?

Mr. BRADLEY. Madam Chairman, the 1966 act which authorized the creation of the Hirshhorn Museum and Sculpture Garden directed that we not only construct a building and a sculpture garden, but also directed the Board of Regents to establish a museum.

The matter of the title I have gone into very carefully. The General Counsel has prepared an opinion on this subject. As an administrator, let me say it would be unthinkable for us to preside over 7,000 works of art with a \$16 million museum coming in about 18 months off ready to be opened. This museum will be utilized not by the Smithsonian but by American visitors. Therefore, we are proceeding in pursuance of the law to get ready for business. After all, the National Collection of Fine Arts was for years without a home of its own, but it conducted an art museum function in the Natural History Building.

Mrs. HANSEN. Please insert in the record the details of preopening expenditures of funds and the General Counsel's opinion in this connection.

Mr. BRADLEY. Yes, Madam Chairman.

(The information follows:)

EXPENDITURES PRIOR TO COMPLETION OF HIRSHHORN MUSEUM

Comparative figures for the preopening expenditures of other Smithsonian museums are instructive. The attached table shows the appropriated "Salaries and expenses" funds used by the National Portrait Gallery, the National Collection of Fine Arts, and the Museum of History and Technology in the fiscal years immediately preceding their moving into their buildings; in each case a period of several months elapsed between the move and the official opening to the public. It should be noted that during the period reflected in these figures the National Portrait Gallery used a small exhibition area in the Arts and Industries Building, and the National Collection of Fine Arts used a small exhibition area in the Natural History Museum.

Place and fiscal year	Positions	Amount
National Portrait Gallery, 1967	19	\$610,000
National Collection of Fine Arts, 1967	45	739,000
Museum of History and Technology, 1963 ¹ (average employment)	318	2,284,000
Joseph H. Hirshhorn Museum, 1972 requested ²	21	1,017,000

¹ Includes about 160 exhibits personnel and \$1,100,000 in associated "S. & E." costs.
² Includes \$440,000 requested to cover nonrecurring costs in fiscal year 1972.

USE OF FEDERAL FUNDS IN PREPARING WORKS OF ART FOR THE OPENING OF THE
JOSEPH H. HIRSHHORN MUSEUM AND SCULPTURE GARDEN

Public Law 89-788, 20 U.S.C. sections 76aa-ee, established the Joseph H. Hirshhorn Museum and Sculpture Garden, effective November 7, 1966, under the basic authority of the Board of Regents for "the increase and diffusion of knowledge among men." 20 U.S.C. sections 41, 42. Appropriations were specifically authorized for the operation of the Museum, and the Regents were empowered to employ a director, an administrator, and two curators for the "efficient administration" of the Museum. 20 U.S.C. sections 76dd, 76ee.

Contemporaneously with the passage of Public Law 89-788, and pursuant to this express Congressional mandate to open and operate the Museum, the Smithsonian submitted to the Bureau of the Budget a request for the first increment of funds for the 5-year program necessary to staff the Museum and prepare for the opening. These funds, as well as those requested and appropriated for Fiscal Years 1969 and 1970, were clearly identified in the budget submissions to the Appropriations Committees, specifying the purposes, including cataloguing, research, and the selection, conservation, and restoration of about one-sixth of the collection for the initial opening to the public.

This interpretation and implementation of the requirements of Public Law 89-788 has been accepted by the Smithsonian from the outset and has been consistently reaffirmed by the Congress in the 3 years following the passage of the Act. Any other course of action would have required a finding that Congress intended the museum building, constructed at public expense, to remain closed to the public for as much as 5 years after its completion. Such a view is without any support whatever in the language of the act or in its legislative history.

On the narrower question of the legality of expending appropriated funds for preparing for exhibit a portion of the collection before legal title thereto is fully vested in the Smithsonian, such expenditures are proper where they "reasonably appear to be incident to and essential in the accomplishment of the authorized purposes of the appropriation." 42 Comp. Gen. 480 (1963) at page 485; See also 46 Comp. Gen. 25 (1966). Clearly the preparation of the works of art is essential to the opening of the Museum to the public.

In summary, there is no legal bar to the appropriation and expenditure of funds for the expeditious opening and operating of the Hirshhorn Museum and Sculpture Garden, including the preparation of selected works of art for exhibition.

PETER G. POWERS,
General Counsel, Smithsonian Institution.

NATIONAL COLLECTION OF FINE ARTS PRIOR HISTORY

The National Collection of Fine Arts was authorized by the act of March 24, 1937, and the act of May 17, 1938. It was housed for many years in the Museum of Natural History Building. The gallery was transferred to the Fine Arts and Portrait Galleries Building where it was opened on May 3, 1968.

TITLE TO THE HIRSHHORN COLLECTION

Mrs. HANSEN. Has the title to the Hirshhorn collection passed to the U.S. Government?

Mr. BRADLEY. It is in a transition state. The title is shared by the Smithsonian and Mr. Hirshhorn. The instrument was a conditional gift.

Mrs. HANSEN. Is the condition, the completion of the building?

Mr. BRADLEY. Yes, ma'am.

Mrs. HANSEN. Does this also include the completion of the sculpture garden?

Mr. BRADLEY. The agreement was for a museum and a sculpture garden, both.

Mrs. HANSEN. Then if for any reason prior to the opening of the museum, Mr. Hirshhorn doesn't like some of the work, he would not have to pass title of his collection to the U.S. Government?

Mr. BRADLEY. I would say, Madam Chairman, that Mr. Hirshhorn does not have a free option of any kind. Mr. Hirshhorn is a party to a legal agreement between Hirshhorn and Smithsonian. We have to do certain things and he has to complete his actions. Upon the consummation of those actions, which as you put it essentially means completion of the building and the sculpture garden, there is no choice. Title passes to the Smithsonian.

Mrs. HANSEN. Please insert the pertinent details of your contract with Mr. Hirshhorn in the record. I would like to have the details on the record to clarify the situation as completely as possible.

Mr. BRADLEY. We appreciate the opportunity, Madam Chairman. (The information follows:)

AGREEMENT BETWEEN JOSEPH H. HIRSHHORN, THE JOSEPH H. HIRSHHORN
FOUNDATION, INC., AND THE SMITHSONIAN INSTITUTION, MAY 17, 1966

Agreement dated the 17th day of May, 1966 by and between Joseph H. Hirshhorn (hereinafter sometimes referred to as the "Donor"); The Joseph H. Hirshhorn Foundation, Inc., a membership corporation organized under the laws of the State of New York (hereinafter sometimes referred to as the "Hirshhorn Foundation") and the Smithsonian Institution, an establishment created and existing under and by virtue of an Act of the Congress of the United States of America, approved August 10, 1846 (hereinafter referred to as the "Institution").

Whereas, the Donor has for many years been acquiring important paintings and sculpture, with particular emphasis upon the works of contemporary American artists, and is desirous of encouraging and developing greater understanding and appreciation of modern art; and

Whereas, the President of the United States and the Institution believe that the establishment of a sculpture garden and a museum in Washington, D.C., where modern art could be exhibited and studied, would enrich the culture of the Nation; and

Whereas, the Donor and the Trustees of the Hirshhorn Foundation have proposed to the President of the United States that the Donor and the Hirshhorn Foundation donate their collections of art to the Institution for the benefit of the people of the United States and the Donor has proposed to the President that the Donor contribute \$1 million to the Institution for the purpose of acquiring additional works of art of contemporary artists; and

Whereas, the President of the United States has directed the Secretary of the Institution to make appropriate arrangements whereby the proposed gifts by the Donor and the Hirshhorn Foundation of their collections of works of art and the Donor's proposed gift of \$1 million to the Institution, may be consummated; and

Whereas, agreement has now been reached between the Donor, the Institution and the Hirshhorn Foundation with respect to the terms and conditions upon which said gifts will be made by the Donor and the Hirshhorn Foundation, and accepted by the Institution;

Now, therefore, it is agreed by and between the undersigned as follows:

First. The Donor hereby agrees to transfer and deliver the collection of works of art listed in the inventory attached hereto and marked exhibits A and A-1, and to pay the sum of \$1 million, to the Institution, and the Hirshhorn Foundation agrees to transfer and deliver to the Institution the collection of works of art listed in the inventory attached hereto and marked Exhibits B and B-1, and the Institution hereby agrees to accept said gifts from the Donor and the Hirshhorn Foundation, in trust, however, for the uses and purposes and subject to the provisions and conditions hereinafter expressed.

Second. It is a condition of the gifts by the Donor and the Hirshhorn Foundation:

A. That the Congress of the United States shall have enacted, and the President of the United States shall have approved, no later than 10 days after the close of the 90th Congress, legislation to the following effect:

(1) The area bounded by Seventh Street, Independence Avenue, Ninth Street and Madison Drive, in the District of Columbia, shall be appropriated to the Institution as the permanent site of a museum and sculpture garden to be used exclusively for the exhibition of works of art.

(2) The Board of Regents of the Institution shall be duly authorized to remove any existing structure, to prepare architectural and engineering designs, plans and specifications, and to construct a suitable museum and sculpture garden for the use of the Institution within the area designated in subparagraph "(1)" hereof.

(3) The museum and sculpture garden hereinbefore provided for shall be designated and known in perpetuity as the Joseph H. Hirshhorn Museum and Sculpture Garden, and shall be a free public museum and sculpture garden under the administration of the Board of Regents of the Institution.

(4) The faith of the United States shall be pledged that the United States shall provide such funds as may be necessary for the upkeep, operation and administration of the Joseph H. Hirshhorn Museum and Sculpture Garden.

(5) The Joseph H. Hirshhorn Museum and Sculpture Garden shall be the permanent home of the collections of art of Joseph H. Hirshhorn and the Joseph H. Hirshhorn Foundation, and shall be used exclusively for the storage, exhibition and study of works of art, and for the administration of the affairs of the Joseph H. Hirshhorn Museum and Sculpture Garden.

(6) There shall be established in the Institution a board of trustees to be known as the Board of Trustees of the Joseph H. Hirshhorn Museum and Sculpture Garden, which shall provide advice and assistance to the Board of Regents of the Institution on all matters relating to the administration, operation, maintenance and preservation of the Joseph H. Hirshhorn Museum and Sculpture Garden; and which shall have the sole authority (a) to purchase or otherwise acquire (whether by gift, exchange or other means) works of art for the Joseph H. Hirshhorn Museum and Sculpture Garden; (b) to loan, exchange, sell or otherwise dispose of said works of art; and (c) to determine policy as to the method of display of the works of art contained in the Joseph H. Hirshhorn Museum and Sculpture Garden.

(7) The board of trustees of the Joseph H. Hirshhorn Museum and Sculpture Garden shall be composed of 10 members as follows: (a) The Chief Justice of the United States and the Secretary of the Institution, who shall serve as ex-officio members and (b) eight general members to be initially appointed by the President, four of whom shall be appointed from among nominations submitted by Joseph H. Hirshhorn and four of whom shall be appointed from among nominations submitted by the Board of Regents of the Institution. The general members so appointed by the President shall have terms expiring one each on July 1, 1968, 1969, 1970, 1971, 1972, 1973, 1974, and 1975, as designated by the President. Successor general members (who may be elected from among members whose terms have expired) shall serve for a term of six years, except that a successor chosen to fill a vacancy occurring prior to the expiration of the term of office of his predecessor, shall be chosen only for the remainder of such term. Vacancies occurring among general members of the board of trustees of the Joseph H. Hirshhorn Museum and Sculpture Garden shall be filled by a vote of not less than four-fifths of the then acting members of the board of trustees.

(8) The Board of Regents of the Institution may appoint and fix the compensation and duties of a director and, subject to his supervision, an administrator and two curators of the Joseph H. Hirshhorn Museum and Sculpture Garden, none of whose appointment, compensation or duties shall be subject to the civil service laws or the Classification Act of 1949, as amended. The Board of Regents may employ such other officers and employees as may be necessary for the efficient administration, operation and maintenance of the Joseph H. Hirshhorn Museum and Sculpture Garden.

(9) There shall be authorized to be appropriated, and there shall be appropriated, such sums as may be necessary to carry out the purposes of such legislation, including all sums necessary for planning and constructing the Joseph H. Hirshhorn Museum and Sculpture Garden.

B. That the said Joseph H. Hirshhorn Museum and Sculpture Garden shall have been constructed and completed in accordance with the provisions of this agreement.

Third. Upon receipt of appropriate authorization from the Congress and the appropriation of funds as provided in paragraph second hereof, the Institution

shall, with all due dispatch, construct the Joseph H. Hirshhorn Museum and Sculpture Garden on the site described in Subparagraph A(1) of Paragraph Second hereof, and landscape said site, in accordance with plans to be prepared by a firm of architects jointly chosen by the Donor and the Secretary of the Institution, which plans shall have been specifically approved by both the Donor and the Secretary of the Institution.

Fourth. Immediately following the construction and completion of the said museum and sculpture garden as herein provided, and the taking of such other steps as counsel for the Donor and counsel for the Institution shall deem necessary to give effect to the gifts contemplated hereunder, the Donor shall pay the sum of \$1 million to the Institution and title to the collections of the works of art listed in exhibits A and A-1 and exhibits B and B-1 shall pass to and be vested in the Institution, and such collections shall be delivered to the Institution at the expense of the Donor and the Joseph H. Hirshhorn Foundation, respectively, and thereafter shall remain under the exclusive control of the Institution, subject to the provisions of this agreement.

During the period between the date of this agreement and the time when title to said collections of art shall pass to and be vested in the Institution, or when this agreement shall terminate, whichever shall be earlier, the Donor and the Hirshhorn Foundation shall respectively care for the said works of art and shall keep the same insured against loss or damage by fire, theft or burglary, in such amounts and with such parties as the Donor and the Hirshhorn Foundation in their discretion may determine, if and to the extent that such insurance may be obtainable; it being understood, however, that in no event nor under any circumstances, shall the Donor or the Hirshhorn Foundation be liable for any loss or damage to any of the works of art, however caused, which is not compensated for by such insurance. The Donor and the Hirshhorn Foundation shall respectively pay all costs, premiums, and other charges incidental to such care and insurance.

Fifth. The gift of \$1 million by the Donor hereunder shall be used solely to acquire works of art for the Joseph H. Hirshhorn Museum and Sculpture Garden. Pending the use of said funds for such purpose, the Institution may invest such funds in such manner as it may determine from time to time, provided that such funds and/or investments, and the income derived therefrom, shall be segregated and maintained as a trust fund for the benefit of the said Museum and Sculpture Garden, separate and apart from the other funds and investments of the Institution.

Sixth. The Institution may accept, hold and administer gifts, bequests or devises of money, securities, or other property for the benefit of the Joseph H. Hirshhorn Museum and Sculpture Garden, provided that no works of art shall be accepted for such Museum and Sculpture Garden without the prior consent and approval of the board of trustees of the Joseph H. Hirshhorn Museum and Sculpture Garden.

Seventh. The Institution covenants and agrees that :

A. It will, at all times, properly maintain the Joseph H. Hirshhorn Museum and Sculpture Garden, protect and care for all works of art therein, and regularly exhibit works of art contained therein with dignity to the general public free of charge.

B. In no event shall any sculpture of the Joseph H. Hirshhorn Museum and Sculpture Garden be loaned for periods longer than 360 days.

C. The funds received from the sale of works of art of the Joseph H. Hirshhorn Museum and Sculpture Garden shall be used solely for the purpose of acquiring works of art for said Museum and Sculpture Garden. Pending the use of said funds for such purpose, the Institution may invest such funds in such manner as it may determine from time to time, provided that such funds and/or investments, and the income derived therefrom, shall be segregated and maintained as a trust fund for the benefit of the said Museum and Sculpture Garden, separate and apart from the other funds and investments of the Institution.

D. The first director of the Joseph H. Hirshhorn Museum and Sculpture Garden shall be designated by the Donor with the consent of the Secretary of the Institution.

E. The said sculpture garden and museum in the area bounded by Seventh Street, Independence Avenue, Ninth Street, and Madison Drive, in the District of Columbia, shall be known and designated in perpetuity as the Joseph H. Hirshhorn Museum and Sculpture Garden to which the entire public shall forever have access without charge, subject only to reasonable regulations from time to time established by the Institution.

Eighth. Anything herein contained to the contrary notwithstanding, from and after the date of this agreement and until title to the collections of works of art shall pass to and be vested in the Institution, (a) the Donor may transfer any of the works of art listed in exhibits A or A-1 to the Hirshhorn Foundation, and all works of art thus transferred shall remain subject to this agreement as if originally listed in exhibits B or B-1 instead of exhibits A or A-1 hereto; and (b) the Donor and the Hirshhorn Foundation may loan or sell (for such consideration as the Donor or the Hirshhorn Foundation, as the case may be, shall in his or its sole discretion deem appropriate) any of the works of art listed respectively in exhibits A, A-1, B and B-1 hereto and may also exchange the same for other works of art. No loan of such works of art shall be made for a period in excess of 180 days. The Donor and the Hirshhorn Foundation respectively may invest and reinvest the net proceeds arising from any such sale of his or its works of art by acquiring additional works of art and/or purchasing obligations of the United States Government. All works of art so acquired by purchase or exchange shall become subject to the terms of this agreement as if originally listed in exhibits A, A-1, B or B-1 in the place and stead of the works of art sold or exchanged as aforesaid. After title to the collections of works of art shall pass to and be vested in the Institution, any obligations of the United States Government acquired as aforesaid and the balance, if any, of net proceeds not used for the acquisition of works of art or obligations of the United States Government shall be transferred and paid over to the Institution to be used solely for the purchase of acquiring works of art for the Joseph H. Hirshhorn Museum and Sculpture Garden, and pending such use, such funds and obligations shall be administered as provided in paragraph 5 hereof. Any insurance proceeds realized under policies carried by the Donor and the Hirshhorn Foundation in accordance with the provisions of paragraph 4 hereof shall be treated in the same manner as net proceeds arising from the sale of the works of art of the Donor and the Hirshhorn Foundation as provided in this paragraph 8.

Ninth. In the event that legislation containing provisions substantially as set forth in paragraph 2 hereof is not duly enacted by the Congress of the United States and duly approved by the President no later than ten (10) days after the close of the 90th Congress, or in the event that said Museum and Sculpture Garden shall not have been constructed and completed as provided in paragraph 3 hereof within 5 years after such legislation shall have been enacted and approved, this agreement shall be null and void and the proposed gifts by the Donor and the Hirshhorn Foundation shall not be consummated.

Tenth. This agreement shall be binding upon the heirs, executors and administrators of the Donor.

In witness whereof, Joseph H. Hirshhorn has caused this agreement to be executed by his hand and seal; The Smithsonian Institution, pursuant to a resolution duly adopted by its Board of Regents, has caused this agreement to be signed and its official seal to be hereunto affixed by its Secretary; and The Joseph H. Hirshhorn Foundation, Inc., pursuant to a resolution duly adopted by its Board of Directors, has caused this agreement to be signed and its official seal to be hereunto affixed by its Secretary, all as of the day and year first above written.

(s) JOSEPH H. HIRSHHORN.

THE SMITHSONIAN INSTITUTION,

[SEAL]

By (s) S. DILLON RIPLEY, *Secretary*

THE JOSEPH H. HIRSHHORN

FOUNDATION, INC.,

[SEAL]

By (s) SAM HARRIS, *Secretary*.

VALUE OF THE COLLECTION

Mrs. HANSEN. Mr. McDade, do you have a question?

Mr. McDADE. I wanted to inquire for purposes of the record, could we have a short statement, a concise statement of the value of this particular collection of art, what makes it unique, and if you have gotten any kind of a dollar figure, I would like to have that too.

Mr. BRADLEY. We have such, and we would be pleased to have the opportunity to put it in.

(The information follows:)

WHY THE HIRSHHORN COLLECTION IS OUTSTANDING
AND WHAT MAKES IT UNIQUE

The Hirshhorn Museum collection consists of approximately 7,000 works of art; 5,000 paintings and 2,000 sculptures.

The sculpture collection has been widely acclaimed by specialists in the field for its comprehensive documentation of developments in American and European sculpture of the 19th and 20th centuries. In addition, it contains examples of sculpture from the 18th century as well as works from antiquity, African bronzes, and pre-Columbian artifacts.

The extent of the sculpture collection is seen by a listing of some of the names of artists and numbers of pieces. The collection contains 12 pieces by Thomas Eakins, 21 by Matisse, 18 by Rodin, 23 by Degas, 10 by Calder, 13 by Picasso, 43 by Daumier, 22 by David Smith. These examples serve to illustrate the unique concentration of quality in the collection, as well as its historical perspective.

The Hirshhorn Museum collection of paintings is focused on modern art of the 20th century. From the works of precursors such as Thomas Eakins and Winslow Homer to the art of our day, outstanding examples by significant contemporary artists trace the course of 20th century painting in America. American painting, for so long derided as provincial, its accomplishments overlooked or relegated to a few paragraphs in books on art history, has in the past two decades produced a profoundly generative art which has deeply affected the style and philosophy of international modern art.

The comprehensive collection of American paintings in the Hirshhorn Museum illustrates these recent developments by examples from every major American painter of this century, many of whom are represented in the collection by several works, enabling the public an unusual opportunity to observe and study the development of individual artists against the panorama of American art history.

The fact that the painting collection includes the most important group by Thomas Eakins outside the Philadelphia museum, 13 paintings by William Merrit Chase, 24 works by Arthur B. Davies, 11 by Charles Demuth, 16 by Edwin Dickinson, 9 by John Sloan, 5 by Edward Hopper, 12 by Childe Hassam, 194 by Louis Ellshemius, 27 by Arshile Gorky, 42 by Willem De Kooning, 60 by Milton Avery, 12 by Walt Kuhn, 14 by Kenneth Noland, 9 by John Marin serves to convey the comprehensive nature of the painting collection.

Contemporary European painting is represented by artists of the past three decades, including Francis Bacon, Balthus, Salvador Dali, Nicholas De Stael, Giacometti, Miro, Max Ernst, Leger, Masson, Matta, and their younger contemporaries.

Selections from the collections have been widely reproduced and exhibited in virtually every important museum in the United States and abroad. Scholars and authors in the fields of modern painting and sculpture constantly make use of the unique resources of the Hirshhorn Collection.

LETTER FROM H. HARVARD ARNASON

NEW YORK, N.Y., July 18, 1970.

HON. FRANK THOMPSON, JR.,
Chairman, Subcommittee on Library and Memorials, Committee on House Administration, U.S. House of Representatives.

DEAR CONGRESSMAN THOMPSON: I have been asked by Mr. Ripley's office of the Smithsonian Institution to write you an objective opinion on the Hirshhorn collection of modern and American art. I have known this collection well for more than 15 years and have exhibited large selections of the sculpture on two separate occasions, as well as organizing a traveling exhibition of paintings from the collection.

May I indicate briefly some of my qualifications for expressing my opinion. I am an art historian with some 30 years of experience in the fields of modern and American art. Between 1947 and 1960 I was professor and chairman of the department of art at the University of Minnesota. Between 1951 and 1960 I was also director of the Walker Art Center in Minneapolis, one of the leading American museums of modern art. Between 1960 and 1970 I was vice president for art administration of the Solomon R. Guggenheim Foundation which administers the Guggenheim Museum in New York. I am the author of books, monographs, ex-

hibition catalogs, and periodical articles on modern art and artists. Recently I published a comprehensive "History of Modern Art" (New York, Harry N. Abrams, 1968), which is now used as a text book in colleges and universities throughout the United States.

As indicated, in the mid-fifties I exhibited a large selection of the Hirshhorn sculpture collection at the Walker Art Center. In 1962 I organized an even more comprehensive exhibition of the sculpture at the Guggenheim Museum. This exhibition, including over 400 items, was accompanied by a book, "Modern Sculpture From the Joseph H. Hirshhorn Collection," for which I wrote the text. This text was, in effect, a brief history of modern sculpture, written entirely in terms of works from the Hirshhorn collection. When Mr. Hirshhorn began collection in the twenties and thirties he concentrated on American painting; and during the last 40 years he has built up the most comprehensive collection of American painting of the 20th century in existence. This includes representation of every major American painter of this century, frequently with many examples of each painter's works. The collection also includes a great number of examples by lesser artists, or by artists such as the social realists and regional painters of the thirties and forties who are now out of fashion. These artists, nevertheless, are an important part of the history of modern American art, and without them any picture of American art of this century would be incomplete.

Mr. Hirshhorn began collecting modern sculpture principally in the period after the Second World War, and almost from the beginning he bought European as well as American sculpture. The result, today, in my opinion and that of most other specialists in the field, is the most important collection of modern sculpture in existence. I think this is a fair statement, since I do not believe that any museum of modern art, including the Museum of Modern Art in New York, possesses as comprehensive and important a collection of modern sculpture as is now contained in the Hirshhorn collection.

During the 1960's Mr. Hirshhorn began to expand his painting collection to include examples of contemporary European painting, and some examples of the earlier masters of modern painting. While he entered the field of early 20th century European painting too late to be able to acquire great masterpieces, he has put together an important selection with some unique concentrations of works, such as those by the surrealist leader, Andre Masson. The American collection is also in process of expansion to include masters of the 19th-century, such as Thomas Eakins. The Hirshhorn Eakins collection is the most important in private hands, probably the most important outside of the Philadelphia Museum.

To recapitulate, it is difficult to evaluate the total importance of the Hirshhorn because of its vastness. There is no question in my mind that there are enough first-class works by modern American painters and by modern American and European sculptors to fill the exhibition halls of a large museum. The secondary works—sculptures, paintings (oils and watercolors), and drawings—will constitute a unique study collection for teachers and students of modern art. You are aware that major museums throughout the world have long been attempting to acquire the Hirshhorn collection. Different countries and leading art centers throughout the United States have offered to build and endow a major museum building to house the collection. I am delighted that it should have gone to Washington, not only because it belongs there, but, more important, because it will give the United States the foundation for a National Gallery of American and Modern Art, a modern museum such as most of the leading nations possess, and such as the United States should have possessed before this.

There are obviously gaps in the collection, particularly in the field of modern European painting, but this gift should attract many other gifts to fill these gaps; and I understand that Mrs. Hirshhorn will continue to buy and to donate further works to the collection.

I am pleased to be able to write this comment on the Hirshhorn collection, since I believe its donation to this Nation is a matter of such significance for the development of American art and for international modern art. If I can be of any further assistance in answering specific questions, please do not hesitate to call on me.

May I apologize for the typing of this letter. It is written at my country place where I do not have the services of a secretary.

Sincerely yours,

H. HARVARD ARNASON.

ESTIMATED PRESENT DOLLAR VALUE OF THE HIRSHHORN COLLECTION

The 1965-66 appraisal of the value of the Hirshhorn gift amounted to \$25 million. In order to estimate more recent value, 10 paintings and 10 pieces of sculpture were appraised by Parke Bernet Galleries in 1970. The comparative results of the 1966 and 1970 appraisals are shown below :

Artist	1966	1970	Artist	1966	1970
Bacon.....	\$24,000	\$85,000	Louis.....	\$15,000	\$50,000
Balthus.....	35,000	125,000	Marsh.....	10,000	50,000
Brancusi.....	85,000	200,000	Moore.....	350,000	400,000
Davis.....	30,000	90,000	Munch.....	60,000	90,000
De Kooning.....	40,000	70,000	Picasso.....	45,000	90,000
Eakins.....	125,000	200,000	Prendergast.....	36,000	100,000
Giacometti.....	35,000	150,000	Rodin.....	250,000	500,000
Gorky.....	30,000	60,000	Rothko.....	30,000	60,000
Hassam.....	30,000	95,000	Sloan.....	15,000	45,000
Hopper.....	27,500	100,000			
Kokoschka.....	80,000	100,000	Total.....	1,352,500	2,660,000

The total appraised value of these 20 works in 1970 was thus almost double that in 1966. This suggests that the value of the entire collection in 1970 would be on the order of \$50 million.

LIST OF APPRAISERS

Mrs. HANSEN. You have also been criticized by, I think, one museum director in Cleveland on the value of the Hirshhorn collection. As I recall, I asked you to have the Hirshhorn collection appraised in the marketplace, which you did. Please insert in the record a list of the appraisers and their conclusions.

Dr. RIPLEY. Yes.

(The information follows:)

SOURCES FOR APPRAISAL OF THE JOSEPH H. HIRSHHORN COLLECTION AND THE JOSEPH H. HIRSHHORN FOUNDATION

Sidney L. Bergen, director, ACA Gallery, 63 East 57th Street, New York, N.Y.
Charles Alan, the Alan Gallery, 766 Madison Avenue, New York, N.Y.

Joan Ankrum, Ankrum Gallery, 910 N. La Cienega Boulevard, Los Angeles, Calif.
Michael St. Clair, director, Babcock Galleries, Inc., 805 Madison Avenue, New York, N.Y.

Mrs. William Baziotes, 90 La Salle Street, New York, N.Y.

Esther Bear, Esther Bear Gallery, 1125 High Road, Santa Barbara, Calif.

Claude Bernard Haim, Galerie Claude Bernard, 5-7 Rue Des Beaux-Arts, Paris, France.

E. Beyeler, director, Galerie Beyeler, 4001 Basel, Baumleigasse, Switzerland.

Bernard Black, Bernard Black Gallery, 1062 Madison Avenue, New York, N.Y.

Alfredo Bonino, Galeria Bonino Ltd., 7 West 57th Street, New York, N.Y.

Richard Sisson, assistant director, Grace Borgenicht Gallery Inc., 1018 Madison Avenue, New York, N.Y.

Eli Borowski, director, Archeologie Classique et du Proche-Orient, Argensteinertrasse 7, Basel, Switzerland.

Gandy Brodie, West Townshend, Vt.

Robert Lewin, director, Brook Street Gallery, Ltd., 24 Brook Street, London, England.

Charles A. Byron, Byron Gallery, Inc., 1018 Madison Avenue, New York, N.Y.

Dorothy Cameron Moes, president and director, Dorothy Cameron Gallery Ltd., 840 Yonge Street, Toronto, Canada.

Leo Castelli, president, Leo Castelli, Inc., 4 East 77th Street, New York, N.Y.

Mrs. Madeleine Chalette-Lejwa, director, Galerie Chalette, 9 East 88th Street, New York, N.Y.

Rochelle M. Wexler, director, Cober Gallery, 14 East 69th Street, New York, N.Y.

Cecil Victor Comara, director, Comara Gallery, 8475 Melrose Place, Los Angeles, Calif.

- Karl Lunde, director, The Contemporaries, 992 Madison Avenue, New York, N.Y.
 Arne H. Ekstrom, Cordier & Ekstrom, Inc., 978 Madison Avenue, New York, N.Y.
 Mr. Roy Davis, director, the Davis Galleries, 231 East 60th Street, New York, N.Y.
 Peter Deitsch, Peter Deitsch Gallery, 24 East 81st Street, New York, N.Y.
 Mr. John Myers, director, Tibor De Nagy Gallery, 149 East 72d Street, New York, N.Y.
 Harold Diamond, 300 Central Park West, New York, N.Y.
 Terry Dintenfuss, Terry Dintenfuss, Inc., 18 East 67th Street, New York, N.Y.
 Mrs. Edith Gregor Halport, director, The Downtown Gallery, 465 Park Avenue, New York, N.Y.
 George E. Dix, director, Durlacher Bros., 538 Madison Avenue, New York, N.Y.
 Mr. Charles Egan, Egan Gallery, 41 East 57th Street, New York, N.Y.
 Mr. Robert Elkon, Elkon Gallery, 1063 Madison Avenue, New York, N.Y.
 Andre Emmerich, Andre Emmerich Gallery, Inc., 41 East 57th Street, New York, N.Y.
 Rex Evans, Rex Evans Gallery 748½ North La Cienega Boulevard, Los Angeles, Calif.
 Irving Blum, director, Ferus Gallery, 723 North La Cienega Boulevard, Los Angeles, Calif.
 Richard Feigen, Richard Feigen Gallery, 24 East 81st Street, New York, N.Y.
 Charles Feingarten, Feingarten Galleries, Inc., 324 N. Camden Drive, Beverly Hills, Calif.
 Donald Droll, director, Fischbach Gallery, 799 Madison Avenue, New York, N.Y.
 Mrs. Bella Fishko, director, Forum Gallery, Inc., 1018 Madison Avenue, New York, N.Y.
 Mr. Robert Fraser, Robert Fraser Gallery, Ltd., 69 Duke Street, London W1, England.
 Mrs. Rose Fried, Rose Fried Gallery, 40 East 68th Street, New York, N.Y.
 M. Prevot-Douatte, director, Galerie De France, 3 Faubourg St. Honore, Paris VIII, France.
 Mr. Paul Haim, director, Galerie Europe, 22 Rue de Seine, Paris 6, France.
 Beatrice Monti, director, Gallerie dell'Ariete, Via S. Andrea 5, Milano, Italy.
 Alex Magdy, director, Galerie de L'Elysee, 69, Rue du Faulbourg St. Honore, Paris VIII, France.
 Madame Denise Rene, Galerie Denise Rene, 124 Rue La Boetie, Paris, France.
 B. Kernerman, director, Galerie Israel Ltd., 63 Ben Yehuda Road, Tel Aviv, Israel.
 Mr. Lawrence Rubin, Galerie Lawrence, 13 Rue de Seine, Paris VI, France.
 Otto Kallir, director, the Galerie St. Etienne, 24 West 57th Street, New York, N.Y.
 Allen Frumkin, the Frumkin Gallery, 41 East 57th Street, New York, N.Y.
 Mack Gilman, director, Gilman Galleries, 103 East Oak Street, Chicago, Ill.
 Peter Gimpel, Gimpel Fils Ltd., 50 South Molton Street, London, W1. England.
 Miss Anne Rotzler, director, Gimpel & Hanover Galerie, Zurich, Claridenstrasse 35, Zurich 8002, Switzerland.
 Noah Goldowsky, 1078 Madison Avenue, New York, N.Y.
 James Goodman, James Goodman Gallery, The Park Lane, 33 Gates Circle, Buffalo, N.Y.
 Robert Graham, The Graham Gallery, 1014 Madison Avenue, New York, N.Y.
 Richard Bellamy, director, the Green Gallery, 15 West 57th Street, New York, N.Y.
 Miss Ann Ross, director, the Greenross Gallery, 41 East 57th Street, New York, N.Y.
 Joseph Grippi, Grippi & Waddell Gallery, Inc., 15 East 57th Street, New York, N.Y.
 Stephen Hahn, Stephen Hahn Gallery, 960 Madison Avenue, New York, N.Y.
 Nathan Halper, Nat Halper Gallery, 90 La Salle Street, New York, N.Y.
 Victor J. Hammer, Hammer Galleries, 51 East 57th Street, New York, N.Y.
 David Hare, 34 Leroy Street, New York, N.Y.
 Mrs. Lily Harmon, 151 Central Park West, New York, N.Y.
 Norman Hirschl, Hirschl & Adler Galleries, Inc., 21 East 67th Street, New York, N.Y.
 Miss Erica Brausen, director, the Hanover Gallery, 32A St. George Street, Hanover Square, London, W.1, England.
 Miss Semiha Huber, Galerie Semiha Huber, Talstrasse 18, Zurich 1, Switzerland.

- Leonard Hutton, Leonard Hutton Galleries, 787 Madison Avenue, New York, N.Y.
- Brooks Jackson, director, Alexander Iolas Gallery, 15 East 55th Street, New York, N.Y.
- A. Isaacs, the Isaacs Gallery, 832 Yonge Street, Toronto 5, Canada.
- Martha Jackson, Martha Jackson Gallery, 32 East 69th Street, New York, N.Y.
- Sidney Janis, Sidney Janis Gallery, 15 East 57th Street, New York, N.Y.
- Paula Mailman, director, Paula Johnson Gallery, 11 East 78th Street, New York, N.Y.
- Alan Brandt, director, Galerie Kamer, 965 Madison Avenue, New York, N.Y.
- Paul Kantor, Paul Kantor Gallery, 348 North Camden Drive, Beverly Hills, Calif.
- Mrs. Tirca Karlis, Tirca Karlis Gallery, 1 Bank Street, New York, N.Y.
- Rudolf G. Wunderlich, director, Kennedy Galleries, Inc., 13 East 58th Street, New York, N.Y.
- Dong Kingman, 21 West 58th Street, New York, N.Y.
- Mr. J. J. Klejman, Klejman Gallery, 982 Madison Avenue, New York, N.Y.
- Mr. E. Coe Kerr, president, Mr. W. F. Davidson, executive vice-president, M. Knoedler & Co., Inc., 14 East 57th Street, New York, N.Y.
- Lionel Prejer, director, M. Knoedler & Co., 85 Rue Du Fg. St. Honore, Paris 8E, France.
- Samuel M. Kootz, Samuel M. Kootz Gallery Inc., 655 Madison Avenue, New York, N.Y.
- Jill Kornblee, Kornblee Gallery, 58 East 79th Street, New York, N.Y.
- Oscar Krasner, director, Krasner Gallery, Inc., 1061 Madison Avenue, New York, N.Y.
- Antoinette Krauschaar, Krauschaar Galleries, 1055 Madison Avenue, New York, N.Y.
- G. Blair Laing, G. Blair Laing, Ltd., 194 Bloor St. West, Toronto 5, Canada.
- Mr. Felix Landan, The Felix Landan Gallery, 702 North La Cienega, Los Angeles, Calif.
- Richard K. Larcada, Richard K. Larcada Gallery, 23 East 67th Street, New York, N.Y.
- Plinio De Martiis, director, La Tartaruga Galleria D'Arte, Piazza Del Popolo 3, Rome, Italy.
- Eva Lee, Eva Lee Gallery, Inc., 450 Great Neck Road, Great Neck, Long Island, N.Y.
- John Lefebvre, Lefebvre Gallery, 47 East 77th Street, New York, N.Y.
- Nicholas E. Brown, director, the Leicester Galleries, 4 Audley Square, London W.1, England
- Florence Lewison, Florence Lewison Gallery, 35 East 64th Street, New York, N.Y.
- Albert Loeb, Albert Loeb Gallery, 12 East 57th Street, New York, N.Y.
- Edward R. Lubin, Edward R. Lubin, Inc., 17 East 64th Street, New York, N.Y.
- Francis K. Lloyd, president, Marlborough-Gerson Gallery, Inc., 41 East 57th Street, New York, N.Y.
- Mrs. Carla Panicali, director, Marlborough Galleria d'Arte, Via Gregoriana 5, Rome, Italy.
- Pierre Matisse, Pierre Matisse Gallery Corp., 41 East 57th Street, New York, N.Y.
- Alan D. Gruskin, director, Midtown Galleries, 11 East 57th Street, New York, N.Y.
- Harold C. Milch, the Milch Galleries, 21 East 67th Street, New York, N.Y.
- Boris Mirski, Boris Mirski Gallery, 166 Newbury Street, Boston, Mass.
- Miss Lilly T. Stern, director, Molton Galley, 44 South Molton Steet, London W. 1, England.
- Gallery Moos, 169 Avenue Road, Toronto, Canada.
- Jerrold Morris, Jerrold Morris International Gallery Ltd., 130 Bloor W., Toronto 5, Canada.
- Lee Nordness, Lee Nordness Gallery, 831 Madison Avenue, New York, N.Y.
- Federico Quadrani, director, Galleria Odysssia, 41 East 57th Street, New York, N.Y.
- Arnold B. Glimcher, director, the Pace Gallery, 9 West 57th Street, New York, N.Y.
- Betty Parsons, president Jock Truman, director, Betty Parsons Gallery, 24 West 57th Street, New York, N.Y.
- Mr. Louis Pollack, director, Peridot Gallery, 820 Madison Avenue, New York, N.Y.
- Mr. Klaus Perls, Perls Gallery, 1016 Madison Avenue, New York, N.Y.
- Mr. Frank Perls, Frank Perls Gallery, 32 Avenue Matignon, Paris 8, France.

- Elinor F. Poindexter, Poindexter Gallery, 21 West 56th Street, New York, N.Y.
 Bernard Rabin, Rabin & Krueger, 47 Halsey Street, Newark, N.J.
 Steven Radich, the Steven Radich Gallery, 818 Madison Avenue, New York, N.Y.
 John Clancy, director, Frank Rehn Gallery, 36 East 61st Street, New York, N.Y.
 Graham H. Reid, the Reid Gallery, Ltd., Mousehill House, Sandy Lane, Milford, Surrey, England.
 L. J. Wildridge, director, Roberts Gallery, Ltd., 641 Yonge Street, Toronto 5, Canada.
 Esther Robles, Esther Robles Gallery, 665 North La Cienega Boulevard, Los Angeles, Calif.
 Madam C. Goldscheider, conservateur, Musee Rodin, 77 Rue de Varenne, Paris VII, France.
 Michael Leon Freilich, director, Roko Gallery, 867 Madison Avenue, New York, N.Y.
 Alexandre Rosenberg, director, Paul Rosenberg & Co., 20 East 79th Street, New York, N.Y.
 Mrs. Eleanor Saidenberg, Saidenberg Gallery Inc., 1037 Madison Avenue, New York, N.Y.
 Harry Salpeter, Salpeter Gallery, 42 East 57th Street, New York, N.Y.
 Sarah H. Kendall, director, Bertha Schaefer Gallery, 41 East 57th Street, New York, N.Y.
 Theodore Schempp, Ted Schempp Gallery, 50 East 58th Street, N.Y., 7 Rue Gauguet, Paris 14, France.
 Robert Schoelkopf, Robert Schoelkopf Gallery, 825 Madison Avenue, New York, N.Y.
 Dr. J. Schoneman, Schoneman Galleries, Inc., 64 East 57th Street, New York, N.Y.
 Jane Wade, Jane Wade Gallery, 45 East 66th Street, New York, N.Y.
 Maynard Walker, Maynard Walker Gallery, 117 East 57th Street, New York N.Y.
 Mrs. Gertrude Weyhe Dennis, Corporation Secretary, Weyhe Gallery, 794 Lexington Avenue, New York, N.Y.
 John Marin, Jr., director, Willard Gallery Inc., 29 East 72nd Street, New York N.Y.
 A. Robert Whyte, director, World House Galleries, 98 Madison Avenue, New York, N.Y.
 Virginia M. Zabriskie, Zabriskie Gallery, 36 East 61st Street, New York, N.Y.
 Miss Dorothea Denslow, director, Sculpture Center, 167 East 69th Street, New York, N.Y.
 Herbert A. Kende, director, Selected Artists Galleries, Inc., 903 Madison Avenue, New York, N.Y.
 Mr. Abris Silberman, E. & A. Silberman Galleries, Inc., 1014 Madison Avenue, New York, N.Y.
 Charles E. Slatkin, Charles E. Slatkin, Inc., Galleries, 115 East and 92nd Street, New York, N.Y.
 Robert S. Sloan, Robert S. Sloan Gallery, 1078 Madison Avenue, New York, N.Y.
 Mrs. Eleanor Ward, director, Stable Gallery, 33 East 74th Street, New York, N.Y.

The raw figures submitted by the appraisers totaled \$22,268,240. Since over 1 year had elapsed during the period of this appraisal, it was necessary on professional advice to add an adjustment of 10 percent to reflect the rise in the market. In addition, art objects appraised in the amount of approximately \$536,000 were added to the original inventory. The resulting total as used in the hearings and budget justifications was \$25 million.

Mrs. HANSEN. Do any of the employees involved in the Hirshhorn Museum perform duties other than those directly related and intimately associated with official Smithsonian activities.

Mr. BRADLEY. No, ma'am.

EXPENDITURES FOR PREPARING COLLECTION

Mrs. HANSEN. As you are well aware, there has been considerable discussion regarding the construction of the Hirshhorn Museum. In-

cluding the 1971 appropriation, what is the total funding you have applied to date in connection with the work of getting the collection ready for exhibit?

Please insert the information in the record.
(The information follows:)

EXPENDITURES FOR PREPARING HIRSHHORN COLLECTION

For conservation, framing, and photographing the collection in preparing for exhibition, the following amounts of appropriated funds have been spent.

Fiscal year:		Fiscal year—continued	
1968 -----	\$0	1970 -----	\$131, 838
1969 -----	24, 301	1971 -----	156, 000

POTENTIAL LOSS IF AGREEMENT TERMS CHANGED

Mrs. HANSEN. You are requesting an additional \$1,017,000 for 1972. If future action, legislative or otherwise, should result in the terms of the agreement being materially changed, what would be your situation as far as the investment of these funds in preparing the collection is concerned?

Mr. BRADLEY. Madam Chairman, I may have to go off the record in order to protect the interests of the United States. The first thing we start with is that we have \$2.5 million work in place on the site. This is a part of the \$16 million total construction cost. We have \$2.5 million built in. It is more than the foundation. We are above street level now. Work is going on pursuant to a number of acts of Congress: the authorization act, the appropriation for planning, the act that gave us the site, and the act that gave us construction funds and contract authorization to enter into the entire \$14,197,000 obligation for construction.

We have had no congressional legislative directive to stop work. The first thing that would be of concern to us would be the amount of work and materials on the site right now. No pun is intended, but that is a concrete fact.

The next thing that we would be concerned with would be the agreement between the Smithsonian and Mr. Hirshhorn which certainly—and I had better be cautious and not say in breach—but would certainly have to be examined. We must do this pursuant to the applicable acts of Congress. I don't know the full consequences of not being able to follow through with construction. Certainly it would have to be examined in a legal review. We have to consider the rights of the contractor. We have the rights of the General Services Administration, the Smithsonian, Mr. Hirshhorn, and the Hirshhorn Foundation. We are agents really for the United States. We are proceeding properly and legally, and I might say with considerable caution.

ALTERNATIVE PLANS FOR THE SCULPTURE GARDEN

Responsive to your earlier good advice, we have been looking hard at the sculpture garden, and we have conducted studies with the architect to see what are the alternatives. We have presented a study to the National Capital Planning Commission. It is under consideration this very moment. There is the possibility of a sculpture garden that would

permit the development to be revised so as not to cross the Mall with a sunken garden. At present, this is planned to occupy three panels of the Mall from Jefferson Drive over to Madison Drive. That is three blocks.

The one that we now have under study would go only from Jefferson Drive to Adams Drive which is within the limits of what is called the tree panel, so that the garden would not be visible along the longitudinal vista of the Mall. It would be a sunken garden, partially screened by the tree plantings. Everyone that we have talked to so far seems to think that this is an attractive solution.

Mrs. HANSEN. When Mr. Walton, chairman of the Commission of Fine Arts, testified before the committee we asked him specifically about the sculpture garden and he gave some very interesting testimony:

Mrs. HANSEN. I would like to have you comment on that proposal.

Mr. WALTON. Well, all the cards should be on the table quickly. (A) The commission of which I am chairman has approved this project. (B) It was designed by a member of the Commission of Fine Arts. (C) I am going to express my frank opinion, anyway.

I do like the central design of the circular building on stilts. I do hope that maybe Congress will get up on its hind legs and prevent the creation of that ditch across the Mall. I don't think it is a proper way to display sculpture or use the Mall, frankly. I have just stuck a deep dagger into the back of one of my dear colleagues by saying this. If he reads the record I hope he will forgive me.

Mrs. HANSEN. There have been several practical questions raised, relative to this particular setting. Considering the sunken sculpture garden and the heat, it will not be very comfortable. This is not a city of cool summers.

Mr. WALTON. No.

Mrs. HANSEN. Mr. Walton continues.

Mr. WALTON. The longer I study it, the more I feel that the flat surface of the Mall should be inviolate. I really do. . . . A couple of people proposed other solutions of putting something along the side that wouldn't cut across. There are many other ways.

Mrs. HANSEN. Is it possible to secure a review of the design?

Mr. WALTON. Congress can achieve anything it wants to. I am serious.

Dr. RIPLEY. We are happy to say, Madam Chairman, that we have I think, effected a very splendid compromise in this connection by this redesign by the same architect, which will be within the tree line, and does not in any way violate the grassy vista strip. This is pleasing or appears to be pleasing to virtually everybody who has looked at it so far, and we are very happy to have the plan here today. You see in this sketch the grass where your left hand is, that is the grassy vista strip. We see the space between Independence Avenue, which lies just to the south of the museum, and then the first drive, Jefferson Drive, which is part of the Mall. That is one of the east-west drives which passes by the Smithsonian and the Arts and Industries Building, as you know. Adjoining is where the Air and Space Museum is projected.

Within this area [indicating] are the tree panels bordering the open grassy space, which are on either side of the vista panel of the Mall. There is a great line of trees. This is the area in which we could then enclose the sculpture garden without any change in the grassy vista strip of the Mall.

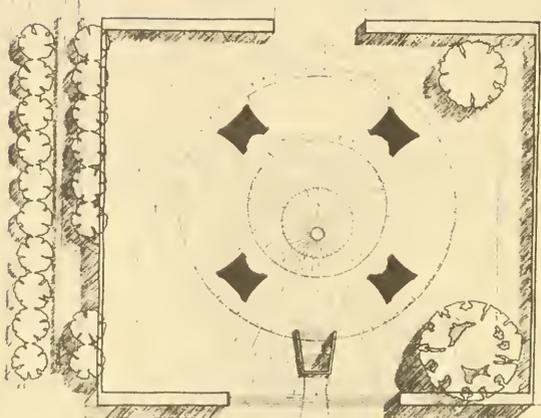
(The sketch follows:)

DEPT. OF TRANSPORTATION

S
E
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INDEPENDENCE AVENUE S.W.

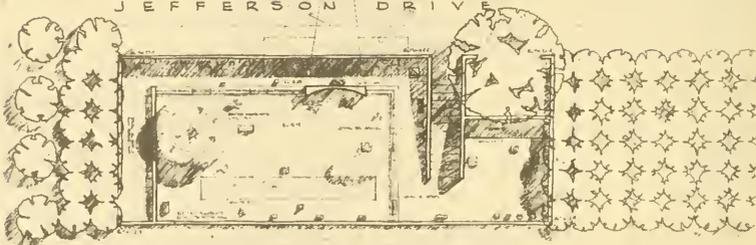
SEVENTH STREET



ARTS & INDUSTRIES MUSEUM
SMITHSONIAN INSTITUTION

JEFFERSON DRIVE

NORTH
↓



ADAMS DRIVE

1. The building is to be constructed of concrete and steel. The walls are to be 12 inches thick. The floors are to be 4 inches thick. The roof is to be flat. The building is to be finished with a light-colored material. The building is to be painted in a light color. The building is to be finished with a light-colored material. The building is to be painted in a light color.

CENTER MALL VIEW PANEL

WASHINGTON DR.

2. The building is to be constructed of concrete and steel. The walls are to be 12 inches thick. The floors are to be 4 inches thick. The roof is to be flat. The building is to be finished with a light-colored material. The building is to be painted in a light color.

Mrs. HANSEN. Do you expect approval of this plan by the National Capital Planning Commission relatively quickly?

Dr. RIPLEY. There is a May meeting—

Mr. BRADLEY. May 6.

Dr. RIPLEY. Which they have called for the complete review of the design, so as to get the picture. We come before the Fine Arts Commission also, this month.

Mrs. HANSEN. Is the new design agreeable to Mr. Hirshhorn?

Dr. RIPLEY. Yes. It has even been praised editorially by the Washington Post and the Evening Star, which I would like to place in the record.

(Information follows:)

[From the Washington Post, March 22, 1971]

TRENCH OR GARDEN?

We admit to a sense of relief on reading last week that Dr. S. Dillon Ripley, the Secretary of the Smithsonian, is asking all concerned to reconsider the proposed and approved location of the Hirshhorn Museum Sculpture Gardens. Several members of the National Capital Planning Commission and of Congress were never quite happy with architect Gordon Bunshaft's idea of sinking the Hirshhorn sculpture collection in a sort of trench that was to cross the Mall, connecting the Hirshhorn Museum with the proposed National Sculpture Garden in front of the Archives Building. And we share a general uneasiness that 3 years ago, in the excitement of obtaining the marvelous Hirshhorn collection for Washington, Bunshaft's cross-axis idea was perhaps insufficiently discussed and too hastily approved and that many concerned citizens were thus confront with a *fait accompli*. What complicated the issue was that this uneasiness has been unfairly exploited on Capitol Hill and in the community by some people who surely don't give a hoot for sculpture, gardens, or the Mall, but who, for reasons of their own, indulged in imbecile attacks on Mr. Joseph Hirshhorn and his generous gift. Mr. Hirshhorn may not be a perfect angel, but neither were the Medici.

There is a genuine issue here. The green carpet the Macmillan Commission rolled down from the Capitol to the Lincoln Memorial and the river may not be sacred, but it should remain inviolate as a symbol of permanent splendor in a much too fast changing and not always splendid Capital. We want more life, more attractions, more amenities on the Mall and we are deeply appreciative of the prospect of seeing superb, modern works of sculpture there. But we just as soon see it displayed alongside the Hirshhorn Museum, parallel to the green-sward, rather than furrowed across it. We are grateful to Dr. Ripley for initiating this "absolutely splendid alternative," as he called it. And we trust Mr. Bunshaft to make it just as noble and imposing as he intended his trench to be.

[From the Washington Star, March 30, 1971]

HIRSHHORN HARMONY

S. Dillon Ripley, Secretary of the Smithsonian Institution, has come up with a solution to the controversy that has somewhat murkily swirled between the Smithsonian and the Congress over the new Joseph H. Hirshhorn Museum.

Representative Frank Thompson introduced a bill recently to forbid the proposed sunken sculpture garden, an adjunct of the museum which was designed to stretch across the Mall and struck some observers in Congress and out as a "trench" violating the sweep of the Mall from the Capitol to the Lincoln Memorial.

The landscape argument was unfortunately obscured by an array of irrelevant attacks on Hirshhorn and his gift of art to the Nation, a gift actively solicited by the Johnson administration and accepted, with proper gratitude, by Congress.

On February 24, The Star's Benjamin Forgey made a penetrating analysis of the landscape problem. He concluded that the Thompson objection had little real merit, since the Mall is already interrupted by no fewer than six streets. Forgey went on, however, to show that the "trench" would in fact be a very poor place to look at sculpture, hot and airless in summer, exposed to rain and snow in winter. Forgey then sketched out a plan whereby nothing would be lost, congressional opposition placated, and the circumstances of looking at the sculpture vastly improved by making the sunken garden parallel with Independence Avenue, alongside and partly under the museum.

This is essentially the plan that Dr. Ripley has now announced as an "absolutely splendid alternative." It is indeed. We congratulate the architect, Gordon Bunshaft, for his openness to suggestion, and urge the adoption of the new plan by the Fine Arts Commission and the National Capital Planning Commission.

PROPOSED HIRSHHORN LEGISLATION

Mrs. HANSEN. What is the substance of any legislation concerning the Hirshhorn Museum that is now proposed?

Mr. BRADLEY. There are two bills. The one in the Senate is more far reaching than the one in the House. Senator Allen introduced a Senate joint resolution that would have the effect, if enacted, of stopping the project and calling for redesign of the museum. It would stop both the garden and the museum proper. It would call for redesign of the museum. It is silent on what to do about the garden, but it would stop the garden, and the museum.

Mrs. HANSEN. Then the objective of this legislation is to change the design of the building?

Mr. BRADLEY. It goes further, Mrs. Hansen, in that it would terminate the agreement. It would declare null and void the agreement between Mr. Hirshhorn and the Smithsonian, so I must say it goes beyond the building.

LIABILITY IF PROJECT TERMINATED

Mrs. HANSEN. If this legislation were enacted, what becomes the liability of the U.S. Government?

Mr. BRADLEY. We have asked the General Services Administration that very difficult question. I suppose we will have quite a few conferences and we must make assumptions. For example, you have to put a time frame on it. Does the legislation mean to stop the project or does it mean to defer work on the project, and if so for 1 month, 3 months, or 6 months? I have spent long evenings trying to figure out how to answer this very question.

Mrs. HANSEN. Your contractor is at work right now?

Mr. BRADLEY. He is 17 percent completed, with \$2.5 million in place.

Mrs. HANSEN. What is the essence of the House bill?

Mr. BRADLEY. The House bill is directed to the sculpture garden.

Mrs. HANSEN. Who introduced that bill?

Mr. BRADLEY. Frank Thompson's subcommittee joined in the introduction of that.

Dr. RIPLEY. Not quite the entire subcommittee.

Mr. BRADLEY. All but one or two, I believe. Mr. Nedzi and Mr. Schwengel cosponsored, but not Mr. Gray.

Dr. RIPLEY. Mr. Gray and Mr. Bingham didn't sign.

Mr. BRADLEY. They did not join in. Anyway, this is directed at the sculpture garden, if enacted.

Dr. RIPLEY. Only.

Mr. BRADLEY. This would stop it. In a press release, Mr. Thompson said he was entirely focusing his criticism on the crossing of the Mall with the sculpture garden. It does not relate to anything else.

Dr. RIPLEY. That bill has been referred to the Public Works Committee and we have shown Mr. Thompson this redesign.

Mrs. HANSEN. What does Congressman Thompson think about the new design?

Mr. RIPLEY. He thought it was splendid.

Mrs. HANSEN. So you have one bill that would completely stop the construction of the museum until it was redesigned. Do you have enough funds to accomplish the redesign?

Mr. BRADLEY. No, ma'am.

Mrs. HANSEN. I am correct in assuming that this would absolutely abrogate all contract obligations with Mr. Hirshhorn, unless he agreed to the redesign. What would the redesign cost?

Mr. BRADLEY. Madam Chairman, the record shows that escalation ran as high as 20 percent in the 1968 calendar year. It is projected to rise about 12 to 14 percent in the year we are now in. We face the very strong probability of extreme escalation of costs compared to the contract that we got into in December of 1969.

SENATE JOINT RESOLUTION

Dr. RIPLEY. Madam Chairman, I might point out that the joint resolution introduced in the Senate has a section saying that the agreement between Mr. Hirshhorn and ourselves shall be declared null and void.

Mrs. HANSEN. Who introduced this legislation?

Dr. RIPLEY. Senator Allen from Alabama. Section 2 of the recommendations of the resolution recommends that the agreement entered into between Mr. Hirshhorn and the Smithsonian be declared null and void and contrary to public policy.

Mrs. HANSEN. Why was this legislation introduced?

Mr. BRADLEY. I suppose, Madam Chairman, the motive as far as we know could only be derived from a recital of the whereas clauses, of which there are a little more than a half dozen.

Dr. RIPLEY. This refers to the doctrine of mortmain, the dead hand. (Discussion off the record.)

Dr. RIPLEY. All the legislation involving our archival functions which are authorized by the Government would be declared null and void under this doctrine.

Mrs. HANSEN. Would this also effect the archival functions of the National Park Service?

Dr. RIPLEY. The Park Service would also be. The preservation of our great monuments would also be involved.

Mrs. HANSEN. I will be interested in the opinion of the Justice Department concerning this matter.

Dr. RIPLEY. If we can produce the letter we will be glad to send it to you.

BUDGET REQUEST FOR NONRECURRING EQUIPMENT

Mrs. HANSEN. In your justifications you have a list of your operating costs and your nonrecurring costs. Are all of the non-recurring items you have listed for the Hirshhorn Museum?

Mr. BRADLEY. Yes, Madam Chairman. If I could just briefly volunteer a little background on that.

Mrs. HANSEN. Please do.

Mr. BRADLEY. In other projects we have sought for a turn-key construction appropriation which included furnishings. Last summer the General Accounting Office opined in their report that equipment or furnishings or furniture not affixed, screwed down, or built in, should not be included in the construction appropriation. We disputed that, and so far as we know, there has been no agreement on it. But their endeavor was to keep such items out of the construction account. We thought that was wrong, that the building should be complete when it is ready for occupancy, and so we contested before the Thompson committee.

In the meantime, however, what makes it all academic is the escalation of costs. The escalation of construction costs has engulfed us.

Mr. RIPLEY. As always.

Mr. BRADLEY. At any rate we had \$13.8 million to \$14 million estimated in September of 1966 as the total cost. Then we took another look at it and we still had a half million dollars in our construction estimate for furniture and equipment in February of 1967. However, when we came out for bids in May of 1969, we got a \$17.6 million bid, \$3.6 million more than we were looking for. That was when the crunch came. We had to trim down the building, particularly underground, and we did without the cafeteria, and reduced on the finish costs. We were able to go back for bids in December of 1969 when it came in at \$13.8 million down from \$17.6 million. We took out almost \$4 million, but the cost rise, of course, had taken away the amount that had been in the original estimate for furnishings and equipment.

DONATION OF \$1 MILLION BY MR. HIRSHHORN FOR CONSTRUCTION

We still have a contingency item which prudence demands that we have in order to complete the building if we run into construction difficulties, claims, and anything else. But we did have an estimated \$800,000 deficit. We went to Mr. Hirshhorn and asked him if he would please donate \$1 million. The way this was arranged was, and it has been, I am afraid, rather unfairly interpreted that Mr. Hirshhorn had agreed in the 1966 agreement that he would give \$1 million when the building was completed for the purchase of art.

Dr. RIPLEY. For endowment for purchase.

Mr. BRADLEY. We needed the \$1 million for construction or there wouldn't be any occasion to have a collection. We needed the \$1 million desperately. He agreed to make that \$1 million available for construction with the understanding that he would, from his collection which he continues to add to, give us at least \$1 million in art works at the time of completion of construction. This is additional to the original 1966 gift. In that way we were able to go into construction with a \$16 million total cost amount in lieu of a \$15 million amount.

Dr. RIPLEY. In effect he is adding another \$1 million in terms of works of art to the original agreement.

Mrs. HANSEN. I suppose you couldn't have run into any more difficulties in any project. Please insert in the record the letter you received from Mr. Hirshhorn concerning the additional \$1 million.

(The information follows:)

THE JOSEPH H. HIRSHHORN FOUNDATION, INC.
New York, March 23, 1970.

HON. S. DILLON RIPLEY,
Secretary, Smithsonian Institution,
Washington, D.C.

DEAR MR. SECRETARY: We refer to your letter of March 9, 1970 in which you request, on behalf of The Smithsonian Institution, that the Agreement between it, Joseph H. Hirshhorn and The Joseph H. Hirshhorn Foundation, Inc., dated May 17, 1966, be modified so as to permit the \$1,000,000 cash gift which was to be used as an art acquisition fund to be used instead, to the extent necessary, to meet costs of completing the building.

The proposal as set forth in your letter of March 9, 1970 is acceptable to the undersigned; and the above-mentioned Agreement of May 17, 1966 shall be deemed amended accordingly.

Under the agreed amendment to the basic agreement of May 17, 1966, the Joseph H. Hirshhorn Museum and Sculpture Garden will no longer begin its operations with an art acquisition fund of \$1 million. The purpose of that fund was to augment the collection as described in the inventory of works of art which was set forth in the agreement of May 17, 1966. It is our hope that this purpose may be served by the contribution of additional works of art and to that end we wish to inform you of our intention to transfer to the Joseph H. Hirshhorn Museum and Sculpture Garden, upon its construction and completion, additional works of art having a total value of approximately \$1 million.

We appreciate that the institution has been doing its utmost to meet the letter and spirit of our agreement and we are pleased to cooperate in a kindred manner to bring the project to fruition.

Sincerely yours,

JOSEPH H. HIRSHHORN.

(Discussion off the record.)

CLARK MOLLENHOFF ARTICLE

Mrs. HANSEN. Please insert in the record an article by Clark Mollenhoff concerning the Hirshhorn Museum.

Also insert in the record at this point a letter to Mr. Mollenhoff from Mr. Kunzig.

Dr. RIPLEY. May we have permission from Mr. Kunzig, because I hadn't asked him.

Mrs. HANSEN. Would you please because I think this is important and pertinent to the subject.

Dr. RIPLEY. I am sure he will give it, but I would like to get his permission.

(The information follows:)

WATCH ON WASHINGTON

(By Clark Mollenhoff)

Washington, D.C.—The government's dealing with the Piracci Construction Co. is a classic case of how far the General Service Administration (GSA) can bend the rules if it wants to do business with a firm involved in violation of the law.

Ordinarily, a firm can be suspended from doing business with the government for up to 18 months if fraud is suspected. If found guilty, the firm can be "debarred" from dealing with the government for up to 3 years.

The basic thesis is that firms and individuals who cheat the government through frauds and payoffs shouldn't be regarded as "responsible bidders."

However, Robert Kunzig, the administrator of GSA, has made it possible for the Piracci Co., of Baltimore, Md., to continue to do business with the government despite repeated law violations. The GSA has minimized the fact that Dominic A. Piracci, Sr., the sole owner of the construction firm, has a record of fraud convictions and involvements in fraud.

Piracci has simply stepped out of his role as president and director, and has turned the management over to some other business men "for a period time which will extend 6 months beyond the completion of The Hirshhorn Museum and Sculpture Gardens."

Piracci's firm holds the \$15 million general contract for the controversial Hirshhorn project in Washington, D.C. and is to receive more than \$1 million in profit.

Looking at the law and the background of Piracci, there would have been ample reason to debar the Piracci firm from ever bidding on the Hirshhorn project. In fact, the counsel for the GSA Region Three office had recommended debarment of the Piracci firm. The law authorizes suspension of "all known affiliates of a concern or individual" who has been convicted.

The law further states:

"The criminal, fraudulent or seriously improper conduct of one individual, may be imputed when the impropriety involved was performed within the course of his official duty, or with the knowledge or approval of the business firm."

Not only has Piracci been permitted to do business with the government, but in the face of a record of proven bribery, perjury, and falsification of records, Piracci has been permitted to increase his bid on the Hirshhorn project by \$754,375. The GSA accepted Piracci's explanation that a "clerical error" had resulted in a lower bid than he intended. Piracci was still the low bidder, but by a narrow margin.

The GSA informed Representative Joel Broyhill (Rep., Va.) that it has "insufficient justification" for debarring Piracci's firm.

Here is the Piracci record.

In 1954, Piracci was convicted of fraud and obstructing justice in connection with an off-street parking scandal in Baltimore. Piracci paid a \$4,000 fine on that conviction and was later pardoned by former Governor Theodore R. McKeldin.

In 1969, Piracci was convicted in the U.S. District Court in Baltimore on charges of having made a payoff to Guido Iozzi, Jr., president of the Baltimore Building Trades Council, AFL-CIO. Piracci was sentenced to pay a \$5,000 fine and to serve 183 days in Federal prison.

Another indictment has been returned against Joseph P. Doherty, executive assistant to the assistant postmaster general in charge of post office bureau facilities. Piracci was not a defendant in this case, but the indictment charged that Doherty took large sums of cash from Piracci to provide influence for Piracci Construction Co. in dealing with the Post Office Department.

Doherty entered a "no contest" plea to the ninth count of the indictment on "conflicts of interest" that charged he "did knowingly act as agent" of Piracci and the firm "in connection with applications, contracts, and other particular matters involving the leasing of various post office facilities." Action on the other counts in the indictment against Doherty is still pending.

In dealing with Piracci's record, the GSA, in its letter to Broyhill, dismissed the 1954 conviction as being far enough back that "it cannot ordinarily be used to support a current debarment."

The GSA also noted the federal judge did not impose the maximum prison term and fine on the 1969 conviction and that "the 6 months sentence presumably recognized the fact that Piracci had cooperated with the government."

But, the GSA overlooked the comments of United States District Judge Alexander Harvey II, who said as he sentenced Piracci:

"You lied to the FBI, the United States attorney and the Federal grand jury: A man who has a prior criminal involvement and who has lied * * * can hardly expect leniency from the court."

The GSA also told Broyhill, "Finally, to the best of our knowledge, it has not been legally established whether Mr. Piracci or the firm made any illegal payments to a former employee of the Post Office Department."

Apparently GSA did not ask the prosecutor who could have told them Piracci

admitted making payments of at least \$3,000 to Doherty and a total payoff of \$20,000 was discussed.

A final argument on behalf of doing business with Piracci Construction Company was that Piracci had "resigned both as president and a member of the firm's board of directors, the fact that he is divorced from all control over the firm; and the fact that the firm itself has satisfactorily performed several construction contracts for GSA."

The GSA and other government agencies aren't often so tolerant of fraud, or so understanding of the lines between control of a firm and the actual ownership of the firm. Apparently, Piracci is receiving some unusual understanding at a high level in Washington.

Piracci's penalty for his problems with the previous convictions will be that he won't be permitted to pick up the profits on the Hirshhorn project until at least 6 months after it is completed.

UNITED STATES OF AMERICA,
GENERAL SERVICES ADMINISTRATION,
Washington, D.C., March 30, 1971.

CLARK MOLLENHOFF,
Chief, Washington Bureau, Des Moines Register and Tribune, National Press Building, Room 952, Washington, D.C.

DEAR CLARK: I am most distressed to learn that you have written a syndicated article concerning the award by the General Services Administration (GSA) of the contract to the Piracci Construction Company. The article, at best, is undeservedly critical of GSA and, at worst, implies a conscious twisting of procurement laws and regulations to the benefit of a particular company.

Clark, you are well aware of the circumstances surrounding the Piracci award for the Hirshhorn Museum and Sculpture Garden based on various discussions and reports which we furnished you at your request when you were at the White House. I find your article distressing because of its omissions—omissions which would present the entire story and show that the award was correct and required under the law.

Nowhere in the article do you mention that the Federal Procurement Regulations, which have the force and effect of law, provide specifically for an increase in a low bid by virtue of a proven mistake.

Nowhere in your article do you state that the increase in the bid of Piracci Construction Company was authorized by the Comptroller General of the United States, as required by these same regulations, and of which you were well aware.

Nowhere do you state that the eligibility of the Piracci Construction Company to receive awards of Government contracts had been upheld by the Comptroller General of the United States. Then and then only did GSA award the contract. Of this, too, you were well aware.

Nowhere in your article do you state that, under the applicable law and regulations, GSA had no basis on which not to make an award to the Piracci Construction Company, and no authority to award at a price less than their bid price as corrected. This, too, was discussed with you when you were at the White House.

In other words, Clark, a correct award under the law was made to the Piracci Construction Company and was approved in every facet by the Comptroller General, the watchdog of the Federal Government. The GSA could not have acted otherwise without violating the law. An award to a higher bidder, besides being illegal, would have cost the taxpayers almost 2 million dollars.

I'm very disappointed, Clark.

Sincerely,

ROBERT L. KUNZIG,
Administrator.

DETAILS OF CONSTRUCTION HANDLED BY GSA

Dr. RIPLEY. This is the letter of GSA, not ours.

Mrs. HANSEN. Does the GSA handle all details of your construction contracts?

Dr. RIPLEY. This is their contract.

Mr. BRADLEY. Yes.

Mrs. HANSEN. The moment that this committee recommended the appropriation for the Hirshhorn Museum and Congress appropriated the funds the entire details of the transaction relative to construction were handled by GSA.

Mr. BRADLEY. Correct, including a review by the General Accounting Office.

(Discussion off the record.)

NAMING OF THE MUSEUM

Mrs. HANSEN. Dr. Ripley, would you state for the record the comparability of the Hirshhorn Museum's naming in comparison with other galleries such as the Freer Gallery and the Phillips Gallery. These facilities are not memorial shrines but merely the names of the galleries. Is this correct?

Dr. RIPLEY. Madam Chairman, there are two concepts involved here. One is a well known and worldwide concept that a building which houses an art collection may have the name of the donor. This is not a memorial in the sense that a memorial to a national hero is. Within the area of the Smithsonian Park, deeded to the Smithsonian by the Congress in 1846, there are buildings named after the donor, such as the Smithsonian Building named for Mr. Smithson and the Freer Gallery of Art named for Mr. Freer. These buildings are in no sense comparable to national memorials for national heroes.

Mrs. HANSEN. The Hirshhorn Museum is not a national shrine?

Dr. RIPLEY. It is not a shrine and such buildings are never interpreted as being shrines. The equivalents in any large city, such as the Corcoran Gallery of Art here, the Guggenheim and the Whitney Gallery in New York, are found all over the land. In no sense does the public in its wisdom deduce that these are memorials to national heroes. Seattle has a named gallery. There are many of these in major cities. The anomaly appears to be in the minds of those who have attacked this concept. That the Mall is a sacred sward and it is reserved for heroes. But the fact remains that galleries exist by acts of Congress, such as the Mellon Gallery, known as the National Gallery of Art.

Under the legislation at the time, it was recommended by some Members of Congress to be called the Mellon Gallery. The Freer Gallery of Art and the Smithsonian Building are other examples of the fact that already, on the Mall, under legislation so incorporated after months of debate, there are buildings which are for public purposes with people's names attached to them.

Mrs. HANSEN. Dr. Ripley have you had any other charges made about the inappropriateness of the Hirshhorn Museum?

Dr. RIPLEY. There is another statement, Madam Chairman. That is, that this decision was originally arrived at hastily by the Congress.

It is worth pointing out, I think, the legislation which resulted from the request which came from the President of the time to accept this gift. The legislation involved the declassification, as it were, of that area from the Armed Forces Institute of Pathology, the taking down of that building, and appropriation of funds to relocate the Armed Forces Institute at Walter Reed Medical Center. All of this had to be

undertaken by the Smithsonian, working with the congressional committees. Then, of course, hearings were held before the Public Works Committee and Rules Committee in the Senate, the Public Works Committee in the House, which consumed 5 months. The committees went into all of the characteristics of the agreement. Then there is the subsequent appropriation process which is still going on every year.

Mrs. HANSEN. I think you will remember when the authorization for the Hirshhorn Museum was under consideration, a large number of distinguished Members spoke on that occasion on behalf of the Hirshhorn Museum. Mr. Bradley, please insert any relative comments about the Hirshhorn Museum in the record.

Mr. BRADLEY. I appreciate the opportunity to do so.
(Information follows:)

[From the Congressional Record, Oct. 19, 1966]

JOSEPH H. HIRSHHORN MUSEUM AND SCULPTURE GARDEN

(Extension of remarks of Hon. Frank Thompson, Jr., of New Jersey, in the House of Representatives, Monday, Oct. 17, 1966)

Mr. THOMPSON of New Jersey. Mr. Speaker, I support S. 3389, to authorize the construction of the Hirshhorn Museum, and make meaningful the great gift of 1,500 pieces of sculpture and 4,000 paintings and drawings, valued conservatively at \$25 million, being donated by Mr. Joseph Hirshhorn.

It will implement and make meaningful the dedication to culture on the part of President and Mrs. Johnson, without which this great art treasure might very well have gone to a government other than that of the United States.

The enactment of this legislation gives to the United States, in its Capital City, a complex of cultural facilities and beautiful park on the Mall that will rival, if not surpass, the great Paris complex of the Louvre, the Carousel, and the Tuileries.

When the Hirshhorn Gallery and Sculpture Garden is built, the Mall area will be one of the great art centers of the world, if not the very greatest. This splendid collection will fully complement the great collection housed in the National Gallery of Art and the equally great collection of oriental art and "Whitleriana" in the Freer Gallery.

On a north-south axis—for the development of the Mall and the proposed location of this new gallery are both coordinated with the plans of the Pennsylvania Avenue Commission—the Hirshhorn collection will fully complement the National Portrait Gallery and the National Collection of Fine Arts, to be housed in the old Patent Office Building. I had something to do with preserving the Patent Office Building for these purposes, and I find that the creation of separate facilities for the Hirshhorn collection fully complements my earlier interest.

Now envisage the plans of the Park Service for the Mall; underground parking; underground traffic; landscaping. Add to that the other existing and future technical and natural history galleries of the Smithsonian, together with an upgraded medical museum.

We shall have a tremendous cultural complex, set in an area of exquisite beauty, with unobstructed views of the Capitol to the east and the Washington Monument to the west.

I doubt if any other world capital will have any similar complex which shall be more complete, or located in more esthetic surroundings.

This legislation stands on its own merely to provide facilities to exhibit the Hirshhorn collection. This is a great collection. It did not just come to the U.S. Government because no one else wanted it. Britain desired it. Israel desired it. Baltimore wanted it. Governor Rockefeller wanted it for the State of New York. Beverly Hills, Calif., wanted it. Zurich wanted it. Each offered to provide a building to house it.

The Government of the United States is indeed fortunate to be able to acquire this collection for all the people of the United States.

Critics from all over the world have praised the Hirshhorn collection for its completeness and its quality.

I am proud and pleased that S. 3389 has passed this body unanimously. It is a great step forward for the overall cultural development of our Nation.

[From the Congressional Record, Oct. 14, 1966]

AN ART CRITIC PRAISES THE HIRSHHORN COLLECTION

(Extension of remarks of Hon. Thomas M. Rees of California, in the House of Representatives, Friday, Oct. 14, 1966)

Mr. REES. Mr. Speaker, this House now has under consideration H.R. 15121, which would establish the Hirshhorn Museum and Sculpture Garden in Washington, D.C. This is an extremely important bill. The Hirshhorn collection is one of the great privately owned collections in the world today—a collection which has been given to our country by Mr. Joseph H. Hirshhorn of New York, and Greenwich, Conn., a gentleman I have been acquainted with for several years.

Recently there was some criticism of the collection, and I would like to read a letter from the very distinguished art critic of the Los Angeles Times, Mr. Henry J. Seldis, replying to this criticism.

TEXT OF LETTER FROM MR. SELDIS

As one who spent a great deal of time unsuccessfully persuading the powers that be in Southern California to accommodate Mr. Hirshhorn's matchless collection in this area, I might be expected to let my disappointment in this campaign stand in the way of fully endorsing the magnificent gift to the nation that Mr. Hirshhorn has offered to the Capital on the President's invitation.

On the contrary, I believe that the Hirshhorn Museum will be a major step in having the seat of our national power become the hub of cultural activities that distinguish the capital cities of other great nations. Both Americans and visitors from abroad will benefit from its establishment, which must not be allowed to be undermined by delaying congressional approval of the project as outlined in H.R. 15121 and related bills.

I am particularly surprised and dismayed by the objections brought forward by the distinguished director of the Cleveland Museum of Art, Mr. Sherman E. Lee, who seems to be the only notable figure in the American art world to oppose this much needed project.

Knowing Mr. Hirshhorn and understanding the content of his collection, I consider it to be "a truly catholic and articulated" collection assembled by a man who not only knows but loves art. Any collection, including that of The Cleveland Museum, has variations in quality. But to call Mr. Hirshhorn's gift of a living and growing collection "quixotic" smacks of ingratitude and sour grapes. Perhaps Mr. Lee is unhappy that this collection was formed by a layman rather than by a professional, but it is more likely that his protest was written before the collection's amazing inventory was published.

I think that I speak for the majority of professionals in the art world, including those who lost the chance to have the Hirshhorn Museum in their own community, when I respectfully urge . . . early passage of H.R. 15121.

THE HIRSHHORN COLLECTION

Mr. SALTONSTALL. Mr. President, the greatness that is America today is the result of the achievements and contributions of its citizens. Joseph H. Hirshhorn's gift to his countrymen of his magnificent collection of paintings and sculpture is truly a manifestation of great achievement and great generosity. He has made it clear to all that he is giving away his entire collection because he felt it should belong to all of the American people, not just to one man.

Valued at \$25 million, the collection of some 6,000 paintings and sculpture includes a vivid cross-section of man's artistic genius. It encompasses the works of Eakins, Hassam, Munch, Bellows, Sloan, Kuhn, Hopper, Soyer, Wyeth, Picasso, Beckmann, Marin, Weber, Ben Shahn, Jack Levine, Maurice Prendergast,

Dali, Francis Bacon, Larry Rivers, Eilshemius, Kline, de Kooning, Jackson Pollock, Kuniyoshi, Milton Avery, Philip Evergood, Stuart Davis, Feininger, and Hans Hofmann. The unrivaled collection of sculpture includes creations of Rodin, Bourdelle, Maillol, Manzu, Degas, Daumier, Sir Henry Moore, Lipchitz, Brancusi, Sir Jacob Epstein, Renoir, Picasso, Calder, Giacometti, Marini, Matisse, and others.

As another expression of his benefaction, Mr. Hirshhorn is giving \$1 million for the purchase of additions to the collection. The collection will be a worthy complement to the complex of museums and galleries now under the administration of the Smithsonian Institution, which has established itself as one of the Nation's centers for learning and the arts.

History will record that Joseph Hirshhorn has joined the select company of James Smithson, Charles Freer, and Andrew Mellon, whose private contributions have enriched the cultural life of the Nation and its Capital City.

James Smithson's bequest "for the increase of knowledge" led to the establishment of the Smithsonian in 1846. Early in this century, Charles Lang Freer donated to the Institution his splendid collection of oriental art that now serves as the nucleus of the Freer Gallery of Art. And in 1937 Andrew Mellon's magnificent gift, accepted by the Congress, established the National Gallery of Art.

In accepting the Hirshhorn gift for the Nation, Congress would authorize legislation which will—

Provide a site on the Mall, a gallery building, and a garden of sculpture.

Designate the gallery and garden as the Joseph H. Hirshhorn Museum and Sculpture Garden.

Pledge the faith of the United States to assist in providing funds for the operation and administration of the museum and garden.

And establish a Board of Trustees in the Smithsonian Institution to advise the Board of Regents on matters relating to the museum and gallery, and to be responsible for the acquisition and disposition of works of art.

That the Joseph H. Hirshhorn Museum and Sculpture Garden will serve as a vivid reflection of man's artistic achievements and as an inspiration for future generations is in large measure a tribute to the affection of a man for his country.

To Mr. Hirshhorn the Nation owes its deepest gratitude.

HIRSHHORN COLLECTION

(Mr. MAHON asked for and was given permission to address the House for 1 minute.)

Mr. MAHON. Mr. Speaker, the Congress has been given the opportunity to enhance the beauty of the city of Washington and to enrich the cultural life of the millions of our people who either visit Washington or live and work here. It is fitting and proper that the Capital City of the greatest Nation on earth reflect the cultural interests of its people.

Mr. Joseph H. Hirshhorn, of Greenwich, Conn., has offered his 5,600-piece art collection to the United States. This collection is generally believed to be the most valuable of its kind in private hands, and is valued at \$25 million. On Tuesday of last week, the President informed the Congress of Mr. Hirshhorn's offer and submitted legislative suggestions for the consideration of the Congress which would enable the Smithsonian Institution to accept the gift for the people of the United States.

I hope the Congress will give sympathetic consideration to the necessary provisions for accepting this generous gift. In this age when much is perishable and planned obsolescence has intruded, the timeless beauty of fine art is even more precious.

JOSEPH H. HIRSHHORN ART GIFT

(Mr. BOW asked and was given permission to address the House for 1 minute, and to revise and extend his remarks and to include extraneous matter).

Mr. BOW. Mr. Speaker, millions of Americans and our visitors from abroad are thrilled each year by the exhibits at the Smithsonian Institution. There is no

question it is one of the great museums of the world and has improved year after year.

The recent gift of Joseph H. Hirshhorn will add greatly to the enjoyment of those who visit the Nation's Capital. It is believed to be the most valuable of its kind in private hands. The 5,600-piece art collection is a unique recapitulation of the history of modern sculpture and American paintings of the 20th century.

It has a value of at least \$25 million.

It will take its place here in Washington along with the National Gallery of Art and the gifts and bequests of the late Charles Lang Freer, to provide us with one of the great art centers of the world.

I offer a digest of the agreement between Joseph H. Hirshhorn, the Hirshhorn Foundation, and the Smithsonian Institution, and a fact sheet on this subject, as follows:

DIGEST OF THE AGREEMENT BETWEEN JOSEPH H. HIRSHHORN, THE HIRSHHORN
FOUNDATION, AND THE SMITHSONIAN INSTITUTION

The principal provisions of the Hirshhorn-Smithsonian Institution agreement are as follows:

Mr. Hirshhorn and the Hirshhorn Foundation agree to transfer their collections of works of art to the Smithsonian Institution and the Smithsonian Institution agrees to accept the gifts, subject to the conditions of the agreement which are that:

Legislation will be obtained to designate the area between 7th Street, 9th Street, Independence and Madison Drive, on the Mall, as the site of the museum and sculpture garden;

The Regents will be authorized by the Congress to remove any existing structure on the site, to prepare plans, and to construct a museum and sculpture garden;

The Museum will be designated the Joseph H. Hirshhorn Museum and Sculpture Garden;

The United States will provide funds for upkeep, operation, and administration;

A Board of Trustees will be established in the Institution to advise the Regents and to have sole responsibility in matters of art for the museum and garden;

The appointment and compensation of four positions in the museum will be authorized, without regard to the Civil Service laws and the Classification Act;

Necessary appropriations to plan, construct, and operate the museum and garden will be obtained;

The museum and sculpture garden will be constructed and completed in accordance with the provisions of the agreement;

The Museum and garden will be built in accordance with plans prepared by architects jointly chosen by Mr. Hirshhorn and the Secretary;

Upon completion of the museum and garden the donor will pay one million dollars to the Institution to acquire works of art for the museum and garden, title to the collection will pass to the Institution, and the collections will be delivered to the Institution;

No works of art will be accepted by the Institution for the museum and garden without the consent of its Trustees, the Institution shall not loan its sculpture for periods longer than 360 days, and the first director of the museum shall be designated by Mr. Hirshhorn with the consent of the Secretary;

Until the Institution gets title to the collections Mr. Hirshhorn can transfer works of art to the Hirshhorn Foundation and he and the Foundation may add to the collections;

If the Congress fails to enact the necessary legislation by ten days after the close of the 90th Congress, or if the museum and garden have not been constructed within five years after such legislation has been passed, the agreement will be void and the proposed gifts will not take effect; and

That the agreement will be binding on the heirs, executors, and administrators of Mr. Hirshhorn.

LOCATION—DEPARTMENT OF DEFENSE—SMITHSONIAN INSTITUTION

The old red brick building at 701 Independence Avenue, Southwest, housing the Medical Museum of the Armed Forces Institute of Pathology will be removed to make way for a new cultural development on the Mall. The site would

be transferred to the Smithsonian Institution under proposed legislation to be submitted to the Congress.

Public exhibits of the Medical Museum will be relocated in space provided by the Smithsonian in its adjacent Arts and Industries Building and will continue to be supervised by the Armed Forces Institute of Pathology.

Founded during the Civil War for the purpose of studying the effects of wounds and diseases encountered on the battlefield, the Medical Museum grew into the Armed Forces Institute of Pathology in 1949, whose mission today encompasses the entire field of pathology.

The museum exhibits have long been an attraction to tourists visiting Washington, as well as to the residents of the area and to many school groups. In recent years the number of visitors to the museum has approached one million annually.

In 1886, the Secretary of the Smithsonian, with the Secretary of War and the Architect of the Capitol, was a member of the group which chose the site for the then new medical museum building. Over the years there have been many instances of exchange of materials and ideas.

The medical museum building, known as the AFIP Annex, was included in a list of historic landmarks last year by the Secretary of the Interior. In addition, the Annex is occupied by scientists and technologists of the AFIP other than those associated with the Medical Museum. Among them are a number of pathologists who are concerned with Geographic Pathology, the study of diseases on an international level. These consist of the so-called "Tropical Diseases" and many of the medical problems which face our military forces overseas. One of the most important and timely is the form of malaria occurring in Vietnam and affecting our troops today.

Other scientists are studying the medical problems of the middle and inner ear, subjects of great concern in the exploration of outer space and undersea areas. Still others are concerned with legal medicine and the effects of injuries including those related to accidents as well as those associated with war wounds.

In anticipation of the need to relocate these activities, the Department of Defense is engaged in arrangements to furnish them alternate quarters adequate for their needs. A number of potential sites have been selected for consideration as to suitability.

JOSEPH H. HIRSHHORN ART GIFT

(Mr. KIRWAN asked and was given permission to address the House for 1 minute and to revise and extend his remarks.)

Mr. KIRWAN. Mr. Speaker, the two speakers before me, the gentleman from Texas (Mr. MAHON) and the gentleman from Ohio (Mr. Bow), as members of the Board of Regents of the Smithsonian Institution, voted with me to accept the wonderful gift of the Joseph Hirshhorn collection.

Like many people, Mr. Hirshhorn gave his blood, and I mean his blood. What a wonderful, unselfish act for him to contribute these priceless works of art, which he had strived most of a lifetime to collect in order that they may be preserved and available for the enjoyment of millions in the years ahead.

While I am in the well, I also want to thank the Mellon family for donating the National Gallery of Art and their art collection to the country. Think what this has meant to the enjoyment and education of millions of Americans.

I also want to thank the Rockefeller family for all they have done for the parks in this country. They have contributed thousands of acres of valuable park land and devoted much of their valuable time to the preservation and development of more adequate parks so that millions could have better recreational opportunities. Over 125 million people visited our national parks alone last year.

We should all join in this wonderful spirit of giving. Think what it would mean if all the 195 million of us, each in his own way, would contribute more to help this country on the home front while our men are sacrificing so much in Vietnam. There is so much that could and should be done to make this an even greater Nation to live in and the burden and cost of Government would be so much less if each of us followed the example which has been set by the Hirshhorns, the Mellons, the Rockefellers, and many others.

[From the Congressional Record, May 16, 1966]

ART COLLECTION

(Extension of remarks of Hon. John C. Kunkel of Pennsylvania, in the House of Representatives Monday, May 16, 1966)

Mr. KUNKEL. Mr. Speaker, in the Washington Post of last Thursday, May 12, there appeared two articles of great significance for the cultural life of our Nation's Capital.

They were in regard to the possibility that the extensive art collection of Mr. Joseph H. Hirshhorn, of New York City, may be brought to Washington. It will certainly be a marvelous thing if this can be done.

I know that my colleagues and many other people, too, will be interested in the articles which follow :

FAMED ART COLLECTION IS PROMISED TO THE UNITED STATES

(By Leroy F. Aarons)

The famed art collection of uranium tycoon Joseph H. Hirshhorn has been promised to the Federal Government, ending one of art history's greatest cliffhangers.

Letters of agreement between Hirshhorn and the White House have been drafted and exchanged, but not signed, it was learned yesterday. President Johnson expects to announce the acquisition in the presence of Hirshhorn and his wife, probably next week.

Involved are 6,300 paintings, drawings and sculptures, representing one of the largest private art collections in the world. The present-day value has been estimated at \$25 million to \$50 million.

MAY DONATE \$1 MILLION

The collection will be administered by the Smithsonian Institution and housed in a new museum and an outdoor sculpture garden to be built on the Mall, possibly across from the National Gallery. The President is expected to ask Congress for funds to build the museum.

In addition to the collection, Hirshhorn is understood to have agreed to donate \$1 million for the purchase of works of contemporary art.

Negotiations for the huge collection have been going on a year in the deepest secrecy between Hirshhorn, who lives in New York City, officials of the Smithsonian and the White House. Negotiators here thought they were close to obtaining the much-sought collection about a year ago, but discussions dragged on for a full year more.

THOUGHT OF CREATING TOWN

The discussions were particularly delicate for two reasons. For one, Hirshhorn was torn between a number of competing sites for his collection, and at one point thought about creating a new town, Hirshhorn, in which to display it. Secondly, the industrialist is extremely sensitive about publicity surrounding the disposition of his works.

The Administration is still so sensitive about the matter that officials scheduled to discuss plans for the new museum on Capitol Hill this week have been instructed not to leave any copies of the agreement lying around.

CURATOR WORKS FULL TIME

Hirshhorn, 67, amassed his art treasures during a lifetime of collecting, much of it with money mined from uranium-rich acreage in Ontario's bush-covered Algoma Basin. The collection is so vast—4800 paintings and drawings and 1500 pieces of sculpture—and Hirshhorn buys with such speed and volume that it takes a full-time curator to keep up with the inventory.

He has probably the world's largest single collection of American art, with examples rich in depth ranging from Thomas Eakins of the mid-19th century to Willem de Kooning, the great contemporary abstractionist. The collection is especially strong in works of the 1930s by such artists of later prominence as Milton Avery, Franz Kline, Ben Shahn, Philip Evergood and Stuart Davis.

The sculpture collection is international in scope, encompassing the Hittite culture, Greece's Golden Age and such masters of the late 19th and early 20th

centuries as Rodin and Maillol. Most impressive, however, is the depth of the contemporary collection, with numerous examples of such greats as Jacques Lipchitz, Marino Marini, Henry Moore, Picasso and Giacometti.

Hirshhorn was reared in the Jewish ghettos of Brooklyn, where his mother settled after emigrating from Latvia in 1905 with him and his 12 brothers and sisters. Fascinated with art from an early age, he used to paste examples of calendar painting over his bed.

At age 17, Hirshhorn went into the brokerage business with \$225. He made \$168,000 in the first year and by 1928 was making profits of over \$2 million. He pulled out of the stock market just before the crash with \$4 million.

Hirshhorn takes a businessman's approach to collecting, buying up whole lots at a time and dickering for a bargain rate. But he is also gifted with a sensitivity for art and an extraordinary perceptiveness that enabled him to buy works of unknown artists who were later to become famous.

His collection is scattered around the world, jamming his offices in Manhattan and Toronto, and displayed throughout his Park Avenue apartment, his Riviera villa and his country home in Greenwich, Conn. The bulk of the trove, however, is kept in closets, storerooms and warehouses.

Hirshhorn and his collection have been wooed by more than half a dozen museums, including the Tate Gallery in London and others in Baltimore, Beverly Hills and in France, Israel and Canada.

New York Gov. Nelson Rockefeller, himself a collector, offered to build a museum if Hershorn would give his works to New York State.

Acquisition of the art treasure by Washington, with both the President and Mrs. Johnson taking personal interest, is expected to rank as a major coup in the art world.

VAST COLLECTION WILL ADD A MAJOR DIMENSION TO ART HERE

(By Andrew Hudson)

Joseph H. Hirshhorn's decision to give his vast modern art collection to the Federal Government adds a major dimension to art in Washington.

This collection is particularly strong in modern sculpture, both European and American. Its 1,500 sculptures range from Rodin's "The Burghers of Calais" through Maillol, Degas, Lipchitz, Matisse, Picasso, Moore, Giacometti. Calder and Smith to recent works by such contemporary Americans as John Chamberlain and Jasper Johns.

It also includes a couple of sculptures by the American painter Thomas Eakins. Almost every prominent name in modern sculpture is represented and the proposed Sculpture Garden of the new Museum will almost certainly be a rich experience.

The collection's holdings in paintings and drawings (numbering 4,800 mainly American) make it the largest private collection of American painting in existence. However, in this area the collection is more diffuse and not so distinguished as it is in sculpture. The choice examples apparently lie in American work of the 1930's and earlier, in paintings by Dove, Marin, Gorky, Stuart Davis, Homer, Sloane and Demuth.

Hirshhorn came rather late on the scene in regard to abstract expressionism, though he did pick up a good 1943 Pollock and some Klines. The more recent work in the collection includes Larry Rivers' gigantic assemblage "The Russian Revolution," which was shown at the Jewish Museum last year.

As far as the paintings are concerned, the most promising feature is what may be a donation of an additional \$1 million for further purchases. If this could be used toward upgrading the collection in terms of both postwar American painting and modern European painting, we should have a very remarkable museum collection indeed.

OTHER COLLECTIONS CITED

Washington at present contains one of the most comprehensive collections of Western art in the world—up to around 1905—at the National Gallery. There are several fine examples of work after 1905 at the Phillips Collection but these were chosen not to present a comprehensive survey of modern art but according to personal taste—as the late Duncan Phillips was always the first to admit.

Various works in the collections of the Corcoran Gallery of Art and the Washington Gallery of Modern Art serve to complement the Phillips Collection,

especially in contemporary American art; and doubtless the revitalized National Collection of Fine Arts, which aims, like the Corcoran, to be primarily a museum of American art, will be building a collection of modern and contemporary work.

GALLERIES SHARE TASK

However, the task of collecting modern European art for this city and of putting contemporary American art in an international context has fallen on the shoulders of the National Gallery and the Washington Gallery of Modern Art. The Gallery of Modern Art has done an admirable job over the past four years, but it has to rely on gifts and bequests for acquisitions and it doesn't have space to put even its present collection permanently on display. It doesn't look as though the National Gallery is about to venture into contemporary art.

It's hard to foresee how this arrival in Washington of a new museum of modern art will affect our other museums. There has been no talk of any exhibition program; indeed, one of the first questions to arise will be where the money is to come from to finance the museum's operation. As things are, the National Collection is having to organize benefits to raise money for its programs.

A possible development might be a merger of the present Washington Gallery of Modern Art and the new museum, with the former continuing a wide-ranging, forward-looking exhibition program and the latter building up an international collection of modern art.

HIRSHHORN ART COLLECTION

(Mr. KUNKEL asked and was given permission to address the House for one minute and to revise and extend his remarks.)

Mr. KUNKEL. Mr. Speaker, last week it was disclosed that our Government has almost reached an agreement whereby one of the great private art collections in the world could be secured for this city and our Nation. The collection belongs to Mr. Joseph H. Hirshhorn of New York.

Thursday afternoon I had a conference with people from the White House and the Smithsonian Institution about this. They assured me this collection is worth every effort on our part to obtain it. From what they told me—and from what I have read about it—I am greatly impressed.

Mr. Hirshhorn's collection contains more than 6,000 pieces of art—many of them by foremost painters and sculptors of the past hundred years. Moreover, it is said to include the largest private collection of American art in existence. In my judgment, it would be a splendid addition to the cultural treasures of the Nation's Capital.

But to bring it to Washington is going to require that we provide a museum for it. In fact, this is going to have to be done right now. The element of urgency is in the fact that many other museums in this country and elsewhere in the world have been attempting to obtain the collection. Mr. Hirshhorn has received a number of proposals. So there is a plan to ask the Congress for the necessary authorization and construction money to build a museum for the collection here. The Smithsonian Institution would administer it.

Now I know there have been many controversies here in the last few months over a number of programs. There are those of us who have argued that it would be wise to postpone some of these projects for at least a year or more. But as this matter of the Hirshhorn collection comes before us in committee, I do not see how that argument can apply. This is a now or never proposition.

If we are to secure this collection for our National Capital—and if we are to assure that it remains permanently in the United States—then action must be taken at once. Otherwise, it will be lost to us forever.

I hope and trust that this body will hold that thought in mind as this matter moves along, and will take kindly toward it.

CHARGES MADE AGAINST MUSEUM AND RESPONSES THERETO

Mrs. HANSEN. Dr. Ripley, please insert in the record a chronological summary of some of the charges that have been made about the Hirshhorn Museum and the reply the Smithsonian Institution has made to these charges.

(The information follows:)

STATEMENT ON HIRSHHORN MUSEUM CONTROVERSY

It has become increasingly clear during the past year that a certain number of people are determined, for whatever reasons, that the Hirshhorn Museum and Sculpture Garden should never be completed and opened to the public. Although these people were not heard from during the 5 months when the Hirshhorn legislation was before the Congress, when hearings were held by subcommittees of both the Senate and the House of Representatives, when the agreement between Mr. Hirshhorn and the Smithsonian Institution was made a matter of public record, when plans for the museum and sculpture garden were approved by the National Capital Planning Commission and the Commission of Fine Arts, when the Congress granted contract authority for construction of the museum and sculpture garden, and when funds were appropriated for construction, in recent months deliberate efforts have been made to deprive the United States of the Hirshhorn collection and of the museum and sculpture garden that are now under construction on the authorized site on the Mall.

I will not speculate about the motives that lie behind these efforts. But I think it is instructive to look briefly at the methods that have been employed by those engaged in these efforts. The first strategy was to denigrate the value and importance of the Hirshhorn collection. We were told that the collection had been vastly overvalued, and that it was in fact uneven and filled with inferior works. In the face of the facts—which are that the Hirshhorn gift comprises what one expert has called “the most comprehensive collection of American painting of the 20th century in existence” and “the most important collection of modern sculpture in existence”—this line of attack has been abandoned by all except the most ill-informed opponents.

Having failed to demonstrate that the gift is unimportant, opponents shifted their attention to the donor. Like others who have offered great gifts to the Nation's museums. Mr. Hirshhorn was subjected to vicious attacks in the press and elsewhere.

At the same time the Smithsonian was attacked for having deliberately “circumvented” a subcommittee of the House of Representatives at the time of the original legislation. Apart from the obvious fact that the Smithsonian does not control the referral of bills to congressional committees, this accusation carries with it the suggestion that the committees that did consider the Hirshhorn legislation—the Senate Committee on Public Works, the Senate Rules Committee, and the House Committee on Public Works—were negligent or incompetent when they reported that legislation favorably.

When these attacks on the collection, on the donor, and on the Smithsonian (and by implication on three committees of the Congress) failed to achieve their purpose, attention was then turned to the architect of the museum and sculpture garden. This distinguished leader of his profession was accused of impropriety and conflict of interest because of his membership on the Commission of Fine Arts. This despite the fact that Mr. Bunshaft, like other members of the Commission under similar circumstances, did not himself present his plans and did not participate in any of the Commission's deliberations thereon. It should be noted that this accusation against Mr. Bunshaft is at the same time a grave accusation against the other distinguished members of the Commission of Fine Arts, suggesting that through friendship or favoritism they failed in the performance of their professional duty.

More recently, the enemies of the Hirshhorn Museum have turned their attention to the General Services Administration, suggesting that the award of the construction contract was improper or even dishonest. Mr. Kunzig's reply to these charges should put them to rest, but presumably the result will be simply to shift the attack to some other front.

These obvious attempts to blacken the name of anyone or everyone associated with the Hirshhorn project have been accompanied by two other equally distasteful tactics. One, which deserves mention only in passing, has been a campaign of truly scurrilous innuendo of a perfectly familiar antisemitic sort. The other has been a consistent distortion of fact about the Hirshhorn Museum and Sculpture Garden. It is suggested, for example, that the location of the museum and sculpture garden somehow make them the equivalent of the Washington Monument and the Lincoln Memorial, and that the use of the donor's name in such a location is an affront to the great heroes of our Nation. The facts are that the museum and sculpture garden are to be located on that part of the Mall

occupied by Smithsonian museums; that there are now six Smithsonian buildings in that area, two of which (the Smithsonian building and the Freer Gallery) are named for donors; that three additional museum buildings are planned in the same area. Again, it is suggested that some \$15 million dollars are being spent to build a museum simply to house Mr. Hirshhorn's collection and to serve as a monument to him. The facts are that Mr. Hirshhorn, unlike many donors, has happily accepted the principle that his gift need not be kept inviolate, and has agreed that the trustees should be free to dispose of parts of it in order to add other works of art; and that, therefore, the museum and sculpture garden will house a changing and growing collection.

Again, it has been suggested that the Smithsonian will spend some \$2 million a year simply to maintain a memorial to Mr. Hirshhorn. The fact is that this estimated annual budget is based upon a full range of museum activities, including exhibitions, research, and education, befitting a national art museum in the Nation's capital. Instances of similar, presumably deliberate, distortions could be multiplied almost indefinitely.

The sad fact seems to be that the enemies of the Hirshhorn Museum are determined to stop it at any cost. In pursuit of this strange enterprise they are willing to damage the reputations of individuals and of public bodies, and they are willing to play fast and loose with the truth.

Last summer the House Subcommittee on Library and Memorials, chaired by Congressman Frank Thompson, heard testimony on the entire Hirshhorn project. As Congressman Thompson noted on January 28, 1971, "the subcommittee on Library and Memorials did not take issue with the construction of the museum, but directed its criticism solely at the decision to locate a sculpture garden on the Mall." The Smithsonian recognizes that the question of the design and location of the sculpture garden is a serious and legitimate one, and has shown its good faith by working diligently with all concerned to achieve a satisfactory answer. We now believe that we are well on the way to doing so. We trust that the Congress, despite the vicious attacks on this project, will continue to support the museum and sculpture garden that it established, after due deliberation; 4½ years ago.

FREER GALLERY OF ART

Mrs. HANSEN. What is the visitation at the Freer Gallery of Art per year?

Dr. RIPLEY. The Freer visitation, Madam Chairman, is 217,000.

Mrs. HANSEN. This is not a large visitation in the context of other Smithsonian activities.

Dr. RIPLEY. No; it is not.

Mrs. HANSEN. You had a total budget in 1970 of \$45,000 for the Freer Gallery of Art and this year you are requesting \$80,000?

Dr. RIPLEY. That is correct. We are asking for one position and \$21,000. Under the Freer deed of gift Federal funds were to be requested for general support purposes. It has been our feeling that these have been maintained over the years at an absolute minimum.

We are requesting additional support for a clerical position to assist our research in Near Eastern Art on which we have a major collection, and for the purchase of storage equipment and related supplies, \$15,000. We believe that we have always maintained the Freer budget essentially on the income of the Freer fund but we have been most prudent in any requests to the Congress for supplementary Federal appropriations.

Mrs. HANSEN. When you compare the total budget, about \$2.5 million and the number of visitors, about 6,000,000 of the National Museum of History and Technology with the budget of \$80,000 and a visitation per year of 217,000 of the Freer Gallery of Art it seems that the Freer Gallery is receiving a very large amount in comparison.

Dr. RIPLEY. Well, we feel that there is scope, Madam Chairman, within the Mall area for different kinds of museums.

Mrs. HANSEN. This is right.

Dr. RIPLEY. This is a different kind of museum. This is a specialist museum, and for that it is prized around the world. The international reputation of the Freer Gallery is second to none, and it is thought of as the finest collection of Near and Far Eastern Art in the country.

Mrs. HANSEN. I think it is a splendid gallery to have. But I have heard statements made that funds have not been appropriated proportionately to the Freer Gallery as compared with some of your other activities. I think it is in proportion to the kind of visitation and the kind of activity you have at the Freer Gallery.

The committee will adjourn until 2:00 p.m.

AFTERNOON SESSION

CONSTRUCTION COST OF HIRSHHORN SCULPTURE GARDEN

Mrs. HANSEN. The committee will come to order. What portion of your construction costs are related to the Hirshhorn Sculpture Garden?

Mr. BRADLEY. Madam Chairman, the only way we have of estimating that, is that at the time that the sculpture garden bid was taken it was required that the bidders put in an amount just for the garden as a potential deduct alternate. The bids varied. One was \$1.2 million, by the firm that is now doing the job, Piracci. Another bidder put in a deduct alternate, as I recall, of \$1.4 million and the third bidder put in a deduct alternate of \$2.0 million. So we have an uncertainty there because it was bid as a deduct alternate and the bids varied by 100 percent.

COST OF SCULPTURE GARDEN REDESIGN

Mrs. HANSEN. What is the cost of redesigning the sculpture garden?

Mr. BRADLEY. The redesign is estimated to cost \$55,000.

Mrs. HANSEN. Do you have funds available within your budget to meet these costs?

Mr. BRADLEY. Yes, Madam Chairman.

ARCHIVES OF AMERICAN ART

Mrs. HANSEN. You are requesting \$175,000 for the Archives of American Art. This is a new activity in 1972. Please give the committee the reasons this activity was established and what is involved?

Dr. RIPLEY. I might start, Madam Chairman, if I may, by saying that the reasons for our showing the Archives of American Art as a new, separate line item consists of the fact that this archival organization has its own Board of Trustees, it has a small budget of its own, and the Board of Trustees is committed to assisting us to meet its budget requirements.

The Archives, having been started, has turned out to be a major resource in the history of American painting and American art. As such, it conforms beautifully to the function of the National Collection of Fine Arts, which indeed, as authorized by the Congress, was set up to study and to conduct research on the history of American

art, and also the National Portrait Gallery, which again in its authorization from the Congress was requested to study the history of American Iconography, so that by bringing the Archives to Washington, placing it adjacent to our Library for the National Collection of Fine Arts and the National Portrait Gallery, we have as it were placed the keystone within the arch of the total dimension of the study of the history of American art and American Iconography.

I think that with that introductory remark, I might turn to Mr. Blitzer, who could speak to the issue involved in this budget item.

SIZE OF THE ARCHIVES

Mr. BLITZER. Madam Chairman, let me say first briefly what the Archives consists of. It is a collection of original archival materials about the history of art in this country from the earliest days to the present. It contains approximately 5 million original items of archival material. In addition, it contains or possesses some 3,000 rolls of microfilm of archival material elsewhere, which would perhaps be a total of another 3 million documents on microfilm. It possesses some 30,000 related photographs and some 20,000 printed items, catalogs and reports of institutions and so forth.

I think there is no doubt that it is by far the single greatest archival resource for the study of the history of American art that exists. It is very difficult, I think, to put a monetary value on a collection of this sort. I have been told by people close to it that a value of \$2.5 million would be reasonable, but I think more important than that is the fact that it would be simply impossible now to duplicate this collection.

The people who started the Archives in 1954, and the people who have been running it since 1954, have been zealous and very effective in acquiring the papers of the leading artists in this country. They are simply there, and one could no longer acquire these archives or these materials. After very long negotiation it became possible in May of 1970 to bring this to the Smithsonian. The Smithsonian now owns all of the assets as it were of the Archives. All of the archival material and associated equipment, microfilm readers, furniture, and so forth. There also came along with the Archives its own private funds which amounted to several hundred thousand dollars.

The Archives also came with the commitment that the trustees, the people who had founded and presided over the Archives since 1954, would continue to feel a responsibility of providing financial support to it. Our hope, our expectation I should say, is that over the years the Federal contribution will be about equal to the private contribution.

Since the Archives came to the Smithsonian only after the fiscal 1971 budget process was virtually completed, this really is the first opportunity that we have had to bring it to the attention of the Appropriations Committees. During the past year the Archives has been supported by contributions from the budgets of the National Collection of Fine Arts and the National Portrait Gallery to the extent of precisely the same amount that we are now asking in the name of the Archives itself, that is \$175,000.

I might say, if I may also, that the rather modest increases that we have requested for the National Collection of Fine Arts and the Na-

tional Portrait Gallery are based on the hope that the Congress will indeed give us this separate funding for the Archives of American Art. If those two galleries are required for another year to maintain the Archives, then I must say that their real needs would be larger than we have shown in their own individual budget requests.

The positions that we are requesting are one GS-15 director; GS-13 area director for the New York area; GS-12 area director for Boston and New England; curator of manuscripts, GS-11, the person in charge of the archival operations here in Washington; and an assistant curator for him, GS-9; three GS-6 secretaries; two GS-5 technicians and one GS-11 archivist. To a large extent these are the people who are responsible for creating this wonderful collection in the first place and we felt the best thing we could do was to bring them along with it. They knew it better and had done such a brilliant job in creating it.

CONSERVATION ANALYTICAL LABORATORY

Mrs. HANSEN. Justify your requested increase of \$50,000 for the Conservation Analytical Laboratory.

Dr. RIPLEY. We have a very strong responsibility, Madam Chairman, for conservation work in connection with our museums, as does the National Gallery. We have recently made a tour of these conservation facilities with Senator Pell, who is interested in perhaps proposing some new legislation to enhance the general posture of conservation.

We were delighted to have this expression of interest, and we have, I think, an outstanding conservation laboratory complex. It is a complex of different laboratories, each one in different museums in this area of the eastern part of the States with the exception of New York, where there is the Fine Arts Institute, at New York University. We are requesting three positions and \$50,000 for a technician and a small fumatorium chamber. There is a serious problem of insect infestations in the Museum of History and Technology. We are also requesting two additional conservationists, for some 13 million non-biological objects in our collections.

We also are very anxious to get an Ebert Spectrograph for spectrographic analysis. We do lag behind some of the great museums of the country in conservation facilities in the way of sufficient staff and instrumentation, although we are not behind them we believe in terms of quality of personnel.

OFFICE OF THE REGISTRAR

Mrs. HANSEN. Justify your requested increase of \$50,000 for the Office of the Registrar.

Dr. RIPLEY. We are seeking a records technician and funds that we need very much for contractual microfilm services.

Mrs. HANSEN. Dr. Ripley, you don't need to continually say, "we need very much." You have done it throughout your presentation.

Dr. RIPLEY. It sounds redundant but it seems to be true. At that 3 percent growth rate we do need many things very much I am afraid. I cited the effects of inflation yesterday.

We have a need to begin duplicating and protecting our documents. I would say that our fire this fall in the Museum of History and Technology reminded us once again of our vulnerability.

HISTORY AND TECHNOLOGY BUILDING FIRE

Mrs. HANSEN. What was the cause of that fire?

Dr. RIPLEY. The cause appears to have been an electrical shortage, a short-like situation in the connections to the computer, which started burning at about 5:00 a.m. on September 30, 1970.

Mrs. HANSEN. You were very fortunate that you didn't have any more damage.

Dr. RIPLEY. We were very fortunate that there were personnel in the immediate area. They heard the noise and were able to react more rapidly than the smoke detection apparatus itself. This was extraordinarily fortunate. But these fires, both this one and the earlier one in 1865, which demolished so many of the Smithsonian's records, remind us constantly that the need for microfilming and copying of important records is very, very great. We need a little bit more for shipping of collections and other materials, and \$2,000 is required for mail room supplies and equipment.

HIGHER MAIL COSTS

Mrs. HANSEN. Please insert in the record your projected increased mail costs if postal rates are increased.

Dr. RIPLEY. We will be glad to put this in as part of our record. (The information follows:)

PROJECTED INCREASED MAIL COSTS

An estimated \$165,000 will be spent on postage in fiscal year 1971, of which approximately 90 percent is for first class mail. Although official notice of rate increases has not been received, it is understood that on about May 16, 1971, first class rates will increase from 6 cents to 8 cents and airmail from 10 cents to 11 cents. Other classes will also have increases. On this basis, it may be projected that the Smithsonian's postage costs will increase by approximately 30 percent or an amount of \$50,000. To help meet a portion of the higher costs, an amount of \$20,000 is requested in the budget justification for the Office of the Treasurer.

FESTIVAL OF AMERICAN FOLKLIFE

Mrs. HANSEN. What costs are inherent in the American Folklife Festival on the Mall?

Dr. RIPLEY. The Folklife Festival is a continuing cost. Mr. Warner, would you like to speak to that?

Mr. WARNER. I would say, Madam Chairman, that most of the program costs, in fact all this year, since we have not asked for any increase of staff or funds for the Division of Performing Arts, are being very well met by outside sources.

Mrs. HANSEN. Such as?

Mr. WARNER. The principal contribution for this year's Festival will be from the State of Ohio. We already have some at hand, but they have pledged a total of \$86,000, and will have a feature pavilion at the Festival. The second great source which we are working on right now is AFL-CIO, the different AFL-CIO unions, that is. For ex-

ample, the clothing workers, the shipping unions and various others are going to give us grants which we believe will total near \$70,000 for program expenses of the Festival.

Mrs. HANSEN. If you were to bring, for example, the Makah tribe to Washington, D.C. to perform their dances, who would be assessed for their transportation and living expenses?

Mr. WARNER. I believe I can answer that. We have already gotten a donation from a railway.

Mrs. HANSEN. From a railway?

Mr. WARNER. Yes, and from airlines. We are trying to get transportation for some of the performers. We have gotten an offer of \$1,500 worth of shipping from the Burlington Northern so far, but that, of course, is for shipping of objects.

Mrs. HANSEN. I was going to say I didn't think there was a passenger train that traveled the length of this country any more.

Dr. RIPLEY. I might add, Madam Chairman, in the past, we have had small matching grants from State arts councils to help get performers to the folk festival.

Mrs. HANSEN. The thing that I am interested in, and most of us are very concerned about, is that you have as many people participating in this program as you can. The Makahs have a culture that I think would be of extreme interest to people in the East.

Dr. RIPLEY. Yes.

AMERICAN COLLEGE THEATER FESTIVAL

Mrs. HANSEN. I don't see anyplace in your budget where you have requested funds for the American College Theater Festival.

Mr. WARNER. We are making our contribution this year, Madam Chairman.

Mrs. HANSEN. You are making a contribution only after a great deal of prodding by this committee.

Mr. WARNER. We have had a difference or two about the budget, with our partners in the Kennedy Center, but we are ironing that out.

Mrs. HANSEN. To what extent did you participate in this activity last year?

Mr. WARNER. We have offered \$12,000.

Mrs. HANSEN. I thought more funds were appropriated for this activity last year?

Dr. RIPLEY. No, Madam Chairman, \$12,000 was the amount.

Mrs. HANSEN. I think this committee appropriated an increase of \$50,000 last year for the division of performing arts.

Mr. WARNER. For both festivals I believe, Madam Chairman.

We requested program money a year ago for both the Folklife Festival and the Drama Festival.

Mrs. HANSEN. What are you requesting this year for the American College Theater Festival?

Mr. WARNER. We did not put any program money in this year.

Mrs. HANSEN. Why?

Mr. WARNER. We thought we would wait and see what was asked of us next year.

Mrs. HANSEN. At a time when the American colleges are under criticism for many of their activities you are not providing funds for an

activity that shows the type of contribution a group of young college people from all over the United States can make? I think you should have requested funds for this activity.

Mr. WARNER. We are supporting the festival.

Mrs. HANSEN. But you can't support it with words.

Mr. WARNER. That is true. We have always taken on the heavy role of production, arranging for rehearsals, meeting the actors, and so on.

Dr. RIPLEY. We do a great deal of physical support; that is, in the personnel time and in particular facilities, trucking, arranging, carrying the materials around town. This is in-house costs.

Mrs. HANSEN. Please insert in the record what an appropriation of \$25,000 for the College Theater Festival would accomplish.

(The information follows:)

FUNDS FOR THE AMERICAN COLLEGE FESTIVAL

An appropriation of \$25,000 would cover such Washington production costs as theater equipment rentals, backstage crews, box office staff and equipment, and program and ticket printing (total estimated at \$17,000), plus about slightly less than half of the Washington living expenses of the festival participants, which total approximately \$20,000.

An appropriation of \$42,000 would cover all the Washington expenses which the Smithsonian has assumed in past years, with \$17,000 for direct production costs, \$20,000 for living expenses, and \$5,000 for the annual symposium held for critics, faculty, and students.

Mrs. HANSEN. I think as long as the Smithsonian is participating in the Folk Festival, it is no less important to participate in the College Drama Festival.

Dr. RIPLEY. We agree, Madam Chairman, and we had understood that we were committed.

Mrs. HANSEN. This committee appropriated exactly what you asked for last year, an increase of \$50,000.

Mr. YATES. They used it for another purpose, Madam Chairman?

Mrs. HANSEN. The total appropriation for this program activity was \$210,000.

Mr. WARNER. I might be wrong, but I do remember last year—

Mrs. HANSEN. I know what this committee appropriated for this activity.

Mr. WARNER. I thought we had it broken down in the request document. I know we asked for the Folklife Festival.

Mrs. HANSEN. I remember you requested an increase of \$50,000 for the Division of Performing Arts. Your base program appropriation was \$160,000 and you requested an increase of \$50,000. This committee allowed the \$50,000 increase.

Dr. RIPLEY. But I believe the \$50,000 was not all for the College Drama Festival.

Mrs. HANSEN. What was requested for the College Theater Festival?

Dr. RIPLEY. \$12,000 as I understood it.

Mrs. HANSEN. I think the College Drama Festival is just as important as your Folk Festival.

RELATIONSHIP WITH THE KENNEDY CENTER

Mr. WARNER. I agree. I might say that this year when we started talking with the Kennedy Center it seemed like the whole project

would be self-supporting. That was the initial budget that they gave us. It is not, in fact, and I think perhaps you are right because it is too much to expect these festivals to be self-supporting.

Mrs. HANSEN. I don't think that you should expect the Kennedy Center, which hasn't yet had a full season, to meet the total cost of the College Theater Festival.

Mr. YATES. Is the college festival to be performed at the Kennedy Center?

Mrs. HANSEN. No. This year they have been performing at George Washington University and Ford's Theater.

Mr. WARNER. In the original year we had a tent on the Mall.

Mr. YATES. What is the relationship of the Smithsonian to the Kennedy Center?

Dr. RIPLEY. Under the statute, the Kennedy Center is a bureau of the Smithsonian, but with its independent funds, independent trustees. (Discussion off the record.)

Mr. YATES. May I ask a question? I noticed in this morning's paper that the movie industry had fallen on hard times. Does Smithsonian's identification with the Division of Performing Arts include any relationship with the movie industry?

Dr. RIPLEY. Not particularly, no. We have some film archives at the Smithsonian but we have no direct relationship. The Kennedy Center has sponsored the American Film Institute, which is directed by George Stevens, Jr., and they have attempted to raise funds for that, but we have not directly done so, although from time to time we have had performances of some of the older archival films.

Mrs. HANSEN. Also the National Endowment for the Arts provides some funds.

Dr. RIPLEY. Yes; that is correct.

ANACOSTIA NEIGHBORHOOD MUSEUM

Mrs. HANSEN. You are requesting an increase of \$45,000 for the Anacostia Neighborhood Museum. How many visitations did you have in fiscal year 1970 and how many visitors do you expect in fiscal year 1972?

Mr. WARNER. We had 48,000 total visits, Madam Chairman, in fiscal year 1970, and this year we have 60,000 so far. I should say that we also have a mobile unit. It is sort of a tourmobile with the exhibits which goes out to school districts. That was only in operation for part of last year, so we are doing much better this year with the tourmobile.

Mrs. HANSEN. Don't you also have a craft class at the Anacostia Museum?

Mr. WARNER. We do, and our requested increases are primarily directed to support two full-time teachers, because try as we do with foundations—and we continue to do very well; we have had a total of \$191,000, some of it spread over 2 years in foundation grants for special purposes this year—but they don't help us with general operating expenses of the regular teaching activities. It is always special projects, you see, like this wonderful grant we got from HUD, Carnegie Corp., and the Cafritz Foundation, a three-way grant, for the community to determine its own urban problems and then translate them into exhibits. But this grant represents a sort of an overload

task, over and above normal operating, if you see what I mean. We can't get private funds for the operating expenses that we have.

Mrs. HANSEN. How are you going to spend the \$45,000?

Mr. WARNER. We are requesting two full-time teachers for further classes. We presently have classes only in ceramics, photography, drawing, and painting. We would like to have two teachers, one for language skills beyond what the children can get in school, and the other teacher for graphic arts, or how to do silk screens, make exhibits, and so on. We would like one deputy director for community relations, because more and more, Madam Chairman, a great number of museums and museumlike institutions come to see the director of the Anacostia Museum with requests for information on how to get this kind of museum started. Anacostia is having a multiplier effect, in other words. Many people are asking: "How do we make exhibits of relevance to minority groups who don't normally go to museums?" We have requested, as you see, an assistant to the director for this multiplier role, which is getting heavier and heavier at the Anacostia Museum.

Dr. RIPLEY. I might point out, Madam Chairman, for the benefit of the gentlemen who are newly on this committee, that the size of the Anacostia Museum is very, very small. It is an abandoned movie theater which we rent, and therefore the visitation of 60,000 is proportionately very great. It is an intensely visited museum as a community project.

Mrs. HANSEN. This is really a neighborhood museum for a great many underprivileged blacks in an area of the city that was almost forgotten. Isn't this true?

Mr. WARNER. That is true.

Mrs. HANSEN. Hasn't this museum done a great deal to improve the problem of crime and the problem of discontent in this area?

Dr. RIPLEY. We take some credit, and I think the District City Council does, too, of the fact that during the riots in 1968 this museum acted as kind of an oasis and offered an atmosphere of calm for several blocks in all directions. It was open in the evening, 9:30 at night, even during the heavy rioting period.

AMERICAN REVOLUTION BICENTENNIAL PROGRAM

Mrs. HANSEN. You are requesting \$400,000 for the Bicentennial of the American Revolution. Will you give the committee a summary of what your activity will be in this connection during this fiscal year.

Mr. BLITZER. I might start by saying, Madam Chairman, that we have, with the money granted us last year, now set up internal machinery representing all the parts of the Smithsonian, which has worked out a general overall institutional program for the celebration of the bicentennial. I think our program is a very happy combination of ephemeral things like performances and exhibitions leading up to and following 1976, and other activities that we hope to leave as a permanent record of the bicentennial such as national inventories, catalogs, publications and so forth.

Perhaps the simplest way, since it is rather complicated, would be for me to talk about this year's expenditures bureau by bureau, although in doing that I hope you will be aware that this obscures the interrelationships somewhat. I think they are very important.

Mrs. HANSEN. Sometimes your interrelationships are obscure.

PERFORMING ARTS CONTRIBUTIONS

Mr. BLITZER. I think this will be one that we will all be proud of, when it all gets together. The Division of Performing Arts is developing a program which it calls Grass Roots of American Culture which is an attempt first to search out and document performing styles of various kinds from various parts of the country and various ethnic groups. The hope is that among other things in 1976 we will have a kind of super festival of American folklife continuing more or less through the entire year.

They have been given \$25,000 out of this \$400,000. This now is devoted to preliminary surveys and setting up the machinery for finding the performers and talent that they want around the country.

NATIONAL COLLECTION OF FINE ARTS PARTICIPATION

The National Collection of Fine Arts has a number of projects. The largest I suppose over the years will be its bicentennial inventory of American painting. This is a very ambitious attempt to make a national inventory of painting in America from the beginning until 1914, something that has never been done. We simply don't know what exists. The State of Vermont on its own did this on a very small scale last year and discovered some 300 unknown works of art that were worthy of an exhibition in a museum, for example. When I was back in my office at lunch time I just saw the proof of the brochure that the National Collection plans to send out to 4,000 State and local historical societies, art councils and museums asking for their cooperation in the creation of this inventory. I think apart from the service that it will perform for scholars from 1976 on, it will have two other effects. It will help people all over the country to become aware of their own artistic and cultural heritage, and all of the results will be available to the people who participate with us in making the inventory. It will also make it possible for the National Collection, at the time of the bicentennial in the narrow sense, to have a great exhibition of the history of American art, drawing largely upon works that we probably don't even know about today.

The National Collection of Fine Arts also is developing plans for traveling exhibitions of various kinds tied to the bicentennial. They received this year \$50,000 of the \$400,000.

BICENTENNIAL ACTIVITY AT THE PORTRAIT GALLERY

The National Portrait Gallery has in a sense a similar enterprise. That is a catalog of portraits of Americans of the Revolutionary era. This is now defined for these purposes as the years from 1770 to 1790. This would be a complete catalog with all available information about all portraits of all Americans painted in that era.

The National Portrait Gallery also has plans for a great exhibition of portraits of George Washington. This will be the first time that all of the known portraits of Washington will have ever been assembled any place for an exhibition. This again will come toward 1976. An amount of \$50,000 went to the National Portrait Gallery for this purpose.

UNITED STATES NATIONAL MUSEUM

The U.S. National Museum as an administrative unit was given \$10,000 to cooperate with the American Society for State and Local History to help them prepare a kind of guidebook for State and local historical associations for their own use in thinking of ways to celebrate the bicentennial. And \$20,000 was allocated to the U.S. National Museum for a plan to transform what we now call the Arts and Industries Building into a kind of replica of the Philadelphia Centennial of 1876. As you know, that building was built largely to house objects that had come from the Philadelphia Centennial Exhibition in 1876, and we feel that between the museums that will document the American past and others like the Air and Space Museum and the Natural History Museum that will talk about the American future, we will have in the Arts and Industries Building a midpoint with a recreation of 1876, using the objects used in 1876 so far as we can.

The Archives of American Art will have \$10,000 of the \$400,000. Their contribution to this program is a bibliography of the history of American art. The form that that will take will depend, frankly, upon how much money we get in the intervening years. It could be five separate volumes published one year at a time between now and 1976 or, if we don't get adequate money for that, it will be a single volume that will be less useful, but still useful, published in 1976.

ANACOSTIA MUSEUM

The Anacostia Neighborhood Museum received \$10,000 of the \$400,000. Their particular interest in this is to develop a facility for producing imaginative, low-cost, educational exhibits to be used in institutions like the Anacostia Neighborhood Museum in other parts of the country: innercity museums, community houses, and so forth. With this \$10,000 they have hired a consulting firm to help them figure out how to get into the business of producing these exhibits for that kind of audience which they know about—I dare say better—than anyone else in the Smithsonian. That was \$10,000.

I am not sure how much I have left out of this.

Mrs. HANSEN. I think you should add it up.

PROJECTS FOR THE INDIANS

Mr. BLITZER. The largest amount was \$175,000 that has gone to the Museum of History and Technology. Dr. Boorstin, I think, can talk to that.

Mrs. HANSEN. How much have you allotted for the Indians?

Mr. BLITZER. I would say that the Indians will come in specifically—

Mrs. HANSEN. A poor third.

Mr. BLITZER. No, specifically under two of these headings I should think. One will be the grass roots American culture program of the Division of Performing Arts which I am sure will involve them deeply. The other will be, I think, in the special bicentennial facilities at the Museum of History and Technology.

(Discussion off the record.)

Mrs. HANSEN. You are supposed to be developing an American Indian handbook.

Mr. BLITZER. I should have put that in.

Mrs. HANSEN. That is what I said before, you forget about the Indians. They come in a poor third.

Mr. BLITZER. It is not funded out of this money. That is the reason I omitted it.

Mrs. HANSEN. I want to make sure that you are including all of the American people.

Dr. BOORSTIN. I was going to ask permission to amend your suggestion that they were a poor third and suggest that instead they were a poor first. That is a more accurate description.

Mrs. HANSEN. That is true, but in terms of your activities they are a poor third.

Dr. BOORSTIN. Madam Chairman, I will be glad to indicate what our hopes are for our bicentennial celebration and how we have been spending our money, the money that you have given us in the past.

Mrs. HANSEN. How much has been appropriated to date for this activity?

Dr. RIPLEY. We have had \$400,000.

Mrs. HANSEN. The funds you are requesting this year will be your second allotment of \$400,000?

Dr. RIPLEY. Yes.

BICENTENNIAL ACCOMPLISHMENTS AND PLANS

Mrs. HANSEN. Please insert in the record what you have specifically accomplished, and what you specifically hope to accomplish this year. (The information follows:)

SMITHSONIAN INSTITUTION BICENTENNIAL PROGRAM

The Smithsonian Institution's preliminary plans for celebrating the bicentennial of the American Revolution have been approved by the American Revolution Bicentennial Commission. The following is an excerpt from the Commission's Report to the President dated July 4, 1970:

The Commission recommends (a) the Smithsonian Institution's plan for a major exhibition in all its museums, to be entitled "The American Experience." This exhibition will include: The Continent and its People, our land at the time of the arrival of the Europeans; First Encounter, the interaction of the European and Indian Cultures; Everyday Life on the Eve of Revolution; Colonial Communications; Colonial Art; the Signers of the Declaration of Independence; the Citizen Soldier of the Revolution; the Portraits of George Washington; the Price of Independence; the risks and opportunities faced by the American people in the Revolutionary era; (b) a special feature, in two bicentennial pavilions, will be a Nation of Nations exhibition illustrating the ideas and physical objects brought to America from abroad, and a Nation-to-Nations exhibition displaying the impact of the American experience on other countries; (c) the Smithsonian Encyclopedia which will be a one-volume encyclopedia of American history, culture, life, and civilization. The volume will present for the first time an inventory of the range of American achievement from presidential elections to the safety pin; (d) a new Smithsonian undertaking on the banks of the Potomac River, a Bicentennial Park, where the life of the Revolutionary citizen soldier will be recreated.

Expenditures in fiscal year 1971 have necessarily been focused primarily upon laying the groundwork for activities spanning the entire Bicentennial era.

ACTUAL EXPENDITURES TO APRIL 1, 1971

EXHIBITIONS AND PERFORMANCES

Architectural feasibility studies for the construction of special structures to house new Bicentennial exhibits at the National Museum of History and Technology; undertaken by Victor Lundy, and con-

sultation services provided by Frank A. Taylor. Mr. Taylor, \$4,250. Mr. Lundy, \$25,000-----	\$29,250.00
History Map Project. Costs of consultation, travel for research, and design of a history map, exhibit incorporating innovative audio- visual techniques to be featured as a major Bicentennial project---	12,025.00
Purchase of specimens, including related materials required for dis- play, and related research for the special exhibitions for the Bi- centennial-----	38,893.50
Corridors of American Experience. A series of time corridors, as distinguished from open exhibition halls, enabling the visitor to experience daily living at several points in American history by involving each of his sensory perceptions. Preliminary planning and development-----	6,100.00
American Heroes Projection. Purchase of design and equipment for the projection of giant film slides on the exterior walls of the National Museum of History and Technology as an ongoing Bicentennial project-----	1,973.00
Curatorial examination of private collections and objects located throughout the country for possible acquisition and use in Bicen- tennial exhibitions-----	10,767.27
Exhibit of Music Machines—American Style—An exhibit defining and demonstrating mechanized music as an important aspect of American civilization. Production of folders and catalogs-----	11,095.00
1876 Centennial exhibition, Arts and Industries Building. Fee for researcher, photographic services-----	20,000.00
Grassroots American Culture Program. Research and consultant expenses, investigations of traditional American expression— American Indian and Spanish-American music and dance, work songs, field hollers, blues, jazz-----	21,525.00

RESEARCH AND PUBLICATIONS

Films on Declaration of Independence, Gundelo Philadelphia, "Would You Believe," "Say It Again, Sam!" Scripts, film studio costs, projectors, sound equipment-----	25,056.74
Payment to the American Association for State and Local History for preparation of a handbook for Bicentennial exhibition planning	10,000.00
The Catalog of American Portraits, cataloguing and processing team, three limited appointments, \$10,000. Information and management pilot study in Richmond, Virginia, two limited appointments, \$17,950; supplies, equipment, photographic and reproduction serv- ices, \$7,450; computer costs, \$2,000-----	37,500.00
Bicentennial Inventory of American Paintings Executed Before 1914. Coordinator and researcher, two limited appointments. Fiscal year 1971 portion, \$10,000. Supplies, materials, equipment, \$3,845.96. Travel, \$628.90. Printing 7,500 brochures, \$400.00-----	14,934.86
Bibliography of American Art. Stipends for part-time special staff, design of bibliographic format and sample pages-----	7,500.00
Bicentennial Park brochure. Punch and binder machine, \$250.00. Printing, \$9,750-----	10,000.00

NATIONAL PROGRAMS

The Image of Revolutionary America. An exhibition of American print making to be circulated to schools, small historical societies, libraries and other places with less than museum facilities. Two limited appointments, \$7,170. Photographic services, consultant fees, \$7,990.00-----	15,160.00
Conservation project. A traveling exhibition, probably in an edition of more than one, providing an awareness of contemporary ap- proaches to preserving paintings and sculpture. Stipends for part- time temporary staff, supplies and materials, photographic services-----	14,850.00
Exhibits design and production laboratory. Fee to Research and De- sign Institute to determine feasibility of a facility which would al- low the Anacostia Neighborhood Museum to design and produce low-cost, exciting exhibitions dealing with the history and contri- butions of minorities in the United States. These exhibitions would	

circulate throughout the country to other neighborhood museums,
storefront operations, etc.----- \$10,000.00

ADMINISTRATION

Special assistant for bicentennial planning. Salary----- 22,000.00
Total ----- 312,129.51

1971 BICENTENNIAL ACTIVITIES AS OF APRIL 1, 1971

Exhibitions and performances----- \$151,628.77
Research and publications----- 94,990.74
National programs----- 40,010.00
Administration ----- 22,000.00
Balance ----- 91,370.49
Total ----- 400,000.00

NOTE.—Some bicentennial activities have not been funded out of this appropriation but contribute to the overall Smithsonian program. These include: the Encyclopedia of North American Indians, Bicentennial Park, and the construction of the National Air and Space Museum.

1972 BICENTENNIAL ACTIVITIES

EXHIBITIONS AND PERFORMANCES

✓ The Price of Independence. An exhibit of the risks and opportunities of independence for the American colonists. A computerized game will be developed to allow the museum visitor to select one of several roles (such as that of a Boston merchant, a Philadelphia laborer, or a Southern planter) and test his decisions against the actual facts of history in the period 1770–1820. In this way he can relive the risks and opportunities of the revolutionary era----- \$40,000

NPG The Portraits of George Washington. An exhibition (with appropriate catalogs) of life portraits, political cartoons and cult images during Washington's lifetime down to the present----- 45,000

✓ The Corridors of American Experience. Further development of this technically complex, major bicentennial exhibition. The look and sound of America in 1750, just before the American Revolution, in 1850, and in 1950----- 40,000

✓ Colonial Communications. An exhibition on the significance of the colonial printer; colonial, British, and foreign newspapers and their dissemination of news. Attention will be given to the relations of problems of communication to the organization and conduct of the Revolution-- 30,000

NPG The Signers of the Declaration of Independence. An exhibition of as many of their portraits as extant and available. The exhibit would aim to illustrate the great diversity of individuals involved in the writing and signing of this document in terms of their backgrounds, occupations, personalities, and the fortunes of these men during and after the Revolution----- 30,000

✓ History Map Project. Construction of this unique and innovative audiovisual presentation----- 20,000

NPG Colonial Art. The American visage as seen by the foreign-trained sophisticates and by the itinerant painters; New England sign painters; figureheads and scrimshaw; the topographic artists like Christian Remick; the naturalists like William Bartram; historical printmakers like Paul Revere; cartoons and caricatures----- 25,000

DPA Grassroots American Culture Program. Further investigations of American traditional performing arts leading to performances in Washington and around the country----- 25,000

The U.S.A.—A Nation of Nations. A major two-part exhibition at the National Museum of History and Technology which will show by means of artifacts and the latest techniques of audiovisual communications: (a) The role of other nations in the development of the United States, and (b) America's contribution to the world----- 45,000

1876 Centennial exhibition, Arts and Industries Building. Design, location of needed materials, consultant fee.....	\$20, 000
The Continent and Its People. An exhibition depicting the American continent at the time of the coming of the Europeans—early settlers, Indian tribes, animals, birds and aquatic life, forests and prairie land, rivers and bays and life of the oceans.....	40, 000

RESEARCH AND PUBLICATIONS

The Smithsonian Encyclopedia. A bicentennial project designed to provide an authoritative illustrated one-volume encyclopedia of American history, culture, life, and civilization. It will offer the American people for the first time an inventory of the remarkable range of American achievement. It will include all the usual topics (Presidents, treaties, battles, legislation) in addition to thousands of others (Coca Cola, comic strips, corporate lawyers, safety pin, typewriter, et cetera) for which there is no other accessible authoritative source.....	50, 000
The Catalog of American Portraits. Building upon the experience gained in a successful information collection and management study completed in 1971, researchers will expand efforts to a nationwide scale. Skilled personnel are required to make local contacts, interpret records of collections, make informed decisions on authenticity, and maintain a high standard of quality. The teams will begin the more detailed work of fleshing out art historical and biographical data for each entry into the data bank.....	100, 000
Bicentennial Inventory of American Paintings Executed Before 1914. In 1972 work will be intensified on this massive undertaking to search for and record the whole range of American painting from the earliest years of our history to the present century. Data will begin to arrive from organizations, institutions, and individuals throughout the country. A computer system is used for record storage and display. An annotated directory will be published in 1976.....	65, 000
Bibliography of American Art. Further work on an important and badly needed resource for writers, students, and scholars.....	20, 000

NATIONAL PROGRAMS

Exhibits design and production laboratory. Funds will be required by the Anacostia Neighborhood Museum to establish the new facility and produce prototype exhibitions.....	40, 000
Conservation project. Design and production of a traveling exhibition illustrating various types and causes of the deterioration of works of art, stages and techniques of examination, and remedial approaches to be used in conservation treatment.....	20, 000
The Image of Revolutionary America. Completion of design and production of a circulating exhibition of American print making for non-museum settings.....	15, 000

ADMINISTRATION

Special assistant for bicentennial planning. Salary.....	24, 000
Total	¹ 694, 000

¹ The bureaus involved in these activities have calculated the difference between this required amount and the \$400,000 requested in the fiscal year 1972 budget and will meet the difference from their regular operating funds.

1972 BICENTENNIAL ACTIVITIES

Exhibitions and performances.....	\$360, 000
Research and publications.....	235, 000
National programs.....	75, 000
Administration	24, 000
Total	694, 000

NOTE.—Some bicentennial activities have not been funded out of this appropriation but contribute to the overall Smithsonian program. These include: the Encyclopedia of North American Indians, Bicentennial Park, and the construction of the National Air and Space Museum.

Mr. BLITZER. If I may say so, we have tried to be as scrupulous as possible to avoid subsidizing normal activities. If anything I would say that these bureaus have in fact been subsidizing bicentennial activities.

Mrs. HANSEN. That is not inappropriate.

Mr. BLITZER. No, not at all.

BICENTENNIAL RESPONSIBILITY OF THE MUSEUM OF HISTORY AND
TECHNOLOGY

Dr. BOORSTIN. Madam Chairman, may I make a statement at least for purpose of clarification, indicating what the scope of the bicentennial celebration is and of our responsibility in it as we have seen it, which has been guiding our expenditures and our plans.

We have conceived that our role is at least threefold. First, to help people become better informed about the era of the American Revolution defined in a very general way from about the middle of the 18th century at least until the framing of the Constitution. We have been aiming to collect objects and to devise new means for interpreting that era.

But we have also thought, and it has been our understanding that it was the intention of the Congress, that we should conceive, and I also know that it has been the intention of the President's Bicentennial Commission, that we should also conceive our role to be the interpretation of the American experience, an attempt to make more total our understanding of the contributions of all sorts of Americans, Indians, Negroes, and all other racial and religious groups, and that we should also make an effort to sum up and interpret the American achievement during the two centuries of the Nation.

Mrs. HANSEN. I think if the celebration in 1976 does just one thing it should exemplify the unity of the American people.

Dr. BOORSTIN. We hope to use our resources to dramatize that unity and pluralism of the American people.

Mrs. HANSEN. If you can tell me what the American Revolution Bicentennial Commission has in mind, I would really appreciate it. They didn't make what I would call a good presentation before the committee when they testified this year.

Dr. BOORSTIN. Is that a question, Madam Chairman?

Mrs. HANSEN. No, it is a statement.

(Discussion off the record.)

Dr. BOORSTIN. It is our purpose to use this as an occasion to underline and explore the role of all Americans in the Revolution and in the making of the Nation. This means we should not accentuate the evils of segregation by undertaking exhibits of a segregated character.

Mrs. HANSEN. That is the point I am trying to make that the American Revolution was not fought by a group of minorities. It was fought by Americans. Of course minority groups did contribute a large part to the American Revolution.

However, the thing that has concerned me through the last 50 years, is that we are making minorities out of Americans, which we should not be doing. I hope that the goal of the bicentennial is to unite all of us together as Americans.

Mr. YATES. In looking at pages 88-A-90, without denigrating the others who have prepared this justification, I want to congratulate the person who prepared these two pages because I found them fascinating.

Mrs. HANSEN. They have some of the best rhetoric in their justifications as any agency in the Federal Government.

Dr. BOORSTIN. May I just add that the combining of all people and the opportunity of people to affiliate, people from remote parts of the world of different races and religions is something that we should also commemorate in the American achievement, not only in the events of the Revolution but in interpreting what has been accomplished.

Mrs. HANSEN. You find not one word in the Constitution of the United States about minorities. It is a country of all the people.

Dr. BOORSTIN. Exactly.

ENVIRONMENTAL SCIENCES PROGRAM

Mrs. HANSEN. Justify your requested increase of \$225,000 for the environmental sciences program.

Dr. RIPLEY. Dr. Challinor, would you like to speak to that?

Dr. CHALLINOR. Madam Chairman, this is one of the more interesting programs that we have attempted at the Smithsonian. Following your suggestion that we curtail the drawing of lines, this is exactly what this particular program is trying to accomplish. As you know, the science bureaus of the Smithsonian consist of the Radiation Biology Laboratory, Tropical Research Institute, the Zoo, the Museum of Natural History, and the Astrophysical Observatory. Here is an opportunity that has already been underway for 1 year to bring these various and rather diverse science bureaus into one major program dealing with the environment.

In this past year we have set up our specific programs, and two areas in which we plan to concentrate. To carry this program out, we are asking for five new positions and a \$225,000 increase.

Mrs. HANSEN. I don't think you would find these types of people if unemployment wasn't as it is today.

Dr. CHALLINOR. The sort of people we are looking for are indeed rather difficult to find, with the qualities that we really require. We are now going to concentrate on what we call the shallow water marine environment. This is an area in which a great deal of the productivity of the earth takes place. You have the solar energy coming right down on the water reaching the bottom. When we are talking about shallow water we are talking about probably less than 3 or 4 meters.

These waters are replenished by the nutrients that run off from the adjacent land, and we have at the Smithsonian, under Institution control, two very suitable areas to carry out the long-term research that we intend to do, one in Panama at our two marine facilities there, and the other at the Chesapeake Bay Center, which has about 12 miles of shore frontage on the Rhode River estuary.

COOPERATIVE RESEARCH

Mrs. HANSEN. Did you notice in the paper this morning that, I believe, the State of Maryland is trying to acquire some land for research in almost the identical area that you plan to acquire land?

Dr. CHALLINOR. Madam Chairman, that may be referring to an area that the State is attempting to acquire for the University of Maryland for long-term ecological research. I believe that is on the opposite side of the Chesapeake Bay from us on the Eastern Shore, near Cambridge.

Mrs. HANSEN. It is in the Chesapeake Bay area?

Dr. CHALLINOR. Yes; the last report was that it was some months or perhaps even a year to realization, to the actual acquisition of this land. They have been negotiating for this for several months now. At the Smithsonian facility on the Chesapeake we have scientists from the University of Maryland working there. This effort of the Smithsonian involving all our bureaus is an attempt to gather the expertise of the astrophysicists, of the radiation biologists, and of the biologists to combine, to get a really clear, global understanding of what is happening to the environment. This is an exciting situation, because there is no other institution that I am aware of in the whole world that has radiation biologists and astrophysicists as well as the systematic biologists that we have in the Natural History Museum.

As you pointed out so clearly, the necessity for curtailing the drawing of lines, we know have astrophysicists sitting down with taxonomic biologists to see how they together can combine their research to understand what is happening to our entire globe. This is what we are endeavoring to do, initially concentrating on two areas where the Smithsonian has facilities. The research will not necessarily be confined to these two areas, but this is where we initially plan to start because we have these available to us and they are particularly suitable for the work which we plan to carry out.

MAJOR EXHIBITIONS PROGRAM

Mrs. HANSEN. You are requesting \$525,000 for Major Exhibitions program which is a new activity. Please give the committee a detailed summary of what is involved in this request.

Dr. RIPLEY. Madam Chairman, in preceding years, ending in the early 1960's, the Museum of Natural History embarked on a large scale reexamination of its halls of exhibition. Subsequent to that date, no particular funds have been requested for renovation or re-doing of exhibits. We have an exhibit area, a hall, which has been emptied by the move of the National Collection of Fine Arts to the Patent Office Building. In this hall in connection with our primary interest in environmental studies and environmental education through exhibits, we would like to prepare an exhibit which would be finished in about 18 months. Its subject would be the "World of Living Things". This exhibition would be the first attempt to present ideas with objects used as illustrations rather than the object orientation of many current exhibit halls. It would also be the first truly interdisciplinary exhibit to be planned for the National Museum of Natural History which, as you know, has well over 3 million visitors a year.

We refer to this hall as our first environmental exhibit, because the principal objective is to help visitors develop a new level of awareness of their surroundings. Having generated better informed visitors, the exhibit concludes with the presentation of options for action by the individual visitor. In other words, the exhibit gives a visitor the chance to visualize how they, themselves, would like to

behave as an individual in regard to their environmental surroundings. This is a novel and a distinct kind of presentation. The only comparable one is an exhibit done in New York a couple of years ago at the Museum of Natural History, at I may say considerably greater cost than this, which we believe we can surpass with new technology and with the advantage of having had a kind of pioneer exhibit done by them.

It will contain hundreds of specimens, illustrations, and models, each identified and related to each other by the presentation of scientific knowledge. The relationship of planet earth, for example, to the sun as a source of energy will be related to energy flow in a community of cave insects. The insects, some almost microscopic, will be shown 25 times life size to demonstrate highly specialized adaptations for life in a community of darkness, and also to give the visitor a concept of what it is like to be an insect in a cave adapted to cave life. These techniques will be very dramatic and very helpful for young people, for students, and for people who are concerned with teaching ecology courses.

In a large area of the exhibit, structural and behavioral adaptations of living things—man, of course, is included—will be presented, using all types of communication techniques. Another area, "The Preciousness of Life" as it is sub-titled, will provide an introduction to genetics and show man as the supersurvivor of other forms of life that have become extinct through natural causes. This will be followed by an extensive exhibit presentation illustrating man's ability to upset natural balances, and, most importantly, man's ability to recognize what is happening, and, perhaps, to correct it.

We will end the exhibit with the best available information on current ecological problems and suggest how each individual can help through action or conservation groups, support of pending legislation, and local educational projects.

I believe that this kind of core exhibition is one that will utilize the resources of our collections in a new and very novel way, and the expert knowledge which is possessed by our curators. This exhibition will have a long term educational impact for schools, for the public, and would be one of the really fruitful things that the Institution could do.

NATIONAL MUSEUM ACT

Mrs. HANSEN. You are requesting \$1 million for the National Museum Act which is also a new activity. We discussed this program earlier, but I would like to know why is it necessary to give \$100,000 to the National Endowment for the Arts and to the National Endowment for the Humanities for this work when they receive their own appropriations for this activity?

Dr. RIPLEY. This provision was introduced, Madam Chairman, on the Senate side as an amendment to the act as sent in for reauthorization. As you know, the act was reauthorized in December 1970. A suggested budget of \$1 million for this activity was included which followed the recommendation of the Belmont report, the report on American museum needs. The Belmont report was closely correlated with similar reports on activities of museum support given for the arts and humanities endowment as a whole.

We were happy to comply with this amendment, knowing that through the Federal Council on the Arts and Humanities, on which I sit along with directors of the arts and humanities endowments and other agency heads, we would be able to coordinate the use of any such funds for the strict purposes of the act, that is for the training and supplementing of experience of museum technicians for courses in museum exhibit preparation and for other purposes as encompassed in the act.

Both the arts and humanities endowments do have supplementary programs in support of museums, and we would hope that through the correlative activities of the Federal Council this support for the arts and humanities endowments, which is rather small, would tie more closely together the work of the three institutions.

CURRENT MUSEUM ACT ACTIVITY

Mrs. HANSEN. It is a small amount, but the point is I think we wanted to know how the programs will be integrated. What direct grants if any would be made to museums throughout the Nation, how will they qualify, how will priorities be drawn, and what supervision will the Smithsonian exert to make certain that the funds are being used properly?

Dr. RIPLEY. In fiscal year 1970 Congress appropriated about \$40,000, and in fiscal year 1971 an additional \$35,000 for purposes related to National Museum Act activity. These funds have been provided from our general salaries and expenses appropriation to the Smithsonian as part of the funds requested for the Office of the Director General of Museums, now the Office of Museum programs.

In fiscal year 1971, the Smithsonian will spend an estimated \$82,000 on programs in support of the act. Briefly these programs and their level of funding are as follows: \$20,000 for a documentation and statistical study of museum problems through the American Association of Museums; \$15,000 through the American Association for State and Local History for research in museum techniques and administration; \$42,000 for support of regional conferences of the American Association of Museums, to which I referred yesterday in connection with training grants, studies, and visits by teams of specialists to these conferences, and the International Council of Museums; and \$5,000 for publication and training in conservation.

USE OF FUNDS IN FISCAL YEAR 1972

If such funds as are requested for fiscal 1972 are appropriated, specifically the Smithsonian would apply the \$75,000 already in its base to such important needs as surveys of its visitors, research and development of improved exhibits techniques, and other projects designed to improve our own public education programs.

Then we would begin the development of museum support programs including studies on technology to catalog museum holdings in science, history, and art on a national level. Museum professionals, scientists, historians, and other scholars, who use museum collections in their research are much concerned with the need to make these collections more accessible through more comprehensive cataloging.

We estimate that this kind of study on the development of such catalogs would account for about \$240,000 of the \$1,000,000 requested.

In addition, there is the need for conservation of museum collections which has already been documented in other connections. We think that museum laboratory centers should be established in various locations throughout the United States.

Mrs. HANSEN. Do you plan this in the regional areas of the country?

Dr. RIPLEY. Only through other museums, not through ourselves. All of this work, I might add, would be supervised by a board of outside museum directors and authorities to be appointed by us in conjunction with the American Association of Museums. Such a review board would be similar in purpose and nature to boards that we already have for foreign currency appropriation uses, or that the National Science Foundation has for their granting activities. For such laboratory centers, we are requesting \$130,000.

I think that the most urgent need that is constantly expressed to us is for the development of training courses for museum technicians. For this, an amount of \$100,000 in the first year would allow us to fund some 20 trainees.

We also need to work on the general problem of communications in museums for the viewer, to make museums of greater use to schools, colleges, and universities; to make these resources available to disadvantaged people in communities; and to experiment with and evaluate these functions. For this we are requesting \$150,000.

I think that manuals of instruction on design and preparation of exhibits, which I have already mentioned, are greatly needed, and that in this area funding of \$75,000 would take care of a first effort to print and reproduce manuals, photo essays, film strips, and similar materials for such purposes.

For the administration of this program, we would need about \$27,000 and three positions. Out of the whole amount, this seems to us to be the minimum amount required. For this small staff and advisory committee of museum experts coming from outside Washington, we would need travel funds, \$20,000; for transportation of goods to museums about \$18,000; for communications and data processing equipment, \$15,000; for supplies, \$10,000; and for other equipment, \$15,000 for a total of \$78,000.

Then, finally, we are, under the Act, requesting \$100,000 each for the two endowments for their planned programs of museum support. We have their justifications and if you wish, Madam Chairman, we would put them in the record.

(The information follows:)

NATIONAL ENDOWMENT FOR THE ARTS

Proposal for utilization of \$100,000 in fiscal year 1972, if appropriated under National Museum Act.

In the proposed appropriation for the National Museum Act, the transfer of \$100,000 to the National Endowment for the Arts would greatly strengthen the Endowment's program for museum aid. The proposed purposes for the use of the funds are fully in accord with the policies for museum aid adopted by the National Council on the Arts at its meeting last November. The National Endowment for the Arts would utilize the proposed funds for the following two projects.

1. MUSEUM CAREER TRAINING

The need for better trained museum personnel is becoming urgent. The Belmont Report documented this need and placed museum training among the top priorities of museum assistance programs. Demands on Museums have continued to grow dramatically, and the situation is critical.

In response to this need, new facilities for museum training are becoming available all over the country as universities expand their museums (e.g., Berkeley, University of Wisconsin, Cornell University) and cooperative efforts between universities and museums are initiated (e.g., University of Delaware and Winterthur Museum, U.C.L.A. and the Los Angeles County Museum, N.Y.U. and the Metropolitan Museum). Never before has there been such an opportunity to build valuable programs of museum training through Federal support.

Several Federal agencies have seen this opportunity and the National Endowment for the Arts has already allocated \$200,000 in fiscal year 1971 for museum training programs which will complement those of the National Endowment for the Humanities and the Smithsonian Institution. These funds will be used to assist leading training programs already in existence and to explore new methods of providing trained personnel on various professional and teaching levels by providing pilot grants for new programs of high potential value. Funds from the National Museum Act could be used to enlarge the scale of the Endowment's museum training support and to encourage the establishment of new museum training centers through the cooperative efforts of universities and museums. (Proposed : \$40,000 Museum Act Funds)

2. MUSEUM PUBLICATIONS

Many important collections of art, science and history museums are virtually unknown to the public because they have never been properly catalogued and published. Many exhibitions of international significance have had only local impact because funds were not available for publishing and distributing scholarly catalogues. Two of the principal museum programs of the Endowment for the Arts relate to scholarly publication in both of these areas. Its Aid to Special Exhibitions Program assists museums to organize substantial exhibitions with appropriate catalogues, and its Traveling Scholars Program provides funds for museums to catalogue and publish unresearch collections. Funds made available through the National Museum Act could enhance both of these programs. (Proposed : \$60,000 Museum Act Funds)

NATIONAL ENDOWMENT FOR THE HUMANITIES

Proposal for utilization of \$100,000 in fiscal year 1972, if appropriated under National Museum Act.

CONSULTANT SERVICE FOR EDUCATIONAL ACTIVITIES OF SMALLER HISTORICAL MUSEUMS

It is clear that a central need of historical museums, particularly smaller ones, is for better trained personnel. In the past 4 years the National Endowment for the Humanities has contributed to improvement of the situation through two types of programs: a university fellowship program to attract and prepare students for entering into professional careers with museums; seminars to upgrade the capacities of personnel who are already employed with museums and historical associations.

A third type of program would be very useful, as a complement to the two described—a program to bring highly competent consultants, for brief but intensive periods, directly to the smaller museums which most need guidance. The central purpose of the consultants would be to improve the abilities of the museum personnel in interpreting and presenting their own collections for public education.

The consultants should be qualified to give instruction and advice on how to present exhibits in a way that is meaningful and relevant for the public. Presentations should permit the public to view objects not just as isolated curiosities, but as sources for a broader historical perspective. Before this can be effectively accomplished however, museum personnel themselves need to have deeper understanding of how to relate their collections to wider historical developments, and

how to utilize those collections as a springboard for fruitful discussion and reading.

An institution or association with capacity to organize and administer this consultant program would be selected as a grantee. It in turn would be required to seek the advice of other scholarly and professional groups, in establishing program guidelines, and selecting well-qualified consultants.

The choice of consultants would of course be crucial. They would need to have substantial backgrounds in history, particularly American history, and at the same time they would have to have knowledge and interest in the educational roles of museums. Furthermore, they would need to be willing to assume this kind of activity on a full-time basis for a period of 6 months to 1 year.

An amount of \$100,000 would permit one 1-week consultant visit to each of 120 small museums during a period of 1 year (or if preferable, an initial 1-week session, and a followup 1-week session some months later, for each of 60 museums). This calculation is based on the assumption of a full year's employment of three consultants, each spending about 6 weeks in preparation, and each making 40 1-week visits. The home bases of the three consultants would be geographically spread, and each would work in an assigned region. (For each the cost is estimated at \$29,000: \$15,000 salary; \$8,000 travel; \$6,000 per diem.) An amount of \$13,000 would remain available to meet the costs of the administering organization—the costs of consultant selection and orientation, preparation of descriptive materials for museums, scheduling of visits, evaluation of museums' and consultants' reports, etc.

Mrs. HANSEN. How many organized museums are there in the United States?

Dr. RIPLEY. We estimate at the moment that there are approximately 6,000 museums.

Mrs. HANSEN. How many States are they distributed in?

Dr. RIPLEY. Through the entire Nation. These are visited by almost 600 million people annually.

ACADEMIC AND EDUCATIONAL PROGRAMS

Mrs. HANSEN. Under your academic and educational programs you are requesting a \$55,000 increase for graduate studies. What does this additional funding involve?

Dr. RIPLEY. I would like to ask Mr. Warner to speak to that.

Mr. WARNER. The \$55,000 additional funding for graduate studies would provide next fiscal year two postdoctoral fellows in environmental sciences and systematic biology and two predoctoral appointments in American history and art, and 10 short-term graduate student summer appointments. That is it in essence. In other words, it is a graduated increase for the predoctoral and postdoctoral fellowships, and for the summer appointments we used to do with our private money. These are graduate students for summer job experience with the scientists at the Smithsonian. We haven't been able to carry out this program for 2 years. We would like to resuscitate it. Built into the \$55,000 increase are 10 summer appointments at \$2,000 each.

Mrs. HANSEN. This is \$2,000 per summer for each person?

Mr. WARNER. Yes.

Mrs. HANSEN. How long is the summer program?

Mr. WARNER. Roughly from when they get out of college to about Labor Day.

ELEMENTARY AND SECONDARY EDUCATION PROGRAM

Mrs. HANSEN. Justify your requested increase of \$60,000 for elementary and secondary education.

Mr. WARNER. Essentially, Madam Chairman, I think the graph in our budget that shows the growth of subject matter tours and trained docents tells the story. That is to say, we have a great many volunteer teachers from our associates membership organization, and others, but we do need more professional teachers or staff associates. We need teachers to instruct these volunteer teachers in new subject areas. We have more and more volunteers who say they would like to conduct these museum tours, but as you see from the graph, the number of subjects areas on which we are prepared to give guided tours has remained rather static. We are requesting two new staff associates so we can give a greater variety to our offering. We also require an additional tour scheduler because some days schools complain to us that they try to telephone us for 3 days in a row before they can finally get through to our scheduling office at the peak seasons. The tours that we give are very popular with the schools.

RESEARCH AWARDS PROGRAM

Mrs. HANSEN. You are requesting an increase of \$50,000 for your research awards program. Please explain what is involved in this request.

Dr. CHALLINOR. Madam Chairman, we have asked for \$50,000 extra for this year. The amount of \$400,000 has remained static since 1967. In 1966, the National Science Foundation instituted a limitation on the amount of awards they could make to scientists who are supported by the Federal Government. The Smithsonian research awards program was established in that year to allow Smithsonian scientists to compete for research money that would normally have been funded directly from the National Science Foundation.

Mrs. HANSEN. How much does each of the scientists receive?

Dr. CHALLINOR. Madam Chairman. Each year we fund about 40 proposals, figuring roughly on an average of \$10,000 each.

Mrs. HANSEN. How long do these projects last and what are some of the typical proposals?

Dr. CHALLINOR. These projects are normally funded on a year-to-year basis. In the current year, for the first time, we permitted research proposals to be submitted that would be on a more continuing basis. In other words, we found that when we awarded simply on a 1-year grant, the scientists often required as much as a year to get the equipment together and to get the project underway. So we are allowing multiyear proposals now. Among the awards that we have made are, for example, for research in tropical snakes and lizards. I have the list of publications that resulted from this program which I will be happy to put in the record.

(The information follows:)

RESEARCH AWARDS PROGRAM—LIST OF PUBLICATIONS

NMNH/INVERTEBRATE ZOOLOGY

Grant No. Sg 0682008—Bowman, Thomas and McCain, John C.: *Paracaprella barnardi*, a new species of caprellid (Crustacea: Amphipoda) from the West Coast of Panama. Proc. Biol. Soc. Washington, Vol 80, pp. 219–223, 1967.

Grant No. Sg 0682009—Cressey, Roger F.: Caligoid copeoda parasitic on *Isurus oxyrinchus* with an example of habitat shift. Proc. U.S. Nat. Mus., Vol. 125, No. 3653, pp. 1–26, 1968.

Grant No. Sg 0683026—Hope, W. Duane: Free-living nematodes of the general *Pseudocella* Filipjev, 1927, *Thoracostoma* Marion, 1870, and *Deontostoma* Filipjev, 1916 (Nematoda: Leptosomatidea) from the west coast of North America. *Trans. Amer. Microscop. Soc.*, Vol. 86, No. 3, pp. 307–334, 1967.

Grant No. Sg 0682010, Sg 0682012—Manning, Raymond B.: *Nannosquilla anomala*, a new stomatopod crustacean from California. *Proc. Biol. Soc. Washington*, Vol. 80, pp. 147–150, 1967. Review of the genus *Odentodactylus* (Crustacea: Stomatopoda). *Proc. U.S. Nat. Mus.*, Vol. 123, No. 3606, pp. 1–35, 1967. Notes on the demanill section of genus *Gonodactylus* Berthold with descriptions of three new (Crustacea: Stomatopoda). *Proc. U.S. Nat. Mus.*, Vol. 123, No. 3618, pp. 1–27, 1967. Stomatopod Crustacea from Madagascar. *Proc. U.S. Nat. Mus.*, Vol. 124, No. 3641, pp. 1–61, 1968. A version of the family squillide (Crustacea, Stomatopoda) with the description of eight new genera. *Bull. Mar. Sci.*, Vol. 18, No. 1, pp. 105–142.

Grant No. Sg 0681027, Sg 0681027/C1—Pawson, David L. and Downey, Maureen E.: Catalog of Recent Ophivroid Type Specimens in major collections of the United States. (in press—should be published in FY 1970). Catalog of the Asteroids. (in preparation and should be ready for press early 1970).

Grant No. Sg 0684025, Sg 0684025/C1—Rosewater, J.: Reinstatement of *Melarhaphé* Menke, 1828. *The Nautilus*, Vol. 80, No. 2, pp. 37–38, September, 1966. Indo-West Pacific Littorinidae. American Malacological Union Annual Reports for 1966. *Bull.* 33, p. 27, January, 1967. Itinerary of the Voyage of H.M.S. Blossom. *The Veliger*, Vol. 10, No. 4, pp. 350–352, April, 1968.

Principal Research Papers to be Submitted for publication 1969–1970:

Parts 1 and 2 of a monograph of the Family Littorinidae in the Indo-Pacific (scheduled for publication in the *Journal Indo-Pacific Mollusca*).

Grant No. Sg 0684033, Sg 0684033/C1, Sg 0684033/C2—Waller, Thomas R.: Two Fortran II Programs for the Univariate and Bivariate Analysis of Morphometric Data. *USNM Bull.* 285, 1968.

Waller, Thomas R.: The Evolution of the *Argopecten Gibbus* Stock (Mollusca. Bivalvia), with emphasis on the Tertiary and Quaternary Species of Eastern North America. *The Paleontological Society, Memoir* 3, 125 pgs. V. 43, Supp. to No. 5, Sept. 1969.

NMNH/PALaeOBIOLOGY

Grant No. Sg 0651034—Buzas, Martin A.: On the spatial Distribution of Foraminifera. Contributions from the Cushman Foundation for Foraminiferal Research. Volume XIX, Part 1, Jan. 1968, 11 p. Foraminiferal Species Densities and Environmental variables in an Estuary. *Limnology & Oceanography*, Vol. 14, No. 3, May 1969, pp. 411–422.

Grant No. Sg 0651036—Cheetham, Alan H.: Morphology and Systematics of the Bryozoa Genus *Metrarhabdotos*. *Smith. Misc. Coll.*, V. 153, No. 1, pp. 1–121, 18 pls., 24 figs.

Grant No. Sg 0651035:

Cifelli, Richard, Blow, Walter H., and Melson, William G.: Paleogene Sediment from a Fracture Zone of the Mid-Atlantic Ridge. *Journal of Marine Research*, Volume 26, 2, 1968, p. 105–109.

Cifelli, Richard, Melson, W. G., Thompson, G., and Bowen, V. T.: Lithified carbonates from the Deep-Sea of the Equatorial Atlantic. *Journal of Sedimentary Petrology*, Vol. 38, No. 4, pp. 1305–1312, Figs. 1–2, December, 1968.

Cifelli, Richard: Distributional Analysis of North Atlantic Foraminifera collected in 1961 during Cruises 17 and 21 of the R/V *Chain*. *Contr. Cushman Found. Foram. Res.*, pp. 118–127—1967.

Cifelli, Richard and Sacks, K. N.: Abundance Relationships of Planktonic Foraminifera and Radiolaria. *Deep Sea Research*, pp. 751–53, 1966.

Cifelli, Richard, Bowen, V. T., and Siever, R.: Cemented Foraminiferal oozes from the Mid-Atlantic Ridge. *Nature*, pp. 32–34, 1966.

Cifelli, Richard: Late Tertiary Planktonic Foraminifera Associates with a Basaltic Boulder from the Mid-Atlantic Ridge. *Jour. Marine Res.*, pp. 78–87, 1965.

Grant No. Sg 0653051:

Hueber, Francis M. and Banks, H. P.: *Psilophyton Princeps*: The search for Organic Connection. *Taxon*, Utrecht, Netherlands 16(2): 81:85, 1967.

Hueber, F. M.: *Psilophyton*: The Genus and the Concept. *International Symposium on the Devonian System*, pp. 815–822, 1967.

Hueber, F. M. and Grierson, J. D.: Devonian Lycopods from Northern New Brunswick. International Symposium on the Devonian System. pp. 823-836, 1967. Grant No. Sg 0651032:

Kauffman, E. G., Dane, C. H., and Cobban, W. A.: Stratigraphy and regional relationships of a reference section for the Juana Lopez Member, Mancos Shale, in the San Juan Basin, New Mexico. U.S. Geol. Surv. Bull., 1224-H, 15 pp. 3 figs. 1966.

Kauffman, E. G.: Evolution and ecology of Cretaceous *Thyasira* (Bivalvia, Lucinacea) from the Western Interior. Abstract, Prog. Ann. Meeting, Geol. Soc. America, 1966, San Francisco, p. 105. Cretaceous *Thyasira* from the Western Interior of North America. Smithsonian Misc. Coll. Vol. 152, No. 1, 159 p., 5 pls., 18 figs. 7 tabl. Notes on the Cretaceous Inoceramidage of Jamaica. Geonotes, Jam. Geol. Surv., 15 p. 1 tab., June, 1967. Coloradoan macroinvertebrate assemblages, Central Western Interior, United States. Abstr. Geol. Soc. America, Program and Bull., Sect. Meetings, May 10-13, 1967, 1 p. Coloradoan macroinvertebrate assemblages, Central Western Interior, United States; in Paleoenvironments of the Cretaceous Seaway in the Western Interiors; a Symposium. Ed., E. G. Kauffman, H. E. Kent, Colo. Sch. Mines Pub., p. 67-143, 12 figs. 1967.

Kauffman, E. G., Dane, C. H., and Cobban, E. G., and W. A.: Semilla Sandstone, a new member of the Mancos Shale in the Southeastern part of the San Juan Basin, New Mexico, U.S. Geol. Surv. Bull. 1254-F. Contrib. to Stratigraphy 21 pp., 4 figs 1968.

Kauffman, E. G. and Kent, H. C.: Cretaceous biostratigraphy of Western Interior United States; Abstr. 1968 Ann. Mtng. Geol. Soc., Soc. America, Mexico City, p. 156. 1968.

Kauffman, E. G.: Biostratigraphy and assemblages of Antillean Cretaceous Bivalvia; Abst. 5th Carib. Geol. Conf., St. Thomas, 2 pp. 1968. Form, function and evolution; in Treatise on Invertebrate Paleontology. Ed., R. C. Moore: Bivalvia, 147 pp., 17 figs, 1969. The Cretaceous *Inoceramus* of Puerto Rico; Proc. 4th Caribbean Geol. Conf., Trinidad, 1965, 40 ms. p.; 6 figs., 2 pls. 1969. Systematics and evolutionary position of a new Tertiary *Thyasira* from Alaska. Jour. Paleont., 33 ms. pp.; 5 figs., 1 pl. Population Systematics, radiometrics and zonation, a new biostratigraphy. Abstr. N. American Paleontological Convention, Sept., Chicago, 2 ms. pp. 1969. Biostratigraphy and assemblages of Antillean Cretaceous Bivalvia, Proc. Vol. 5th Carib. Geol. Conf. 10 ms. pp., 3 figs., 1969.

Manuscripts in progress, completion expected by May 1970 (all fully supported—in order of expected completion):

- (1) Systematics, evolution and ecology of North American Inoceramid genera.
- (2) Morphology, anatomy and habitat of Recent *Isognomon* idae (with K. J. Boss)
- (3) Cretaceous Inoceramidae of the Caribbean.
- (4) Lower Cretaceous Inoceramidae of Texas.
- (5) Systematics and evolution of Paleogene *Astarte* from the Middle Atlantic Coast (with C. H. Buddenhagen).
- (6) Jurassic Inoceramidae of Alaska.

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(6) Jurassic Inoceramidae of Alaska.

(7) Lower Cretaceous Inoceramidae of Western Interior North America and Alaska.

(8) Cenomanian-Turonian Inoceramidae of North America.

(9) Systematics and evolution of Paleocene *Crassatella* from Maryland (with R. Sikora).

(10) Coniacian Inoceramidae of Western Interior North America.

Partially supported:

(1) Cretaceous biostratigraphy of the Western United States (with several coauthors).

(2) Cenomanian-Turonian Stratigraphy of Cimarron County, Oklahoma (with J. D. Powell, D. C. Hattin).

(3) Revision of Coloradian stratigraphy in the central Western Interior United States (with D. C. Hattin).

(4) Stratigraphy of the Dakota Group in central and eastern Colorado (with K. M. Waage).

Grant No. Sg 0654019, Sg 0654019/C1:

Pierce, J. W. and Roberts, W. P.: Outcrop of the Yorktown Formation (Upper Miocene) in Onslow Bay, North Carolina. *Southeastern Geol.* V. 8, pp. 131-138, 1967.

Pierce, J. W., Siegel, Brien, C. M., and Stone, I. C. Jr.: Clay Mineralogy in the estuary of the Río de la Plata, South America. 23d Int. Geol. Congress, V. 8, 9.

Grant No. Sg 0652002—Ray, Clayton E., Cooper, B. N., and Benninghoff: Fossil Mammals and pollen in a late Pleistocene deposit at Saltville, Virginia. *Jour. Paleont.*, V. 41, No. 3, pp. 608-622, 2 pls., 4 figs 1967.

Grant No. Sg 0654062, Sg 0654062/C1:

Stanley, Daniel J.: Comparing Patterns of sedimentation in some Modern and Ancient Submarine Canyons. *Earth and Planetary Sci. Letters*, V. 3, pp. 371-380, 1964. (Some NAS and Nat. Res. Council Canada Funds).

Stanley, Daniel J. and Cok, Anthony E.: Sediment Transport by Ice on the Nova Scotia Shelf. *Trans. at. Symp., Marine Tech. Soc.*, pp. 109-125, Mar. 1967. (USGS and Narocean Off. in joint support with SRF).

Cifelli, Richard: Radiation of Cenozoic Planktonic Foraminifera. *Syst. Zool.*, v. 18, pp. 154-168—1969.

Age relationships of Mid-Atlantic Ridge sediments, pp. 47-70: in Bandy, O. L., ed., *Radiometric Dating and Paleontologic Zonation*, *Geol. Soc. Amer. Spec. Pap.* 124, 260 pp.

Cifelli, Richard, Sachs, K. N., Jr., and Bowen, V. T.: Ignition to concentrate shelled organisms in plankton sample. *Deep-Sea Res.*, v. 11, pp. 621-622 1964.

Cifelli, Richard and Smith, R. K.: Problems in the distribution of North Atlantic Foraminifera and their relationships to water masses, pp. 68-81: in Bronnimann, P., and Renz, H. H. eds. *Proc. First International Conference on Planktonic Microfossils*, Geneva, 1967, v. 2, 745 pp.

Cifelli, Richard, Thompson, G., Bowen, V. T., and Melson, W. G.: Lithified carbonates from the Deep-Sea. *Jour. Sed. Petrol.*, v. 38, pp. 1305-1312, 1968. Distribution of Planktonic Foraminifera in the vicinity of the North Atlantic Current. *Smithsonian Contribs. to Paleobiol.* no. 4, pp. 1-52, 1970.

Grant No. 0651036—Cheetham, Alan H., Rucker, James B. and Carver, Robert E.: Wall structure and Mineralogy of the Cheilostome Bryozoan *Metrarabdotos*. *Journal of Paleontology*, Vol. 43, No. 1, Jan. 1969, pp. 129-135.

Grant No. 0654062:

Stanley, Daniel J. and Silverberg, Norman: Recent Slumping on the Continental Slope off Sable Island Bank, Southeast Canada. *Earth and Planetary Science Letters* 6 (1969) 123-133. North-Holland Publishing Comp., Amsterdam. Armored Mud Balls in an Intertidal Environment, Minas Basin, Southeast Canada. *Journal of Geology*, 1969, Vol. 77, pp. 683-693. The ten-fathom terrace on Bermuda: its significance as a datum for measuring crustal mobility and eustatic sea-level changes in the Atlantic.

Stanley, Daniel J., and Kelling, Gilbert: Sedimentation Patterns in the Wilmington Submarine Canyon Area. *Ibid.*, pp 127-142, 1967 (Inst. of Ocean., Dalhousie University in joint support with SRF).

NMNH/MINERAL SCIENCES

Grant No. Sg 0643048, Sg 0643059, Sg 0643106:

Melson, W. G., Bowen, V. T., Van Andel, T. H., Siever, R.: Greenstones from the central valley of the Mid-Atlantic Ridge. *Nature*, 1966.

Melson, W. G.: Geologic significance of St. Paul's Rocks. *Oceanus*, 1966.

Melson, W. G., Van Andel, T. H., and Jarosewich, E.: Metamorphism in the Mid-Atlantic Ridge, 22° N. latitude. *Marine Geology*, 1966.

Melson, W. G., Jarosewich, E., Bowen, V. T., and Thompson, G.: St. Peter and St. Paul's Rocks: high temperature mantle-derived intrusion. *Science*, 1967.

Melson, W. G.: Petrologic model of the Earth's crust across the Mid-Atlantic Ridge. *Trans. Amer. Geophys. Union* 1968.

Melson, W. G., Jarosewich, E., and Henderson, E. P.: Metallic phases in terrestrial basalt: implications on equilibria between basic magmas and iron carbon melts. *Trans. Amer. Geophys. Union*, 1968.

Grant No. Sg 0633100—Spangler, Paul J.: A new Brazilian "Berosus and a description of the female of *B. spectatus*. D'orchymment "Coleoptera: Hydrophilidae."

NMNH/BOTANY

Grant No. Sg 0625055—Ayensu, E. S.: Leaf-anatomy and systematics of Old World *VELLOZIACEAE*. Kew Bulletin, Royal Botanic Gardens, London. Vol. 23, No. 2, 1969, pp. 315–335.

Grant No. Sg 0625005:

Eyde, Richard H., Bartlett, Alexandria, and Barghoorn, Elso S.: Bulletin of the Torrey Botanical Club. "Fossil Record of *Alangium*: Vol. 96, No. 3, pp. 288–314, May, June, 1969.

Eyde, Richard H.: The Peculiar Gynoecial Vasculature of Cornaceae and its Systematic Significance, Phytomorphology. Vol. 17, Nos. 1–4. March–December 1967. Flowers, Fruits and Phylogeny of Alangiaceae. Journal of the Arnold Arboretum, Vol. 49, No. 2, April, 1968, pp. 167–192.

Grant No. Sg 0627016, Sg 0627016/C1, Sg 0627016/C2:

Fosberg, F. R. and Sachet, M. H.: Plants of Southeastern Polynesia. U.S. Nat. Mus. Vol. 2, p. 153–159, June, 1966.

Fosberg, F. R.: Critical Notes on Pacific Island Plants. 1. U.S. Nat. Mus. Vol. 2, p. 144–152, June, 1966. Some Ecological Effects of Wild and Semi-Wild Exotic Species of Vascular Plants. Proceedings and Papers of the IUCN 10th Tech. Meet. (Lucerne June 1966) Part III, IUCN Publications New Series No. 9 (1967) pp. 98–109.

Fosberg, F. R. and Sachet, M. H.: *LEBRONNECIA*, gen. Nov. (MALVACEAE) des Iles Marguises. Muséum National D'Histoire Naturelle, Adansonia, Nouvelle Se'rie, Tome-VI, Fascicule 3, pp. 507–510, 1966.

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(Grant No. Sg 0621054, Sg 0621054/C1):

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Grant No. Sg 0400004, Sg 0400004/C1—Margulies, M. and Parenti, F.: Synthesis of ribulos diphosphate carboxylase by chloroplasis in vitro. American society of plant physiologists, Amherst, 1968.

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GRANTS LIMITED TO SMITHSONIAN SCIENTISTS

MR. YATES. May I ask a question, Madam Chairman, of the gentleman who just testified? Are you in a better position to make grants in the field of science than the National Science Foundation?

DR. CHALLINOR. To our own people, Mr. Congressman. These are research grants that are confined to Smithsonian scientists. In other words, these are not made to outside scientists. However, we have had requests this past year from our scientists for about \$1.7 million worth of which we had only \$400,000 to award.

Mr. YATES. What is a Smithsonian scientist?

Dr. CHALLINOR. These are scientists who are working at the Smithsonian's facilities at the Ph. D. level who are members of the permanent Smithsonian staff.

Mr. YATES. They are all on the staff?

Dr. CHALLINOR. Yes, Mr. Congressman. These proposals are reviewed by an outside panel of six scientists, and the Smithsonian scientists compete among themselves for these grants.

Mr. YATES. I am looking at the various research grants and I must say I sigh with relief when I look at the program for American history, art and music. I can understand those but I am afraid I don't understand the program on evolutionary and systematic biology. I am glad somebody does. I assume that the people at the Smithsonian do.

Dr. RIPLEY. We eat it up.

Mr. YATES. Like the starfish.

IMPORTANCE OF THE HUMANITIES AND THE ARTS

Mrs. HANSEN. I would say that the Smithsonian Institution has been moving away from its arts and history orientation into the world of science. I think this is due to Dr. Ripley.

Mr. YATES. Ever since Sputnik went up we have been emphasizing science and math to the derogation of the humanities and the arts. I don't say this in criticism of Dr. Ripley, but I think this has been a national trend and I would hope not that there is a lack of activity in the field of the physical sciences and mathematics, but rather that there is a growth and fostering of the humanities, of the sociological studies and of the arts.

Dr. RIPLEY. Thank you, Mr. Yates. We will do our best.

Mrs. HANSEN. Dr. Ripley has heard this lecture from me before. The humanities are very important because science cannot be properly applied without an understanding of the humanities.

Dr. RIPLEY. We welcome the support of the Congress for the National Museum of History and Technology, for the National Collection of Fine Arts, the National Portrait Gallery, the Renwick Gallery, the Archives of American Art, the Hirshhorn Museum, and our other art and humanity programs.

HIRSHHORN MUSEUM COLLECTION

Mr. YATES. I looked at the Hirshhorn Museum justification. I was sort of appalled by the amount of renovation that they are asking.

Dr. RIPLEY. This we can explain, Mr. Yates. The point is that when an individual collects pictures or sculpture, it is very difficult for such a person to maintain them at museum quality for exhibition at all times. When you have some 7,000 objects, the level of preservation and conservation required of an individual becomes insuperable. The fact is that that individual has acquired them at a cost which no government would probably ever consider putting up for the acquisition of such objects. Once acquired then we have to undertake the

responsibility for preparing them for the opening of the museum. This problem of preparation of even the 1,200 items, which we decided would be put by selection in the opening exhibition, is very substantial.

Mr. YATES. I was just going to say, Madam Chairman, I thought in reading the justifications in previous years for the Hirshhorn collection, I noted that they were of museum quality, and I assumed that they were in museum condition.

Dr. RIPLEY. No; museum quality as distinct from museum condition.

Mrs. HANSEN. As a matter of fact, our hearings in the past years have indicated this was not true.

Dr. RIPLEY. Museum quality means any museum in the country would be fighting to get them. That museum, once having acquired them, might have to undertake in some cases, not in all, and this varies with the age, condition, and quality of each object, their own program of preparing them for public exhibition.

Mr. YATES. Where are these now, Mr. Ripley, in your possession or in the possession of Mr. Hirshhorn?

Dr. RIPLEY. Under the agreement they are coming to the building when it is completed. That is the way it is, and we are charged with preparing them for that time. It is a binding contract. They are mostly in New York, where we maintain a staff especially for preparing them, and on his own property in Greenwich, Conn.

Mr. YATES. Have you seen them?

Dr. RIPLEY. Yes, I started looking at them in 1964.

Mr. YATES. And you just finished now?

Dr. RIPLEY. I will probably never be finished, because he goes on buying them at an extraordinary rate.

OFFICE OF THE SECRETARY

Mrs. HANSEN. Justify your requested increase of \$46,000 for the Office of the Secretary.

Mr. BRADLEY. Madam Chairman, an operations officer is needed in my office in order to provide adequate direction and coordination of what we call the administrative and central support activities, including personnel, procurement, buildings management, and the rest of the administrative activities. This operations officer will be a good investment. He is right there with me, and I can't do it all. An assistant to the Assistant Secretary for Public Service also is needed to help plan and produce a range of educational materials such as books, kits, recording cassettes, drawing upon the Institution's resources. Lastly, an additional \$6,000 are required for office support expenses.

BUILDINGS MANAGEMENT DEPARTMENT

Mrs. HANSEN. Justify your requested increase of 25 positions and \$425,000 for buildings management.

Dr. RIPLEY. Mr. Bradley, would you like to speak to that, please?

Mr. BRADLEY. At the Renwick Gallery, which will be undergoing exhibit preparation in early fiscal year 1972, and is now scheduled for a public opening in the fall of 1971, we would like to obtain permission for an additional 25 positions. This is a combination of custodial personnel, semiskilled and skilled mechanics, and guards to

take care of the building and to handle the crowds that will come there. This is \$195,000 of the requested increase.

In addition, Madam Chairman, other institutional maintenance will cost an additional amount of \$230,000, because utilities and other expenses, such as supplies, materials and equipment have gone up. I am afraid you have been hearing this from every witness. This is a very substantial part of our \$45 million salaries and expenses appropriation. Over \$10 million of our requested operating funds goes to buildings management. This is where we really feel the serious effects of inflation. This is inflation not only on salaries but also on basic house-keeping and protection expenses.

Mrs. HANSEN. Which are?

Mr. BRADLEY. Supplies, utilities, material, equipment, repairs and contracts.

Mrs. HANSEN. Please insert in the record a statement on how inflation affects building management costs.

Mr. BRADLEY. If we may we will supply that.

(The information follows:)

BUILDINGS MANAGEMENT DEPARTMENT INFLATIONARY COSTS

During the past several years, mandatory inflationary costs have added very substantially to the cost of protection, operation, and maintenance of all the Smithsonian Institution buildings. There are indicated below several items of expense and the annualized increase over the 1969 costs. In some cases, written notice was received prior to the increase, but these notices are seldom received in time to coordinate with the budget cycle. This means frequent partial absorption in the current year. No prior notice is received on the cost of supplies, materials, and equipment.

Item of expense	Percentage rate increase	Dollar effect
Salaries and benefits..... (For example: A GS-4 guard's salary increased from \$5,531 in 1969 to \$8,077 in 1971, or 46 percent; a Wage Board 9's salary increased from \$7,759 in 1969 to \$9,117 in 1971 or 17.5 percent.)	1-36	\$1,800,000
Steam.....	2-55	177,000
Electricity.....	2-12	77,000
Federal Telecommunications System (intercity telephone services FTS/GSA).....	119	32,000
Protection systems.....	10	11,000
Repairs and maintenance of elevators and escalators.....	24	21,000
Contract work for removal of trash and debris.....	148	20,000
Supplies, materials, and equipment (such as paint, lumber, public, and employee wash-room supplies).....	12-15	135,000
Total.....		2,273,000

¹ Overall average.

² Approximately.

Mrs. HANSEN. I think this is one thing that should be understood by the public, the increased costs related to inflation.

SCIENCE INFORMATION EXCHANGE

Mrs. HANSEN. Please insert justification pages B-1 through B-10 in the record at this point.

(The pages follow:)

SCIENCE INFORMATION EXCHANGE

1970 Actual	0 ¹ / ₂
1971 Estimate	0 ¹ / ₂
1972 Estimate	\$1,400,000

The Science Information Exchange, which has been in operation for 20 years, has been conducted by the Smithsonian since 1953 at the request of, and on the behalf of, the federal agencies. Funding is currently provided by the National Science Foundation.

The SIE data bank receives and processes about 100,000 one-page records (2.5 to 3 million data elements) of research planned or in progress annually. About 80 percent of the input comes from federal agencies and 20 percent comes from private foundations, universities, state and local governments, industry, and some foreign sources. From this data bank, SIE answers questions from research investigators, directors and program administrators throughout the national science community about who is currently working on what project, where, when, and with whose support. The purpose of this national service is to help investigators and administrators avoid unwarranted duplication and unnecessary overlap of complex programs and to assist in more efficient planning and management of research projects and programs. It is one to three years from the time a project is planned and started until the time it is completed and reported. Efficient planning and management requires the earliest information about what others are doing.

For fiscal year 1972, the Exchange is requesting an appropriation of \$1,400,000. The Exchange has been funded at a level of \$1,600,000 by the National Science Foundation in fiscal years 1970 and 1971 (1971 at the monthly rate of \$1,600,000 for ten months because of the difference in SIE's fiscal year). The fiscal year 1972 budget request of \$1,400,000 is contingent upon the realization of additional income generated through the recently established user charge system. Federal appropriations are used for the collection, processing, and storage of the data as a national repository and a national service. Since December 1968, non-federal users have paid for retrieving, synthesizing, and packaging the requested information. All users have paid for such services since July 1969.

About 80 percent of the output service goes to the federal agencies their grantees, and contractors. Their requests range from the retrieval of records (at one dollar each) to the preparation of printed annual catalogues of 1,500 pages (at \$25,000) describing the current national research effort, for example in water resources, marine sciences, and environmental quality. The total cost of all output products in fiscal year 1970 was \$211,000. SIE experienced an average increase of 200 percent in the demand for services over fiscal year 1969. This demand for services is illustrated on the following pages. In fiscal year 1968, before any service fees were imposed, the output services totaled \$650,000. This is the approximate income target that must be achieved in fiscal year 1972 for the Exchange to operate without a financial loss. The large drop in usage resulted from the imposition of user service fees without prior notice and an almost constant federal R&D budget in the face of rising research costs. It is quite obvious that early and adequate information is more essential than ever to efficient planning and management, in research as well as in any other enterprise. At the present, the increasing demand for services is expected to result in a user income of over \$400,000 by fiscal year 1972. (Summary information in contained in Table 1.)

¹/₂ Funded by contract with the National Science Foundation.

The SIE data bank is the only one of its scope and size in the world that deals with information about current research activities applicable to planning and management purposes. It is the only source of coherent and comprehensive information that can quickly define and describe the broad multidisciplinary and multiagency (government and private) programs of immediate national importance.

In mid-September 1970, an ad hoc committee was convened to review the current effectiveness of SIE and to identify what it should and could be doing to increase its value. This group was composed of distinguished users representing both government and private organizations in the biological and physical sciences. Recommendations from the Committee are:

1. The SIE has been an effective information exchange organization in spite of many difficulties from an administrative and fiscal point of view.
2. There is both the need and the opportunity for the SIE to provide new kinds of services in response to changing requirements for information.
3. The SIE should continue under a single management organization with an adequate budget, and an advisory committee that would guide the SIE in relation to user requirements.
4. The Smithsonian Institution should become the manager of the SIE.
5. The Smithsonian Institution should take the initiative in recommending to the Office of Management and Budget and the appropriate Congressional committees that the Institution receive an adequate federal appropriation in the form of a special account for the support and continued improvement of the SIE as a national information exchange service for both the federal and non-federal community.
6. The SIE staff, working with the Smithsonian staff, should draft a charter expressing the recommendations of the Users Committee.
7. Ways and means must be considered to strengthen the research record received by SIE. This was considered by all members to be the weakest link in the whole program.
8. More complete coverage of all research grants or contracts awarded by the various Federal agencies should be obtained.
9. Reports of non-Federal supported research on a national scale as well as foreign research reports should also be obtained.

TABLE 1
SCIENCE INFORMATION EXCHANGE
PROPOSED BUDGET FY 1972

	<u>TOTAL COST</u>	<u>PARTIAL DATA BANK COST</u> ^{1/} (Federally Appropriated Funds)	<u>SUPPLEMENTAL INPUT AND OUTPUT COST</u> ^{2/} (User Charges and Other Income)
Personnel	\$1,366,654	\$ 956,000	\$410,654
Salaries	1,242,413	869,090	373,322
Benefits	124,241	86,910	37,332
Contract Services			
Travel	10,000	3,000	7,000
Transportation of things	3,000		3,000
Rents			
Telephone	9,000	9,000	
IBM	285,000	197,500	87,500
Xerox	12,000	12,000	
Building	96,500	96,500	
Other	7,000	7,000	
Printing	5,000		5,000
Other Services			
Equipment maintenance	4,000	4,000	
Other	35,000	15,000	20,000
Supplies	20,000	15,000	5,000
Acquisition of Capital Equipment			
TOTAL	<u>\$1,853,154</u>	<u>\$1,315,000</u>	<u>\$538,154</u>
SI Services	171,846	85,000	86,846
GRAND TOTAL	<u>\$2,025,000</u>	<u>\$1,400,000</u>	<u>\$625,000</u>

^{1/} Partial cost of receiving, processing, and computer storing of research information as requested in appropriation. Total cost of input is estimated at \$1,600,000. This difference must be made up if possible by user charges or other sources of income.

^{2/} Includes additional money needed for input and to cover cost of out put services. In light of a fiscal year 1970 income of only \$211,000 and a projected income of only \$375,000 in fiscal year 1971 it seems unlikely that user charges and other income will exceed \$425,000 leaving a potential deficit of some \$200,000 in fiscal year 1972. Such a deficit could require the Exchange to cease its existence around the middle of fiscal year 1972 if an additional source of income is not available.

I. VOLUME STATISTICS FOR Sept. 69 - Aug. 70

INPUT				OUTPUT (BILLED)								
TOTAL INPUT THIS PERIOD 5,591				P-2	P-3	P-4	P-5	P-6	P-7	P-8	P-9	
DISTRIBUTION OF CURRENT FILE				Routine Invert. (# of Quest.)	Standard Rpts. (# of Reports)	Negotiated Requests	Investigator Searches (# of Names)	Accession No. Retrieval # of Numbers	Quarterly Mailings (# of Quest's.)	Automatic Distribution (# of NRPs)	Historical Searches (# of Reg's.)	
FY 69	FY 70	FY 71										
FEDERAL												
Agriculture	10,260	6,461	39	39				1				
ABC	1,231	987	51	11						91		
Commerce	1,606	1,754	7	45		5	64	41				
Congress												
D O D	15,527	11,551	6	318								
Air Force	4,771	3,979		(10)								1
Army	4,921	4,221	4	(281)								
Navy	4,561	2,050	2	(15)			9	6				
Other	1,274	1,301		(12)								
HEW	18,928	14,817	61	134	10	6	402	286	31	23826		1
HUD	140	20	1			2						
Interior	5,136	5,228	1479	19		1						
Justice	73	119		3								
Labor	285	201		3				3				
NASA	3,832	652		4				14				
NSF	6,897	5,015	32	21	3	2	1270		1			
Smithsonian.	542	16	12	2	2	1						
State	14	92		1								
TVA	33	38	29	1				56				
Treasury	6	4		1								
Transportation	1,484	1,590	34	6								
VA	5,411	3,411	54	120	1	1	53	48		12181		1
Other	167	133	19	28	1	4				296		
TOTAL FEDERAL	71,572	52,089	1824	755	19	22	2566	455	32	36554		3
NON FEDERAL												
	20,027	11,974	747	1278	4	12	121	209	46			13
G R A N D TOTAL	91,599	64,063	2571	2033	23	34	2687	664	78	36554		16
No. of NRPs (Documents)				208207	2887	16716	3689	699	17244	36554		2644

TOTAL WORKLOAD STATISTICS BY UNITS
SIE FISCAL YEAR 1970
(Invoiced)
Compared with FY 1969

	Routine Inverted Searches Q.	Standard Reports	Negotiated Requests	Investigator Searches	Accession # Retr.	Quarterly Mailings Q.	Automatic Dist.	Historical Searches
	<u>P2</u>	<u>P3</u>	<u>P4</u>	<u>P5</u>	<u>P6</u>	<u>P7</u>	<u>P8</u>	<u>P9</u>
September	144	2	4	216	84	3	5540	-
October	167	2	5	168	63	10	3874	1
November	164	3	4	273	1	-	5075	-
December	153	2	2	149	34	2	4606	3
January	159	-	2	121	1	10	958	-
February	198	1	2	280	15	3	1907	4
March	186	3	6	236	11	2	2209	-
April	182	3	1	223	99	18	3200	1
May	178	1	4	226	44	1	1625	1
June	155	1	3	252	31	-	3158	2
July	202	4	1	244	9	29	1468	4
August	142	1	0	299	272	3	2934	0
Total	2,030	23	34	2,687	664	81	36554	16
FY 1969 Total Invoiced Workload	716	4	5	10,218	179	0	15464	0
% Increase	182%	475%	580%	72% Decrease	271%	--	136%	--

Output Services - During SIE FY 1970

1 September 1969 - 31 August 1970

<u>Category of Service</u>	<u>Total \$ Income</u>	<u>Total No. Requests</u>	<u>Total No. of Requests</u>	
			<u>% Fed.</u>	<u>% Non-Fed.</u>
P2 Routine Inverted Subject & Administrative Searches	\$ 64,348	2,030	37%	63%
P3 Standard Report	4,216	23	83%	17%
P4 Negotiated Requests	56,399	34	65%	35%
P5 Investigator Searches	7,693	2,687	95%	5%
P6 Accession # Retrieval	726	664	69%	31%
P7 Quarterly Mailings (Selective Dissemination)	3,113	81	41%	59%
P8 Automatic Distribution	3,655	36,554	100%	0%
P9 Historical Searches	2,313	16	19%	81%
Contracts	69,060	10	100%	0%
Total	<u>\$211,523</u>			

DOLLAR INCOME BY TYPE OF SERVICE
SIE FISCAL YEAR 1970

Month	User Charge Income										P2-9 Total	Contract Income	GRAND TOTAL	CUMULATIVE TOTAL	
	P2	P3	P4	P5	P6	P7	P8	P9							
1969															
September	4,780	536	4,988	660	87	-	555	-	-	-	11,606	7,392	18,998	18,998	
October	5,180	392	7,818	516	66	300	387	100	100	100	14,759	5,862	20,621	39,620	
November	4,730	612	1,760	834	5	-	508	-	-	-	8,449	12,751	21,200	60,819	
December	4,930	342	634	447	46	285	461	1,328	1,328	1,328	8,472	7,268	15,740	76,561	
1970															
January	5,175	-	8,866	369	5	335	95	-	-	-	14,846	18,234	33,080	109,639	
February	6,060	158	1,627	849	23	140	191	256	256	256	9,304	4,611	13,915	123,554	
March	6,195	598	8,132	747	14	125	221	-	-	-	16,032	-	16,032	139,583	
April	5,100	406	9,711	669	104	685	320	33	33	33	17,028	947	17,975	157,558	
May	4,845	158	2,240	690	48	95	162	60	60	60	8,299	2,163	10,462	168,020	
June	4,635	191	3,919	759	35	-	316	187	187	187	10,041	3,566	13,607	181,627	
July	6,843	625	6,700	547	13	1,050	147	349	349	349	16,273	2,131	18,404	200,031	
August	5,875	197	4	606	280	98	293	0	0	0	7,353	4,135	11,488	211,521	
TOTAL	64,348	4,215	56,999	7,693	726	3,113	3,656	2,313	2,313	2,313	142,461	69,060	211,521	Av. 17,627/mo.	

LIST OF CATALOGS PREPARED BY THE SCIENCE INFORMATION EXCHANGE

Volume 1. "Water Resources Research Catalog 1965"

- a. Part I. Federally Supported Research in Progress
- b. Part II. Non-Federally Supported Research in Progress. (Prepared for Office of Water Resources Research, U.S. Department of the Interior, Washington, D. C.) Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402, Part I. \$2.50; Part II \$1.00

Volume 2. "Water Resources Research Catalog" 1966. (Prepared for Office of Water Resources Research, U.S. Department of Interior, Washington, D. C. (Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402)

Volume 3. "Water Resources Research Catalog." 1967 (Prepared for Office of Water Resources Research, U.S. Department of Interior, Washington, D. C.) Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402 \$6.75.

Volume 4. "Water Resources Research Catalog" 1968. (Prepared for Office of Water Resources Research, U.S. Department of Interior, Washington, D.C.) Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402 \$8.50

Volume 5. "Water Resources Research Catalog" 1969. (Prepared for Office of Water Resources Research, U.S. Department of Interior, Washington, D.C.) Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (In Printing Process)

"Marine Research" - FY 1968 (Prepared for Executive Office of President. National Council on Marine Resources and Engineering Development) Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402 \$5.50

"Air Force Research Resumes 1966" (Prepared for Office of Aerospace Research, U.S. Air Force) Clearinghouse, U.S. Department of Commerce, Springfield, Virginia 22151

"Air Force Research Resumes 1968" (Prepared for Office of Aerospace Research, U.S. Air Force) Clearinghouse, U.S. Department of Commerce, Springfield, Virginia 22151

"National Bureau of Standards - Research and Development Projects - FY 1965" (Prepared for National Bureau of Standards, U.S. Department of Commerce, Washington, D.C.)

- "Water Resources Thesaurus 1966" (Prepared for Office of Water Resources Research, U.S. Department of Interior, Washington, D.C.) Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 \$2.00
- "Outdoor Recreation Research 1966" (Prepared for Bureau of Outdoor Recreation, U.S. Department of Interior, Washington, D.C.) Supt.Documents,Wash.,D.C. 1967
- "Outdoor Recreation Research 1967" (Prepared for Bureau of Outdoor Recreation, U.S. Department of Interior, Washington, D.C.) Supt.Documents,Wash.,D.C. 1968
- "Outdoor Recreation Research 1968" (Prepared for Bureau of Outdoor Recreation U.S. Department of Interior, Washington, D.C.) Supt.Documents,Wash.,D.C. 1969
- "Abstracts of Research and Demonstration Projects in Social Welfare and Related Fields 1964" (Prepared for Bureau of Family Services, Welfare Administration, HEW, Washington, D.C.) Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 70 cents.
- "Viral Tumorigenesis Report" (Published semi-annually by National Cancer Institute, National Institutes of Health, HEW, Bethesda, Maryland 20014
- "Medical Research in the Veterans Administration, FY 1965"
- "Current Population Research 1966". (Prepared for National Institutes of Child Health and Human Development, National Institutes of Health, HEW, Bethesda, Maryland 20014)
- "Current Population Research 1967" (Prepared for National Institutes of Child Health and Human Development, National Institutes of Health, HEW, Bethesda, Maryland 20014)
- "Current Population Research 1968". (Prepared for National Institutes of Child Health and Human Development, National Institutes of Health, HEW, Bethesda, Maryland 20014) In Printing Process
- "Recent Research in Public Administration - A Reference 1969" (Prepared for Office of Metropolitan Development, U.S. Department of Housing and Urban Development, Washington, D.C. 20410) Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 \$1.25
- "Recent Research in Intergovernmental Relations 1968". (Prepared for Office of Metropolitan Development, U.S. Department of Housing and Urban Development, Washington, D.C. 20410)
- "Recent Research in Planning 1968". (Prepared for Office of Governmental Relations and Planning Assistance, U.S. Department of Housing and Urban Development, Washington, D.C. 20410)
- "International Trade Research" (Prepared for Export Strategy Staff, U.S. Department of Commerce, Washington, D.C.) Department of Commerce January 1970

"Neurological Disease and Blindness Catalog 1969" (Prepared for National Institute of Neurological Disease and Blindness, National Institutes of Health, HEW, Bethesda, Maryland 20014) Published by NIH April 1970

"Sustaining University Program, NASA, 1969" (Prepared for Office of University Affairs, National Aeronautics and Space Administration, Washington, D. C. 20546) Published by NASA April 1970

"Housing and Residential Building Research and Technology Catalog" (Prepared for Office of Urban Technology and Research, U. S. Department of Housing and Urban Development, Washington, D. C. 20410) In Printing Process

"Food Distribution Research Projects in Progress 1969" Food Distribution Research Society, Hyattsville, Maryland February 1970

Note: New catalogs on Water Resources Research, Outdoor Recreation, and Population Research are currently in progress.

TERMINATION OF NSF FUNDING

Mrs. HANSEN. You are requesting \$1,400,000 for the Science Information Exchange. Why did the National Science Foundation terminate its funding of this activity?

Dr. RIPLEY. The National Science Foundation decided this year that we should determine to take the responsibility for funding on ourselves. I may say that this is the result, Madam Chairman, of about 3 years of negotiation with the Office of Management and Budget. Each year we have asked the OMB how can we defend the fact that the National Science Foundation's support in the form of a contract to the Institution is decreasing below the funding level that is essential. We have had to release about 80 specially trained technicians over the past several years, spent years learning the techniques of summarizing, taping, computing, and preparing for the computer this digested science material.

This year, the Office of Management and Budget agreed that the Smithsonian should take over the funding responsibility for the Science Information Exchange. We were permitted to put it before the Appropriations Committee as a separate line item and request support for it, but only at the level of \$1,400,000. We estimated that the funding in the current year at the monthly rate equivalent to \$1,600,000 on an annualized basis, was barely enough to keep it alive. At the level of funding of \$1,400,000 we can operate for about 10 months.

Mrs. HANSEN. This activity has been funded at a level of \$1.6 million by NSF in fiscal 1970 and 1971.

Dr. RIPLEY. Yes.

Mrs. HANSEN. Yet with increasing costs you are now only requesting \$1.4 million?

Dr. RIPLEY. An amount of \$1.4 million is all we are allowed to ask for, and we believe this might result in 10 month's operation, unless we can increase the income from user charges or other fees paid by outside users, including essentially Government agencies, to make up the difference and allow us to operate on a 12-month basis.

Mrs. HANSEN. You say in your justifications "The large drop in usage resulted from the imposition of user service fees without prior notice and an almost constant Federal R. & D. budget in the face of rising research costs."

Dr. RIPLEY. Yes. This is one of those activities which everybody wants, but no one is willing to pay for, and it may be very difficult for us to make up our projected funding deficit.

Mrs. HANSEN. Give us one example of what you supply to an agency.

Dr. CHALLINOR. For example, Senator Bible was interested when this item came up and said, "How much research is being undertaken on social, physical, and medical problems of the American Indians?" His question was in the morning. By 3 o'clock that same afternoon we had a print-out from the SIE's computer files for the Senator on the on-going research supported by the Federal Government on this topic.

HISTORY OF THE SIE

Mr. YATES. Madam Chairman, as I recall our hearings before the Independent Offices Subcommittee of which I used to be a member at

the time the National Science Foundation was created, and in subsequent years, one of its principal activities was supposed to be the clearinghouse, for scientific information. I assume this is what that was.

Dr. RIPLEY. This is our Science Information Exchange, which was commenced not long after World War II as a clearinghouse for information about research in progress. It initially was supported by a consortium of Government agencies, each of whom put in a small amount of money to make up the budget.

In 1965 the NSF took over full funding, because like all these sort of activities, there comes a moment when someone says, "Let one agency pay for this activity in the name of defense, NIH so on and so forth." Then with the subsequent difficulties of the NSF budget, there has been this gradual tail off and decline in the face of rising need and rising costs of operation, so that, for example, over a 2-year period, we have had to RIF some 80 personnel. This has become increasingly difficult for us. Finally the Office of Management and Budget said, "You go and make it a separate line item and ask for the funds yourself."

RELATIONSHIP OF THE SIE TO THE SMITHSONIAN

Mr. YATES. Is it better that you should handle something like this, this collection and culling of data than the Library of Congress?

Dr. RIPLEY. This has been a historic activity of the Smithsonian from its beginning. The "increase and diffusion of knowledge" was set down by James Smithsonian in his will. The first Secretary began the idea of keeping scientists in touch with each other all around the world about what they were all doing, through a series of correspondence and then publications, so the SIE fits into one of the jobs that we are thought to have a responsibility for. It is within our mandate. Over the years, the Smithsonian has innovated many techniques for information gathering, retrieval, and correlation of scientific research results. We have conducted the SIE since 1953.

SIMILAR SERVICES IN OTHER COUNTRIES

Mr. YATES. Does any other country have such a service that you know of?

Dr. CHALLINOR. To the best of our knowledge no other country has quite the equivalent of what we do. This service is primarily concerned with finding out what other people are doing now in a particular research field. Suppose a scientist is proposing to study beetles that attack alfalfa, for example. What other scientists in various State research facilities or Federal research facilities are studying the beetles that attack alfalfa?

We can get this information to the requesting government or agency in a day or so. We are now trying to see how we can widen support for the Science Information Exchange. One way is to furnish this information on an increasingly global basis. We are negotiating with a Japanese and German organization to furnish this service abroad.

SIE'S WIDE RANGE OF COVERAGE

Mr. YATES. How is this related to knowing what appears in scientific journals? Is there a relationship or is that another kind of subject?

Dr. RIPLEY. No, this is related to that, although there are such things as biological abstracts and chemical abstracts.

Mr. YATES. Periodical digests?

Dr. RIPLEY. Yes, but in any one year it is possible for the SIE to have a question on such subjects as drugs and drug addiction, solid waste management, nuclear magnetic resonance, urban and regional planning, water resources, oral contraception, continental drift, airport noise and sonic boom studies, so the SIE provides broad coverage.

Mrs. HANSEN. That is the type of things we need a report on.

Mr. YATES. That is the wrong thing to mention.

Dr. RIPLEY. Also, such topics as pesticide residues in the food chain for man, radiation induced effects of various sorts, thermal pollution.

Mr. YATES. This sounds like the legislative reference service.

Dr. RIPLEY. These subjects are digested and banked in our computer and are available to inquiries. For example, an agency might call up any say, "I don't believe you can do it but I need information on all studies being undertaken on water resources by tomorrow morning." By the next morning the Exchange might have a 40-page report.

Mr. YATES. It sounds like a valuable service to me.

Dr. CHALLINOR. If I could make one point further to Dr. Ripley's statement, the difference that you raise concerning information contained in the journals. As you know research usually goes on for 2 or 3 years and is then written up, submitted to a journal and often has to wait another 6 or 8 months for publication.

This service reports on research that is on-going before it has been published, and that is the crucial distinction of the Science Information Exchange. Before somebody starts to look for money to begin a research project, he can find out who is already working in this field, and thereby hopefully save money, time, and energy by avoiding the duplication of the work. That is the main advantage of this service.

PLANS FOR USER INCOME

Mrs. HANSEN. Do you have any plans for revising the fee structure for services performed by the Science Information Exchange, and would it be a practical approach to put this activity on a self-sustaining basis as far as fee schedules are concerned?

Mr. RIPLEY. I can answer that, but I would like Mr. Wheeler, our treasurer, to answer it, because he has the figures.

Mr. WHEELER. Madam Chairman, we started on a fee basis in December of 1968 for private users, and in July of 1969 for Federal users as well. The income from these fees is now supporting the costs of output. There are two phases of this program: the cost of input, putting the details of the projects into the computer data bank, and the costs of output, that is of giving service to the customers.

The fees now just about cover the cost of the output, and there is no chance, at the current level of output, of recovering input costs.

It won't be until the user fees rise substantially above \$400,000 a year, compared to the present estimate of around \$325,000 for the current year, that there will be any beginning of absorption of the input costs. We are doing the maximum possible in the way of getting outside income from the people who benefit from this, but to bridge the \$200,000 gap between \$1.4 and \$1.6 million will require a considerable effort in fiscal year 1972.

MUSEUM PROGRAMS AND RELATED RESEARCH (SPECIAL FOREIGN
CURRENCY PROGRAM)

Mrs. HANSEN. Please insert justification pages C-1 through C-27 in the record at this point.

(The pages follow:)

SMITHSONIAN INSTITUTION
MUSEUM PROGRAMS AND RELATED RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAM)

1970 Appropriation	\$2,316,000
1971 Appropriation	2,500,000
1972 Estimate	5,500,000

An appropriation of \$5,500,000 in foreign currencies which are determined by the Treasury Department to be excess to the needs of the United States is requested for a program of grants to United States institutions for essential field research in archeology and related disciplines, systematic and environmental biology and astrophysics, as well as for museum programs and for other Smithsonian interests.

The requested increase of \$3,000,000 in foreign currencies is to be devoted to strengthening the research programs of United States universities, museums and other institutions of higher learning in those countries where the United States holds excess currencies.

The increase is essential to support urgent field studies in the Smithsonian's traditional disciplines of systematic and environmental biology and anthropology which today are recognized as basic to an understanding of the problems of environmental quality and cultural change.

The increase is essential also to ensure support for on-going and new research which contributes to United States national programs under, for example, the International Biological Program under Public Law 91-438, the International Decade of Ocean Exploration, the National Aeronautics and Space Administration, the National Academy of Sciences, the United States National Museum and the Department of Interior's cooperative programs abroad under the Endangered Species Conservation Act.

Above all, the increase is essential to provide funds for pending and new research projects from some 22 United States institutions. Funds available during fiscal year 1970, including all previous appropriations, were sufficient only to cover the cost of on-going research. The fiscal year 1971 appropriation is sufficient only to support on-going research and that only at a reduced level. There will be no money for new research.

Finally, the increase is essential to permit multi-year obligation of funds for research in those "excess" currency countries, like Tunisia and Morocco, where the excess designation by the Treasury Department is subject to termination at any time because "excess" accounts are small. Failure to obligate funds for a reasonable number of years for projects in such countries could prematurely terminate worthy studies by United States institutions without receiving full value from funds already expended. The Smithsonian appropriation has never been adequate to permit obligation of funds for more than one year of research at a time. Ceylon, where multi-year research has been underway, was removed from the "excess" currency country list at the end of fiscal year 1970. The

Institution was only able to provide for orderly completion of this research, by making multi-year obligations against monies originally committed for obligation for research in other countries during fiscal year 1971. The Program will, of course, continue to require annual Advisory Council review to determine satisfactory research progress of these and other multi-year studies prior to authorizing disbursement of each successive year's funds.

Funds are requested for the following programs:

	FY 1966-70 Cumulative Commitments	FY 1971 Estimated Commitments	FY 1972 Appropriation Request
Archeology and Related Disciplines	\$ 5,689,550	\$ 1,300,000	\$ 1,750,000
Systematic and Environ- mental Biology	4,143,417	1,000,000	3,000,000
Museum Programs	146,986	80,000	220,000
Astrophysics	519,124	106,000	500,000
Grants Administration ...	51,568	14,000	30,000
	<u>\$10,550,645</u>	<u>\$ 2,500,000</u>	<u>\$ 5,500,000</u>

PROGRAM GROWTH

The Smithsonian Foreign Currency Program has grown from one that supported nine projects in its first year, fiscal year 1966, to one that will support an estimated 97 projects in fiscal year 1971. A total of 168 projects had received Program support by the end of fiscal year 1970. At the end of fiscal year 1970 also, a total of \$10,550,645 had been committed out of the five year appropriation total of \$10,564,000. A total of \$2,923,000 was obligated in fiscal year 1970 alone for grants to on-going research including that approved in earlier years but postponed while host country clearances were obtained. New inquiries about foreign currency uses continue to average about one a day.

This rising demand for foreign currency grants reflects both the scientists' search for alternatives to declining federal research dollars and an expanding Smithsonian Special Foreign Currency Program authority. Program authority which was limited to archeology and related disciplines in the first year, fiscal year 1966, was broadened in fiscal year 1967 to include systematic and environmental biology, in fiscal year 1969 to include astrophysics and in fiscal year 1970 to include museum programs. During the same period, the appropriation increased from \$1,300,000 in fiscal year 1966 to \$2,316,000 in fiscal year 1967, where it remained until fiscal year 1971 when it was increased to \$2,500,000.

NO FUNDS FOR NEW RESEARCH

This limit on appropriations has meant that worthy projects which have sometimes required months or years to prepare and then to win approval for from the Smithsonian and from host country governments, cannot be supported and may be abandoned. Participating scholars, always under pressure to publish, must seek other research opportunities. A waiting list of such unfunded projects has been established. As funds become available, projects with the highest scientific

ratings will be funded first. To avoid postponement of worthy research and to provide for rising demand, an appropriation level of \$6,000,000 annually is considered realistic for future years.

USE OF FOREIGN CURRENCIES SAVES HARD DOLLARS

Special Foreign Currency Program appropriations are an advantageous source of research monies. This is so because they are not new appropriations of tax dollars and because delay in the use of the "excess" accounts means continuing losses to the United States Treasury as these accounts lose value through inflation and devaluation. Moreover, these appropriations do not add significantly to the President's budget total because the Commodity Credit Corporation reduces its appropriation request by an amount equal to the amount of foreign currencies expended.

At the same time, Special Foreign Currency Program appropriations contribute to essential national research objectives abroad without contributing to a balance of payments deficit. Moreover, Smithsonian Foreign Currency grants frequently serve as dollar-saving supplements to the dollar grants of both public and private agencies like the National Endowment for the Humanities, the National Science Foundation, the National Institutes of Health, the National Aeronautics and Space Administration, the World Wildlife Fund, the John D. Rockefeller III Fund and the Wenner-Gren Foundation. In such cases, the foreign currency grants cover costs in the host country; the dollar grants are expended in the United States for equipment not available in "excess" currency countries, for American salaries, laboratory fees and the like.

FOREIGN CURRENCIES SERVE NATIONAL PROGRAMS ON ENVIRONMENTAL QUALITY

Now is the time to use foreign currencies for urgent field studies of the processes of change in man's natural environment and in his culture. The impact of technology on rural and urban communities, the poisoning of man's environment and the destruction of nature's productive mechanisms in the face of exploding human populations, are all problems of direct interest to the Smithsonian. Unrest in urban centers and among young people the world over attest to our poor understanding of these processes. Although the Smithsonian adheres to its traditional role as an institution for basic, not applied, research, its traditional biological and anthropological interests are basic to an understanding of these immediate national and world problems.

"Excess" foreign currencies represent a substantial national resource which should be fully utilized to support studies of environmental quality like the following projects:

... The United States' Desert Biome program under the International Biological Program proposes studies in Tunisia of the continuing encroachment of the Sahara in spite of concerted conservation efforts. Utah State University is the headquarters for this broad study.

... Yale University and the Smithsonian are conducting ecological studies in the Gir Forest in Northwest India where agricultural pressures threaten destruction

of the forest which is the last habitat of the Asiatic lion, which once roamed the region from the Mediterranean to the South China Sea.

... The Smithsonian is studying, together with Israeli scientists, the movement of marine organisms through the man-made, sea-level Suez Canal. Results show that the majority of commercially valuable fish taken in the Eastern Mediterranean originated in the Red Sea. These studies have saved the United States thousands of hard research dollars because they provide a tested model for studies being prepared by the National Academy of Sciences in connection with a possible sea-level canal at Panama.

... The United States Tropical Forest Biome program under the International Biological Program proposes studies of the tropical forests, grasslands, and cultivated lands in the Ganges river valley in India. The University of Georgia is the sponsor of this research.

... The Smithsonian is studying migrating birds and the parasites associated with them in Northeast Africa. Results show that these birds carry viruses and antibodies and thus can be considered potential carriers of human diseases.

Studies of cultural change supported by the Smithsonian Foreign Currency Program include:

... San Jose State College, San Jose, California studies of responses to unusually rapid modernization in a traditional Hindu temple village in India.

... University of Washington studies of the modern history of a caste in India through analysis of its experience of urbanization.

... Kansas State University studies of the nature of changes in values, attitudes, relationships in the Tamil speaking world in India under pressure of modern communications and technological developments.

Such studies by American scholars of man's behavior are best conducted abroad because, as a rule, the best observers of a living culture are those drawn from a different culture.

RESEARCH WHICH MUST BE POSTPONED

New research into the nature of the environment long in preparation which must be postponed because of insufficient funds in the Smithsonian fiscal year 1971 appropriation include:

... International Decade of Oceanography studies conducted aboard the Smithsonian research vessel PHYKOS by scientists from major American oceanographic research institutions as a part of the approved United States national contribution to the Cooperative Investigations of the Mediterranean of the Inter-governmental Oceanographic Commission.

... Oak Ridge National Laboratory studies of deciduous forest and grassland ecosystems in Poland which will supplement similar studies under Oak Ridge's direction under the United States national plan for the International Biological Program.

... Utah State University ecological studies in the Kaziranga Wildlife Sanctuary in India as related to wildlife management.

... University of Nevada comparative ecological studies of the arid zones of Morocco.

ACCOMPLISHMENTS

Smithsonian Foreign Currency Program grants have benefited more than 200 United States institutions in over 25 states. Accomplishments include:

... More than 107 research publications. Recent publications include the first systematic study of marine organisms sorted and distributed by the Smithsonian's Mediterranean Marine Sorting Center in Tunisia and an ecological analysis of the climate and vegetation of Ceylon growing out of the studies of the Ceylonese elephant undertaken by the National Zoological Park.

... More than 214 post-doctoral research opportunities for Americans.

... More than 220 training opportunities for American Ph.D candidates, who obtained essential field experience, frequently obtaining course credit, and more often accomplishing the independent research for doctoral dissertations. Especially noteworthy for the training of students have been Hebrew Union College, Cincinnati, Ohio in its summer seminar at the excavation of the biblical city of Gezer in Israel; and the American Institute of Indian Studies (a consortium of 23 American universities), whose junior fellows conduct research in India toward their doctor's degrees with Smithsonian support. Most research projects include at least one American and one host country senior research scholar and one American and one host-country graduate student.

... Additions to research collections of the National Museum of Natural History and of other grantee institutions in the form of archaeological, ethnographic and biological specimens collected and shared with the collaborating institutions in the "excess" foreign currency country. The National Museum of Natural History is receiving specimens of handcrafts from India and Ceylon which are still being manufactured today employing methods handed down from father to son for centuries. They represent a unique source of information on the archaeology of these countries. Yale University's Peabody Museum and the Museum of the University of Colorado have benefited from additions to their paleontological collections growing out of expeditions in Egypt and Tunisia respectively. The Yale expedition is making substantial contributions to our understanding of man's evolution; the Colorado expedition has uncovered important information about the environment of early man and the geological history of northwest Africa.

GROWING RESEARCH OPPORTUNITIES

Opportunities continue to grow to employ foreign currencies. In June 1969 an amendment was signed to the principles of cooperation between the Smithsonian and the Government of Yugoslavia permitting collaboration in ecological research there. Research proposals promoted by this amendment are just beginning to arrive at the Smithsonian. The recent exchange of visits of Dr. Lee DuBridge, when he was the President's Science Adviser, and Yugoslavia's Minister Marco Bulc has provided added impetus and particularly to a Smithsonian-Yugoslav program to study man's impact on his environment. Moreover, the change in government in Pakistan brought increased interest in collaboration in basic research under the Smithsonian program. A University of Washington proposal to study the wild boar of Pakistan has just been approved--the first for the Smithsonian in Pakistan. A Smithsonian proposal to study the marine fauna of the continental shelf of West Pakistan is currently under consideration by the Government of Pakistan. In India, the Smithsonian is sponsoring an ecological research planning symposium which will provide agreed ecological research objectives with the Government of India and open the door to a substantial program of joint research.

Direct dollar costs to the Smithsonian for its Foreign Currency Program are limited to those for administrative personnel in Washington. During fiscal year 1971, six people were employed by the Office of International Activities for this purpose at a total cost of about \$88,000. The administrative burden has grown by some 79 grants during the past year and by some 40 grants the previous two years without any increase in personnel. The increase in activity has been made possible by the simplification of procedures and the introduction of labor-saving equipment.

This Special Foreign Currency Program request, as in the past, is based on budget projections for on-going research and on pending and new research proposals which include firm research proposals, those postponed by lack of sufficient funds, and other sample or illustrative proposals based on firm indications of interest both within and without the Smithsonian. They represent the Institution's selection of possible projects which appear most promising for successful development and implementation during fiscal year 1972. It should be noted, however, that actual implementation of these projects, and the distribution among disciplines and countries of "excess" currencies appropriated will be contingent upon three factors: review by the Smithsonian's national scientific advisory councils, review and approval by American embassies overseas, and appropriate cooperative arrangements with host-country institutions or Governmental authorities.

MUSEUM PROGRAMS AND RELATED RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAM)

1. Archeology and Related Disciplines

A. On-going Projects

<u>Recipient</u>	<u>Project</u>	<u>Grant Expressed in U.S. Dollars</u>	
1. American Institute of Indian Studies (a non-profit organization of 24 American colleges and universities)	To continue support of the Center for Art and Archeology a research center for South Asian archeology and art history.	1972est.	80,000
		1971	121,012
		1970	150,000
		1969	139,230
		1968	144,500
		1967	130,750
2. American Research Center in Egypt (a nonprofit study center supported by ten American universities)	To continue support of the Center's research and excavation program in the archeology of Egypt, which includes Pharaonic, Hellenistic, Roman, and early Christian sites.	1972est.	100,000
		1971	164,315
		1970	25,955
		1969	109,415
		1968	202,071
		1967	176,777
3. Jerusalem School of Archeology of the Hebrew Union College	To continue the survey and exploration of archeological sites in the Negev and the excavation at Tel Gezer.	1972est.	85,000
		1971est.	85,000
		1970	248,340
		1969	68,500
		1968	216,200
		1967	300,000
4. University Museum, University of Pennsylvania	To terminate the study of the Temple of Akhnaten at Luxor, Egypt and to prepare the publication on this study.	1972est.	30,000
		1971	28,000
		1970	67,000
		1969	60,000
		1968	9,730
		1967	65,070
5. University of Missouri	To continue to excavate at Tell Anafa, Israel, to understand better the nature of Greek trade with Palestine and Egypt in the period after 800 B. C.	1972est.	45,000
		1970	35,500
		1969	40,000
		1968	60,500
6. University of Minnesota	To continue a program of research in Yugoslavia with excavations of the unique Roman Palace of Diocletian at Split, Yugoslavia.	1972est.	40,000
		1971est.	55,000
		1970	60,288
		1969	78,184
		1968	32,505

<u>Recipient</u>	<u>Project</u>	<u>Grant Expressed in U. S. Dollars</u>	
7. Smithsonian Institution Office of Anthropology	To study disappearing metal- working crafts of Pakistan and Ceylon as part of a worldwide study of ancient technologies and their development.	1972est.	30, 000
		1971	51, 030
		1970	76, 133
		1969	43, 742
		1968	25, 128
	1967	6, 739	
8. Dumbarton Oaks (Harvard) Center of Byzantine Studies; American Academy in Rome	To continue studies of the unique but rapidly disintegrating Roman and Byzantine mosaics at historic Utica and extend them to Thurburbo Majus, Tunisia.	1972est.	150, 000 ^{1/}
		1971	58, 112
		1970	58, 691
		1969	28, 628
9. University of Illinois	To continue comparative studies of the effects of cultural change on folk music in Israel and Tunisia.	1972est.	22, 000
		1971	30, 000
		1970	31, 575
10. American Institute of Indian Studies	To continue support for post- doctoral research in social and cultural anthropology and lin- guistics of India and to support the Institute's center in Poona, India as an American research center abroad serving American scholars in all fields.	1972est.	100, 000
		1971	239, 654
		1970	133, 920
		1968	147, 930
11. American Schools of Oriental Research, Boston, Mass. (a consortium of 5 United States institu- tions of higher learning)	To continue support for two archeological excavations at Tell el Hesi and Kirbet Shema embrac- ing biblical, Greek, Roman and Byzantine periods.	1972est.	140, 000
		1971	117, 492
		1970	166, 713
		1969	50, 000
	1968	80, 000	
12. State University of New York at Buffalo (formely under Univer- sity of Michigan)	To continue excavations of the earliest Neolithic settlements in Poland.	1972est.	26, 000
		1971	36, 220
		1969	37, 251
		1968	36, 107
	1967	21, 684	
13. Denison University	To continue excavations at Sirmium, a Roman provincial capital along the fortifications erected against the "barbarians."	1972est.	40, 000
		1971est.	61, 000
		1970	61, 599
		1969	65, 223
	1968	34, 285	

^{1/} Multi-year obligation to ensure orderly completion of research in countries where "excess" accounts are small.

<u>Recipient</u>	<u>Project</u>	<u>Trant Expressed in U.S. Dollars</u>	
14. Office of Anthropology Smithsonian Institution	To continue to study the impact on the culture of Palestine of the Phoenician, Cypriot, Egyptian and Arabian cultures from the Middle Bronze age through the Persian period through excavations at Tell Jemmeh in Southern Israel.	1972est. 1971 1970	85,000 63,536 63,272
15. University Museum University of Pennsylvania	To continue study of Dra Abu El Naga tomb inscriptions, Egypt.	1972est. 1970 1969 1968	20,000 17,000 17,300 9,750
16. University of California Los Angeles	To continue excavations of an early neolithic settlement at Anzibegovo Macedonia, Yugoslavia considered a cross road for formative cultures of western civilization.	1972est. 1971est 1970 1969	20,000 20,000 50,487 30,900
17. University of Michigan	To continue research and excavations into the Middle Paleolithic of Northern Bosnia, Yugoslavia	1972est. 1971est. 1969	20,000 25,000 15,220
18. University of Michigan	To document photographically the architecture, sculpture and paintings of the Bhuddists, Hindus and Jains during India's "Golden Age" from the fifth to the eight century A. D.	1972est. 1971est.	5,000 5,000
19. University of Texas	To excavate the classical site of Stobi in Macedonia, Yugoslavia which lies at the confluence of Greek, Roman and ancient Balkan cultures.	1972est. 1971est. 1970	35,000 35,000 40,000
20. Dumbarton Oaks (Harvard) Center for Byzantine Studies	To excavate the Byzantine provincial capital of Bargala in Macedonia which lies at the confluence of Greek, Roman and ancient Balkan cultures in a study supplementary to excavations at Stobi and at Azibegovo which covers the earlier classical and pre-historic periods respectively.	1972est. 1970	35,000 35,275
<u>1972 Subtotal Estimate for On-going Research</u>			1,108,000

B. Pending Research Proposals

<u>Recipient</u>	<u>Project</u>	<u>Estimated Request in U. S. Dollars</u>	
1. Smithsonian Institution Office of Anthropology	To study the rapidly disappearing crafts at village level in India	1972est.	25,000
2. American Museum of Natural History	To initiate archeological excavations together with the Archeological Survey of India with special provision for the training of Americans in the archeology of South Asia, today an area largely neglected by U. S. scholarship.	1972est.	30,000
3. University of California Los Angeles	To excavate Islamic archeological sites in West Pakistan.	1972est.	30,000
4. Brandeis University	To survey and excavate a western Phoenician archeological site in Morocco.	1972est.	100,000 ^{1/}
5. Smithsonian Astro- physical Observatory, Cambridge, Mass., Dickinson College, Carlisle, Pennsylvania	To explore the significance to ancient Egyptian societies of the stars through study of the alignment of the temples at Luxor through application of new techniques of aerial photography and compiles calculation of the positions of stars in ancient times.	1972est.	7,000
6. University of Hawaii	To initiate prehistoric archeological excavations in north-eastern India.	1972est.	30,000
7. Washington State University	To excavate a prehistoric flint mining complex work of the Kanienm River in Poland.	1972est.	25,000
8. Washington State University	To study pre-mesolithic fossils in Poland.	1972est.	10,000
9. University of Nevada	To excavate the prehistoric site of Kausambi in northern India.	1972est.	30,000
10. University of Washington	To study the relations of fishing boat crew members and how they relate to conflict groups in a peasant fishing town in Yugoslavia.	1972est.	15,000

<u>Recipient</u>	<u>Project</u>	<u>Estimated Request in U. S. Dollars</u>	
11. University of Washington; the American Museum of Natural History, New York	To study the historical and religious documents of Tibet brought to India by the exiled Dalai Lama.	1972 est.	30,000
12. Southern Illinois University	To study the impact of rural road construction on social, cultural and economic change in Yugoslavia.	1972 est.	28,000 ^{2/}
<u>Subtotal for Pending Research</u>			360,000
 <u>C. New Projects</u>			
1. Colgate University, New York	To document in film, tape recordings and through anthropological survey techniques, the disappearing performing arts of India.	1972 est.	35,000 ^{2/}
2. University of Michigan	To study in Egypt the art and technology of Graeco-Roman lamps as one method of linking the chronology of ancient cities of Egypt with those of the rest of the Graeco-Roman world of antiquity.	1972 est.	2,000 ^{2/}
3. University of Kansas	To study the pre-history of Lake Ludas in Yugoslavia through studies of fossil remains of plants and animals and the computer analysis of the distribution of prehistoric artifacts.	1972 est.	20,000 ^{2/}
4. Association for Asian Studies, Ann Arbor, Michigan	To support linguistic research in India of the Committee on South Asian Languages.	1972 est.	50,000
5. University of Michigan	To study the genetic effects of inbreeding on Indian children.	1972 est.	25,000

^{2/} Fiscal year 1971 grant postponed for lack of funds.

<u>Recipient</u>	<u>Project</u>	<u>Estimated Request in U. S. Dollars</u>
6. Smithsonian Institution Department of Anthropology	To excavate the Moroccan Islamic city of Sijilmassa.	1972est. 150,000 ^{1/}
<u>Subtotal Estimate for New Research</u>		282,000
<u>Total Archeology and Related Disciplines</u>		<u>1,750,000</u>

II. Systematic and Environmental Biology

A. On-going Projects

<u>Recipient</u>	<u>Project</u>	<u>Grant Expressed in U. S. Dollars</u>
1. University of Georgia	To study the flow of energy through small rodent popu- lations in different habitats in conjunction with the Ecological Institute of Poland.	1972est. 40,000 1969 73,468
2. Smithsonian Institution Office of Environmental Studies, Oceanography and Limnology Program	To study marine organisms of the Red Sea and Eastern Mediterranean in order to determine what biological interchange of species has occurred through the Suez Canal.	1972est. 75,000 1971est. 75,000 1970 119,462 1969 133,473 1967 122,000
3. Smithsonian Institution Office of Environmental Studies, Oceanography and Limnology Program	To accelerate the processing of marine organisms from the Mediterranean through the sorting facility known as the Mediterranean Marine Sorting Center operated in cooperation with the Tunisian Institute of Oceanography and Fisheries.	1972est. 600,000 ^{1/} 1970 478,736 ^{1/} 1969 216,962 1967 150,000
4. Smithsonian Institution Division of Birds	To continue investigations on the ecology of Palearctic birds mi- grating through northeastern Africa, including cooperative re- search on serology with the Rockefeller Virus Laboratory and ectoparasites with the Naval Medical Research Unit III in Egypt.	1972est. 25,000 1971 26,680 1970 24,680 1969 33,780 1967 34,593

<u>Recipient</u>	<u>Project</u>	<u>Grant Expressed in U. S. Dollars</u>	
5. University of Michigan	To continue taxonomic studies of Indian mollusks through caryotype analysis and the cytogenetics of closely related species which will contribute to medical, public health, and veterinary programs.	1972est. 1971est. 1970 1969	25,000 25,000 25,562 25,414
6. State University of New York at Stony Brook	To continue theoretical ecological studies of a living coral reef and the organisms related to it in Israel.	1972est. 1971est. 1970 1968	20,000 20,000 7,122 12,036
7. Smithsonian Institution Department of Vertebrate Zoology	To continue studies of South Asian birds and their migration and the preparation of a handbook.	1972est. 1971 1970 1969	20,000 20,133 17,800 3,417
8. University of Missouri	To continue studies of the behavior and ecology of gazelles in Israel.	1972est. 1971est. 1970	30,000 30,000 45,070
9. Library, Smithsonian Institution	To continue accelerated translation and publication of reference works and monographs through the National Science Foundation's translations program.	1972est. 1971est. 1970	50,000 25,000 25,000
10. Office of Vertebrate Zoology, National Museum of Natural History, Smithsonian Institution	To continue to study the geographic distribution and the ecology of the mammals of Morocco.	1972est. 1971 1970	45,000 43,650 66,840
11. University of Michigan	To study productivity of tropical lakes in Southern India.	1972est. 1971est.	30,000 30,000
12. University of Washington	To study the ecology and behavior of the wild boar in West Pakistan, a little studied animal which is nevertheless a significant agricultural pest.	1972est. 1971est.	50,000 47,000
13. Duke University, Durham, North Carolina	To conduct studies for the classification of Moroccan lichen with special emphasis on their chemical characteristics.	1972est. 1971est.	3,000 3,000

<u>Recipient</u>	<u>Project</u>	<u>Grant Expressed in U.S. Dollars</u>	
14. International Biological Program, U.S. National Committee, National Academy of Sciences	To continue direct support to the U.S. National Committee for planning symposia, training U.S. scientists, developing research programs and coordinating U.S. and foreign research in each of the "excess" currency countries.	1972est. 1971 1970 1968	75,000 30,000 50,000 10,000
15. International Biological Program, Yale University New Haven, Conn.	To continue to study habitat relationships, numbers and distribution of wild antelope, deer and boar in the Gir Forest in India as a part of a broad study of this tropical forest has included the Asiatic lion.	1972est. 1971est. 1970	25,000 26,000 35,055
16. Office of Environmental Studies, Oceanography and Limnology Program, Smithsonian Institution	International Decade of Ocean Exploration (IDOE), cooperative investigations of the Mediterranean aboard the Smithsonian research vessel PHYKOS as follows:	1972est. 1971 1969	220,000
--University of Southern California	Dredging, coring and bottom grab sampling in studies of microscopic sea life and fossils of such life.		
--National Museum of Natural History, Smithsonian Institution	Deep sea dredging to study recent changes in the geography of biological regions through study of the changing conformation of the highly adaptable animal, the ostracod.		
--Duke University Durham, North Carolina	Bi-monthly cruises to collect samples for the study of the development, distribution and biology of crab larvae.		
--Washington State University	Biological sampling for studies of the paleontology of Pteropods		
--University of North Carolina	Isolation and study of pure cultures of marine fungi.		
--National Museum of Natural History Smithsonian Institution	Plankton tows for studies of planktonic foraminifera.		
--Florida State University	Sampling for studies of deep sea biology and geology.		

<u>Recipient</u>	<u>Project</u>	<u>Grant Expressed in U. S. Dollars</u>
--University of Delaware	Towing multiple plankton samplers to study the vertical distribution of the cosmataous pteropods in relation to water masses.	
--University of California	Sampling deeper than 200 meters to study the systematics and distribution of marine mites.	
--Division of Fishes National Museum of Natural History Smithsonian Institution	Long line fishing for several hundred specimens for a study of the distribution of the common sharksucker.	
--University of North Carolina	Trawling, gill net, and long line collection of samples for systematic and distribution studies of sharks and their relatives.	
--Department of invertebrate Zoo- logy, Smithsonian Institution	Mid-water trawling for studies of the systematics, distribution and ecology of pelagic Cephalopods.	
--Department of Paleobiology Smithsonian Institution	Dredging, coring and bottom photography to study the morphology of sediments and sub-bottom.	
--Massachusetts Institute of Technology	Deep lowerings of coring and grab sampling equipment for study of the deepest Mediterranean geological structures.	
--Woods Hole Oceanographic Institution, Massachusetts	Submergible dives to explore the water transport over the Scarpanta sill in the Eastern Mediterranean.	
--University of New Hampshire	Ecology of deep sea animals.	
--Lamont-Doherty Geological Observatory, Columbia	Ecology of skeletal plankton (foraminifera and pteropods)	
--University of Georgia	Distribution of organic chemicals and trace elements.	

FY 1972 Subtotal Estimate for On-going Research 1, 333, 000

B. Pending Projects

<u>Recipient</u>	<u>Project</u>	<u>Estimated Request in U. S. Dollars</u>	
1. Smithsonian Institution Department of Botany	To initiate flora and vegetation studies of a district of Mysore State in the Ghat Mountains of Southwest India and to prepare collections for the Smithsonian's National Herbarium.	1972est.	20,000
2. University of Georgia	To initiate studies of the interaction of human and small rodent populations in a variety of temperate zone environments in conjunction with the Ecological Institute of the Polish Academy of Sciences.	1972est.	25,000
3. Smithsonian Institution Office of Environmental Studies	To initiate studies of the behavior of elephants and primates in India coordinated with base line studies already conducted in Ceylon.	1972est.	50,000
4. Union College, Schenectady, N. Y.	To collect and study the plankton communities of the Nile River Delta with special reference to the changes in salinity and circulation caused by interruption of seasonal river fluctuation by the Aswan Dam.	1972est.	50,000
5. Smithsonian Institution, Program of Oceanography and Limnology	To collect and conduct taxonomic studies of the marine fauna of West Pakistan's continental shelf.	1972est.	50,000
6. Gulf Coast Marine Lab., Mississippi, and Division of Fishes, National Museum of Natural History, Smithsonian Institution	To conduct systematic and behavioral studies of flatfishes and gobioid fishes in collaboration with the Zoological Survey of India.	1972est.	25,000
7. Smithsonian Institution Division of Invertebrate Paleontology	To study in Tunisia the broadly distributed fossil ostracod which reveals through its varied physical appearance much about the climate and geography of the geologic era in which it lived.	1972est.	75,000 ^{1/}

<u>Recipient</u>	<u>Project</u>	<u>Estimated Request in U. S. Dollars</u>	
8. Smithsonian Institution Office of Environ- mental Sciences	To conduct in Egypt a symposium on the Biological control of the snail, carrier of the disease, bilharzia, in the newly formed reservoirs and canals associated with the Aswan dam in Egypt.	1972est.	20,000
9. Smithsonian Institution Office of Environ- mental Studies	To collect for the U. S. National Museum and study the flora of the long neglected areas of India particularly the Malabar and the Karomandel Coasts, and the Nilghiri and Khasis Hills--areas which served as sources of materials for classic botanical studies made as long ago as the 17th Century and badly in need of revision.	1972est.	20,000
10. University of Georgia	To study organic productivity and nutrient cycling in tropical ecosystems in collaboration with the Hindu University of Benares, India. This study has been proposed to the National Committees for the International Biological Program of both the United States and India.	1972est.	42,000
11. Missouri Botanical Gardens	To initiate a comprehensive program of the study of the flora of Morocco with bio-systematic studies of flowering plants.	1972est.	100,000 ^{1/}
12. Ohio University	To study the pollution condition of Lake Tunis in Tunisia.	1972est.	100,000 ^{1/}
13. Queens College, University of the City of New York	To conduct museum studies of unique specimens of fossil mammals in Poland in connection with studies of evolution.	1972est.	2,000 ^{2/}
14. Office of Environ- mental Studies, Oceanography and Limnology Program Smithsonian Institution	To initiate study of the existing ecosystem of the Eastern Arabian Sea through oceanographic cruises undertaken in cooperation with the Indian National Institute of Oceanography.	1972est.	40,000

<u>Recipient</u>	<u>Project</u>	<u>Estimated Request in U. S. Dollars</u>	
15. Office of Environmental Studies, Oceanography and Limnology Program Smithsonian Institution	To initiate a multi-year program of study of the ecology of coral reefs in India.	1972est.	56,000
16. Oak Ridge National Laboratory Oak Ridge, Tenn.	As a part of United States research under the International Biological Program, to conduct cooperative research in Poland on temperate zone forest and grassland ecosystems supplementing studies conducted in the United States.	1972est.	25,000
17. Pennsylvania State University	As a part of United States research under the International Biological Program, to conduct comparative studies of human adaptability at high altitudes in India.	1972est.	50,000
18. University of Minnesota	As a part of United States research under the International Biological Program, to study biological rhythms in the catfish in India.	1972est.	25,000
19. Pennsylvania State University and the University of Minnesota	As a part of United States research under the International Biological Program, to study in South Asia the international spread of plant disease by means of airborne organisms.	1972est.	50,000
20. University of Utah	As a part of United States research under the International Biological Program, to conduct comparative studies in the arid climates of Tunisia and India supplementing studies conducted in the United States.	1972est.	175,000 ^{1/}
21. University of Colorado	To initiate systematic studies of the flora of Yugoslavia.	1972est.	49,000 ^{2/}
<u>Subtotal Pending Biological Research</u>			1,049,000

C. New Projects

<u>Recipient</u>	<u>Project</u>	<u>Estimated Request in U. S. Dollars</u>	
1. Utah State University	To study in India, the ecology and behavior of the one-horned rhinoceros, an endangered species, surviving in the Kaziranga Wildlife Sanctuary.	1972est.	69,000 ^{2/}
2. University of Texas	To conduct studies of the ecology of Indian ungulates in the wildlife sanctuaries of Rajasthan.	1972est.	30,000
3. University of Nevada Desert Research Institute	To conduct in Morocco studies in desert ecology parallel to those conducted in Nevada.	1972est.	200,000 ^{1/}
4. University of California, Davis	To conduct in East Pakistan studies related to man's evolution through research in the ecology and behavior of the Hoolock Gibbon which seasonally changes its single-family territorial behavior to multi-family foraging group organization.	1972est.	25,000
5. National Museum of Natural History, Smithsonian Institution	To initiate ecological and behavioral studies of rhesus monkeys and langurs in India.	1972est.	30,000
6. Dartmouth College Hanover, New Hampshire	To conduct studies of the ecology of Lake Ohrid and its drainage basin in Yugoslavia.	1972est.	50,000
7. Office of Environ- mental Sciences, Smithsonian Institution	To develop a cooperative program in environmental management employing Lake Skadar in Yugoslavia and the Smithsonian's Chesapeake Bay Center for Environmental studies as the study areas. Such studies will provide the foundation for sound economic planning and development limiting man's degradation of his environment.	1972est.	100,000
8. Department of Invertebrate Zoo- logy, National Museum of Natural History	To initiate studies of the systematics and zoogeography of the stomatopod crustaceans on the eastern coast of India.	1972est.	20,000

<u>Recipient</u>	<u>Project</u>	<u>Estimated Request in U. S. Dollars</u>	
9. Chico State College, California	To collect for systematic studies,ants and parasites associated with man in Tunisia and Guinea.	1972est.	15,000
10. University of Washington,College of Forest Resources	To study geographic variation of the forest tree species <u>Shorea robusta</u> and the ecological basis for the variations, and to detect seed sources best for reforestation.	1972est.	14,000
11. University of Illinois at Chicago Circle	To trace the evolutionary relationships among Upper Cretaceous teleostean fishes through collection and study of those found in the Yugoslav Dalmatian Cretaceous outcroppings.	1972est.	10,000
12. Office of Environmental Sciences, Smithsonian Institution	To initiate a survey of the rapidly disappearing India tiger and to study its ecology preliminary to development of conservation plans.	1972est.	15,000
13. Smithsonian Tropical Research Institute, Panama	To initiate a program for comparative studies in evolutionary ecology in India including environmental monitoring.	1972est.	40,000
<u>Subtotal New Biological Research Proposals</u>			618,000
<u>Total Biological Research</u>			3,000,000

IV. Museum ProgramsA. On-going Projects

<u>Recipient</u>	<u>Project</u>	<u>Estimated Request in U. S. Dollars</u>	
1. U. S. National Museum	To assist, under the U. S. National Museum Act, with museum expertise and support the program of the International Council of Museums (ICOM), a UNESCO affiliate, to develop teaching museums of science and technology in Asia and Africa. For example, the Smithsonian contributed in FY 1969 to studies resulting in recommendations to ICOM that there be established in India a laboratory for basic exhibits in science and technology where teaching exhibits will be built for circulation in industrializing countries. The experiment will provide opportunities to American Museum Specialists to observe the effectiveness of exhibits in teaching basic science and technology to people of all cultural backgrounds.	1972est.	80,000
		1971est.	55,000
		1970	19,056
		1969	20,000
<u>Subtotal On-going Museum Programs</u>			80,000

B. Pending Projects

1. National Collection of Fine Arts and Smithsonian Traveling Exhibition Service	To prepare an exhibit catalogue, to be the first scholarly publication on a unique collection at Benares Hindu University, of miniature paintings of the Moghul period of Indian art for distribution through American museums exhibiting such art treasures, for the first time, in the United States.	1972est.	5,000
2. American Association of Museums and the United States National Museum	To initiate a program of professional training for museum curators and technicians in collaboration with museums of India, Pakistan, Tunisia and Egypt through two-way exchanges of personnel for on-the-job training. Participants would be expected to serve at least six months in a museum housing collections of direct importance to their professional development.	1972est.	85,000
<u>Subtotal Pending Museum Programs</u>			90,000

C. New Projects

<u>Recipient</u>	<u>Project</u>	<u>Estimated Request in U. S. Dollars</u>	
1. Smithsonian Traveling Exhibition Service	To prepare an exhibition of Pakistani ethnographic materials and accompanying scholarly catalogue for circulation to United States Museums and universities.	1972est.	20,000
2. Division of Ethnic and Western Cultural History, National Museum of History and Technology	To study and collect in Poland ethnographic materials to supplement national collections for circulation to United States educational and cultural organizations.	1972est.	20,000
3. National Museum of History and Technology	To study in Poland and Yugoslavia the cultures of origin of im- migrant Americans and make ethnographic collections to be used in preparing U. S. Bicentennial Exhibits.	1972est.	10,000
<u>Subtotal New Museum Programs</u>			50,000
<u>Estimated Total Museum Programs</u>			220,000

V. AstrophysicsA. On-going Projects

<u>Recipient</u>	<u>Project</u>	<u>Grant Expressed in U. S. Dollars</u>	
1. Hunter College of the City University of New York and Smithsonian Astro- physical Observatory	To continue computer analysis in Israel of the application of principles of plasma physics concerning the movement of particles at extremely high speeds to the movement of celestial bodies in galaxies-- a study of the collective be- havior of self-gravitating systems.	1972est.	15,000
		1971est.	15,000
		1970	13,450
		1969	5,400
2. Smithsonian Astro- physical Observatory	To continue studies in Israel comparing theories developed separately of the nature of the interior and of the exterior of evolving stars.	1972est.	15,000
		1971est.	15,000
		1970	11,200
		1969	27,270

<u>Recipient</u>	<u>Project</u>	<u>Grant Expressed in U. S. Dollars</u>	
3. Smithsonian Institution Office of the Secretary	To assist in studies sponsored by newly created Center for Short-Lived Phenomena, a clearing house for the receipt and dissemination of information concerning rare or infrequent natural events that might otherwise go unobserved or uninvestigated, such as remote volcanic eruptions, the birth of new islands the fall of meteorites and large fire balls and sudden changes in biological and ecological systems.	1972est. 1969	10,000 9,540
4. Smithsonian Astro- physical Observatory	To record and analyze, together with data from around the world, at the Uttar Pradesh State Observatory, India, film exposures of suspected flare stars, a relatively newly discovered class of variable stars, with radio and optical energies several orders of magnitude higher than emissions from the largest solar flares.	1972est. 1970	12,000 11,440
5. American University in Cairo and Smith- sonian Astrophysical Observatory	To conduct research in theories of planetary motion in Egypt.	1972est. 1971	20,000 23,634
6. Harvard University and Smithsonian Astrophysical Observatory	To conduct studies of thermal emission and absorption of diatomic molecules in India.	1972est. 1971est.	20,000 20,000
7. Smithsonian Astro- physical Observatory and consortium of United States Astro- nomical Research Institutions	To conduct coordinated 24 hour observation of astronomical phenomena in collaboration with Israeli institutions employing telescopes in the western United States, Chile and Israel.	1972est. 1971est. 1970	70,000 142,000 275,200
--U. S. Naval Research Laboratory, Washington, D. C. and Massachusetts Institute of Tech- nology	To conduct optical and photo- electric monitoring of X-ray sources.		

<u>Recipient</u>	<u>Project</u>	<u>Grant Expressed in U. S. Dollars</u>	
--California Institute of Technology	To conduct photoelectric monitoring of the continuum and line emission from quasi-stellar objects (QSO) and the nuclei of N-type galaxies.		
--Smithsonian Astro- physical Observatory	To conduct a high-dispersion abundance analysis of stars in the Pleiades.		
--State University of New York at Stony Brook	To determine the rate of star formation in young clusters.		
--Harvard College Observatory, Cambridge, Mass.	To conduct photometric obser- vations of the High Balmer Lines (near the Balmer Limit) and the Balmer Continuum in Planetary Nebulas.		
8. Harvard University	To conduct laboratory studies in India of the excitation pro- cesses in stellar, planetary and cometary atmospheres.	1972est. 30,000 1971est. 41,700	
<u>Subtotal Estimate for On-going Research</u>			192,000

B. Pending Projects

<u>Recipient</u>	<u>Project</u>	<u>Estimated Request in U. S. Dollars</u>	
1. Smithsonian Astro- physical Observatory Cambridge, Mass.	To investigate solar radiation pressure perturbations upon the Passive Geodetic Earth-Orbiting Satellite (PAGEOS) in collabo- ration with the University of Warsaw and the Polish Academy of Sciences.	1972est. 72,000	
2. Smithsonian Astro- physical Observatory	To measure air glow and iono- spheric characteristics at the magnetic equator in studies con- tributing to the understanding of the nature of the upper atmosphere and of some of its effects on satellites.	1972est. 18,000	

<u>Recipient</u>	<u>Project</u>	<u>Estimated Request in U. S. Dollars</u>	
3. Smithsonian Astro- physical Observatory	To initiate support for studies in geodesy, geophysics and celestial mechanics based on the tracking of man-made satellites at the Naini Tal astrophysical observing station in India.	1972est.	10,000 ^{2/}
4. University of Hawaii	To study the variations in the earth's gravity in India for a better understanding of its geological diversity and tectonic history particularly as it contributes to an understanding of continental drift.	1972est.	20,000 ^{2/}
5. University of California San Diego	To study in India the effects of cosmic rays on terrestrial and extra-terrestrial materials.	1972est.	8,000 ^{2/}
<u>Subtotal Pending Research</u>			128,000
C. <u>New Projects</u>			
1. Duke University Durham, North Carolina	To study sedimentation at Bahiret el Bibane on the shores of Tunisia.	1972est.	32,000 ^{2/}
2. Smithsonian Astro- physical Observatory	To initiate in India a program in indirect atmospheric measurements using radio tropospheric scatter techniques.	1972est.	12,000
3. Smithsonian Astro- physical Observatory	To initiate in Poland geophysical studies employing very long baseline interferometry techniques particularly studies of continental drift, polar wandering and satellite tracking.	1972est.	76,000
4. Smithsonian Astro- physical Observatory	To study in Poland the nature of stellar atmospheres.	1972est.	30,000

<u>Recipient</u>	<u>Project</u>	<u>Estimated Request in U. S. Dollars</u>	
5. Smithsonian Astro- physical Observatory	To supplement in Poland, United States contributions to the International Satellite Geodesy Experiment, a world-wide program sponsored primarily by the Committee on Space Research of the International Council of Scientific Unions.	1972est.	30,000
<u>Subtotal Estimate for New Research</u>			180,000
<u>Total Astrophysical Research</u>			500,000
VI. <u>Program Development and Administration</u>			
1. Smithsonian Institution Office of International Activities	To defray costs of inspection and audit of field research sites and costs of negotiation with host governments on program operations--costs which increase in step with the increasing numbers of active grants.	1972est. 1971 1970 1969 1968	30,000 20,000 20,000 15,000 10,000
<u>Total Program Development and Administration</u>			30,000
GRAND TOTAL			\$5,500,000

MUSEUM PROGRAMS AND RELATED RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAM)

Commitment of Funds by Country

Fiscal Years 1970, 1971 and 1972

Country	1970 Actual	1971 Estimate	1972 Estimate
Burma	\$ --	\$ 1,000	\$ --
Ceylon	661,242	--	--
Egypt	154,411	250,000	300,000
Guinea	--	5,000	10,000
India	475,348	600,000	1,500,000
Israel	946,659	750,000	600,000
Morocco	72,947	150,000	600,000
Pakistan	27,048	140,000	250,000
Poland	71,938	64,000	420,000
Tunisia	623,883	200,000	1,200,000
Yugoslavia	532,773	340,000	620,000
	<u>\$3,566,249</u>	<u>\$2,500,000</u>	<u>\$5,500,000</u>

UNIVERSITY OF WASHINGTON STUDY

Mrs. HANSEN. You are requesting \$5.5 million for Museum Programs and Related Research (Special Foreign Currency Program). Is it your policy in any instance to make grants under this program to individuals?

Dr. CHALLINOR. Madam Chairman, these grants are made to the institution at which the individual works.

Mrs. HANSEN. Reading through your justifications I find there are some rather strange items in this program.

For example, the University of Washington is studying the relations of fishing boat crewmembers and how they relate to conflict groups in a peasant fishing town in Yugoslavia.

What is involved in this study?

Dr. CHALLINOR. I would have to refer back to that specific grant application, Madam Chairman.

Mrs. HANSEN. Please insert the information in the record.

(The information follows:)

DETAILS OF CERTAIN RESEARCH PROPOSALS APPEARING IN THE SPECIAL
FOREIGN CURRENCY PROGRAM JUSTIFICATION

Page C-10, No. 10, University of Washington: To study the relations of fishing boat crewmembers and how they relate to conflict groups in a peasant fishing town in Yugoslavia.

This study is designed to test the hypothesis that access to the necessities of life is the primary factor in determining how men draw together when they are faced with a fight. The study will compare the strength of this motivation with the strength of family ties and other motivations for choosing up sides. This study is proposed for the town of Komiza, Yugoslavia, which supports a number of small fishing boats, family owned for the most part, with crews of three to six. The questions to be asked in the study include: (1) Do boat crewmembers always aline themselves together in conflict situations not directly related to fishing? (2) Does consideration of boat crew ties supersede considerations of kinship ties when disagreements arise?

WEST PAKISTAN PROJECT

Mrs. HANSEN. You are requesting \$50,000 for the University of Washington, to study the ecology and behavior of the wild boar in West Pakistan. What is involved in this request?

Dr. CHALLINOR. This is a particularly important project because as you know, Pakistanis are predominantly Moslems. They, therefore, do not eat pork. There is no major predator on the wild boar. One of the particularly interesting aspects here is that the wild boar, as you may know, goes all the way from India and Pakistan across Asia into Europe, so there is a wide diversity of habitat. This is the sort of research work, the unpopular or unappealing research work, that is done by many Smithsonian-supported scientists but which is often very, very important in these countries.

FOREIGN CURRENCY COUNTRIES

Mrs. HANSEN. Isn't what you are attempting to do, is to add to the total sum of human knowledge in a wide variety of fields? Please insert in the record the excess currency countries which participate in your program.

Dr. CHALLINOR. Those are listed, Madam Chairman. I will be happy to see that they are in the record.
(The information follows:)

MUSEUM PROGRAMS AND RELATED RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAM)

EXCESS CURRENCY COUNTRIES AS OF APRIL 1971

Burma	Poland
Guinea	Tunisia
India	United Arab Republic (Egypt)
Morocco	Yugoslavia
Pakistan	

DETAILS ON OTHER PROJECTS

Mrs. HANSEN. For the information of the committee please insert in the record the details of some of the other projects you are funding.

Dr. CHALLINOR. Yes. These all I assure you have been passed by eminent scientists in competition with other grants.

Mrs. HANSEN. For example you are funding a project to collect for systematic studies, ants and parasites associated with man in Tunisia and Guinea. Also a project to study in South Asia the international spread of plant disease by means of airborne organism.

Mr. YATES. I think you ought to get an explanation of No. 5 on page 13, because I am sure somebody is going to ask about that one.

Mrs. HANSEN. Yes.

Dr. CHALLINOR. We will be happy to fill these in for the record.

Mrs. HANSEN. Please do.

Dr. CHALLINOR. Project No. 5 actually has to do with snails.

Dr. RIPLEY. It has a highly applied medical value. By calling them mollusks instead of snails we have confused the issue.

Mr. McDADE. That doesn't clear it up very much for me, changing that one word.

(The information follows:)

Page C-13, No. 12, University of Washington: To study the ecology and behavior of the wild boar in West Pakistan, a little-studied animal which is nevertheless a significant agricultural pest.

The wild boar causes crop damage in Pakistan alone estimated at \$35 million annually. Its control has been of concern to the Pakistani Government, as it is to the other countries stretching from India to Europe. In muslim countries the boar is considered, like the pig, an unclean animal and its numbers are not, therefore, controlled through regular cropping. The proposed study will provide basic information on the biology, behavior and feeding habits of the boar upon which a program of control can be based. One result might be greater agricultural self-sufficiency in West Pakistan.

Page C-16, No. 7, Smithsonian Institution, Division of Invertebrate Paleontology: To study in Tunisia the broadly distributed fossil Ostracod which reveals through its varied physical appearance much about the climate and geography of the geologic era in which it lived.

Ostracods, which have existed on the earth throughout most geological eras, are indicators of major geological change. Finding fossils of these small animals, which are small shelled marine animals belonging to the same general type as lobsters, shrimp, crabs, and the like, will indicate definite climatic and environmental conditions in a given part of the ocean where they are found; through the study of the distribution of these small animals the major changes in the area now covered by the Mediterranean over the last 40 to 60 million years can be charted. Ostracods are of particular importance in the study of possible mineral-bearing strata, since fossils of ostracods are brought up more readily by oil drills, for example, than would be the case with larger animals.

Page C-20, No. 9, Chico State College, California: To collect for systematic studies, ants and parasites associated with man in Tunisia and Guinea.

Eighty percent of the animals on the earth are insects. Two of the most important groups of these from the point of view of their affect on mankind are ants and termites. If we are to understand how to reduce the damage brought about by these insects, we have to know their precise nature and their role in the economies of other animals. This particular study proposes the collection of ants and termites in Tunisia and Guinea and particularly of the beetles (Staphylinidae) associated with them. This study is an extension of others by the same investigators covering the tropics in both this hemisphere and in Africa and Asia.

Page C-18, No. 19, Pennsylvania State University, and the University of Minnesota: As a part of United States research under the International Biological Program, to study in South Asia the international spread of plant disease by means of airborne organisms.

The air carries much biologically significant material such as the pollen which fertilizes plants and causes hay fever or the exhaust fumes of automobiles and industries which block out the sun's rays over our cities, affecting plants, animals and man. Other living organisms are carried in the atmosphere, such as the spores of fungus, disease microbes, and even minute animals called aphids. This proposal would extend to India studies initiated in the United States under the International Biological Program designed particularly to study plant diseases which are transmitted through the air without respect for international boundaries. The purpose is to understand the evolution of the diseases as well as to record the losses in plant life resulting the diseases. Such studies are but one element in a detailed program which seeks to promote and coordinate internationally oriented research on critical problems in this field of aerobiology and to ensure the application of standardized techniques and the exchange of comparable data between disciplines and nations.

Page C-13, No. 5, University of Michigan: To continue taxonomic studies of Indian mollusks through caryotype analysis and the cytogenetics of closely related species which will contribute to medical, public health, and veterinary programs.

Snails (mollusks) carry diseases which attack man and his domesticated animals. The diseases include schistosomiasis, liver fluke, and other worm parasites. These diseases are widespread in the tropics and they have a way of spreading dramatically in an area where hydroelectric dams and irrigation canals are being built. This happens as a result of the disturbance of the ecological balance apparently through a change in water usage. Precise identification of the snail which is carrying the disease is the first step toward controlling it. Moreover, by knowing the snails habits, man can learn to avoid contact with it. Snails have been little studied in South Asia. These studies are, therefore, of great importance from the standpoint of human and animal health in that region. The studies employ the most modern techniques to understand the basic genetic materials of cells of the snails and thus to tell one family of snails from another when they are from all outward appearances identical.

CONSTRUCTION AND IMPROVEMENT OF NATIONAL ZOOLOGICAL PARK

Mrs. HANSEN. Please insert in the record justification pages D-1 through D-7.

(The pages follow:)

CONSTRUCTION AND IMPROVEMENTS
NATIONAL ZOOLOGICAL PARK

1970 Appropriation . . .	\$600,000
1971 Appropriation . . .	\$200,000
1972 Estimate	\$200,000

In 1963, Congress approved the concept of a 10-year master development plan for the National Zoological Park. Funds, averaging \$1.8 million a year, were appropriated from 1963 to 1968 in support of the master plan. The Bird House, Great Flight cage, deer area, hoofed-stock area, Hospital and Research building, roads and parking lots, utilities, sewerage, heating plant, and improvements in the electrical distribution system were all completed using the original master plan and the funds appropriated by Congress. In fiscal year 1968, Congress appropriated only \$400,000 and work was scaled down to only those improvements required to extend the useful life of the facilities not yet replaced and some minor repair projects. Improvements to the Zoo's facilities were further slowed in 1970 because the Zoo was required to reimburse the District of Columbia \$168,000 for contractor claims resulting from fiscal years 1964 and 1965 work. In addition, in February 1970 a portion of the master plan was rejected by the Commission of Fine Arts. This rejection means that the plans for the future physical development of the Zoo must be revised embodying a different philosophy of design. We have just entered into a contract with the architectural firm of Faulkner, Fryer & Vanderpool for a revision and updating of the Master Plan, including schematic drawings for all facilities. This will give us the most complete overall plan we have ever had. We will have more reliable cost estimates at today's construction cost levels. We plan to take a hard look at the construction and rehabilitation of the entire Zoo at this time. We will have an opportunity to take advantage of the very latest techniques in animal habitat as well as the accommodation of the visitor. This will require a minimum of one to two years' design effort. In the interim, an appropriation of \$200,000 is requested to continue to work on the large backlog of deferred renovation and repair projects such as the following.

- The perimeter fence is in a bad state of repair and presently, due to vandalism, floods in Rock Creek, as well as deterioration from age, does not afford the security that the Zoo requires. In August 1970, the Zoo lost four waterbucks as the result of an attack by two stray dogs that entered through openings in the fence. The length of the present fence is 3.7 miles. It crosses Rock Creek twice. Probably 70 percent of the fence will have to be replaced and an engineering design will be required at the points where the enclosure crosses Rock Creek in order to prevent future washouts by the creek when at flood stage.
- The addition of a new water main loop at the south end of the Zoo is needed in order to correct water pressure deficiencies in the area of the Lion House and to insure an adequate supply of water for the boiler plant, which has been rehabilitated.

- Many of the existing buildings are in need of attention beyond the routine maintenance accorded them. The Commissary in the basement of the Reptile House that handles food for the entire animal population of the Zoo requires new equipment along with replacement and remodeling of much of the present equipment. The old Hospital, which has been vacated by the Animal Health Department, requires remodeling to accommodate the Department of Living Vertebrates. The Bird House area requires replacement of the existing crane, pheasant, and owl cages which are badly deteriorated and require repair.
- The sidewalks are in need of repair and some need to be replaced.

RESTORATION AND RENOVATION OF BUILDINGS

1970 Appropriation.....	\$425,000
1971 Appropriation.....	\$1,725,000
1972 Estimate.....	\$1,050,000

An appropriation of \$1,050,000 is requested for the following projects:

Renwick Gallery	\$400,000
National Museum of History and Technology	500,000
Sewer System Improvement-South Buildings	125,000
Lamont Street Library Improvements	25,000
Total estimate 1972	<u>1,050,000</u>
Less amount appropriated in 1971	<u>1,725,000</u>
Decrease in 1972	<u>\$-675,000</u>

Renwick Gallery

An appropriation of \$400,000 is requested to complete the program of exterior and interior restoration of the Renwick Gallery.

Using funds previously appropriated, the Smithsonian has directed its efforts at the restoration of the Renwick Gallery's basic structure. An air cooling plant was installed in the Gallery. The need for this system was not anticipated in the FY 1971 budget request. As part of the restoration process, an air conditioning system was installed in the building which could use cold water supplied by the General Services Administration. The Smithsonian was informed late last year by the GSA that cooling water could only be supplied on a 5-day week, 8-hour, basis. In order to meet the needs of the museum which must maintain a constant temperature and humidity to safeguard the collections; it was necessary to install a revised cooling plant. The exterior stonework, entranceways, and the interior corridors, lobbies and galleries have been renovated to the point where the final or finishing work can be started. This finishing work, the full extent of which could not be determined until the basic structural work was completed, includes the replacement of the sidewalk around the building, exterior lighting fixtures, the cast iron grillwork on the roof and windows, the finishing, painting and gilding of arches and columns, marbleizing of woodwork in the central halls and stairways, and the replacement of damaged marble in the floor of the building. This work will be designed to restore the exterior and certain areas of the interior of the building to their original appearance, as designed by James Renwick in 1859.

In addition, it is necessary to complete storage facilities, to provide gallery furnishings for use by the public in the restored interior areas of the building, and to recast exterior sculpture for the facade as well as to install an essential bird-proofing system.

National Museum of History and Technology
Bicentennial Facilities

An appropriation of \$500,000 is requested for the preparation of plans and specifications for the Bicentennial facilities to be added to the National Museum of History and Technology, and to design exhibits for these facilities.

As part of the Smithsonian's contribution to the American Revolution Bicentennial celebrations, the National Museum of History and Technology plans to convert the terraces of its building into usable space by the construction of structures on the sides of the building. The purpose of these structures will be to house certain national treasures and exhibits relating to the twin themes

of the Museum's Bicentennial participation--what the nations of the world gave to make the United States of America, and in turn what the United States has given to the nations of the world.

The National Museum of History and Technology will conclude a feasibility study for the Bicentennial structure project in fiscal year 1971. The completion of the study will permit the Museum to proceed on July 1, 1971, with developing final architectural plans. Construction would begin in fiscal year 1973 and be completed no later than January 1, 1975, to allow one year for installation of exhibitions. Total structural costs are estimated to be \$4,500,000, while the exhibits will cost an additional \$1,000,000.

Sewer Systems Improvements-South Buildings

An appropriation of \$125,000 is requested to correct a serious sewer problem for the buildings on the south side of the mall.

The three Smithsonian buildings on the south side of the Mall, Smithsonian Building, Arts and Industries Building, and the Freer Gallery of Art, empty both their sanitary wastes and rainwater runoff into the District of Columbia sewage system through single pipe systems. This type of system has two serious drawbacks--overloading the treatment plants and a tendency to backflow during heavy rains. Because the rainwater runoff and the sanitary system wastes are mixed, large quantities of polluted water are discharged into the river. The District of Columbia is in the process of converting to a separate system to reduce the load upon the already overloaded sewage treatment plants. The Smithsonian must be able to tie into this system. In addition, flooding of the buildings during heavy rains, because of the limited ability of the pipes to carry off rain water, occurs frequently. By replacing the single pipe system with separate and larger sanitary and drain pipes, flooding can be eliminated.

Lamont Street Library Modifications

An appropriation of \$25,000 is requested to modify space at the Smithsonian's Lamont Street facility to house library materials.

At the present time, the library is extremely short of shelf space for library materials. A study of available space at the Smithsonian showed that the space formerly occupied by the Department of Entomology at Lamont Street, which recently moved back to the Natural History Building, could be modified by the addition of flooring, partitions, shelving and lighting to serve as an overflow facility for library materials. The library is temporarily storing about 40,000 books in cartons and boxes at the Lamont Street facility because of lack of space in the Mall buildings. With the modifications about 50,000 volumes could be handled at this facility, all of which would be accessible for use by researchers.

CONSTRUCTION

1970 Appropriation.....\$3,500,000 $\frac{1}{1}$ /
 1971 Appropriation.....\$5,200,000 $\frac{1}{1}$ /
 1972 Estimate.....\$5,597,000 $\frac{1}{1}$ /

CONSTRUCTION

Joseph H. Hirshhorn Museum and Sculpture Garden

By the Act of November 7, 1966, the Congress provided a site on the Mall for the construction of the Joseph H. Hirshhorn Museum and Sculpture Garden, and provided statutory authority for the appropriation of construction and operating funds. Within this appropriation authority, \$803,000 were appropriated in fiscal year 1968 for the preparation of plans and specifications. In fiscal year 1969, \$2,000,000 were appropriated for plans and to start construction. Contract authorization was granted by language in that appropriation bill in an amount not to exceed \$14,197,000. An additional \$3,300,000 was appropriated in 1970 and \$5,200,000 in 1971 toward liquidation of the contract authority.

Construction was started in March 1970 and the excavation and foundation construction is in progress. Construction is proceeding on schedule with no major delays being anticipated at this time. An appropriation of \$3,697,000 is requested for fiscal year 1972 in order to liquidate the remaining contract authority. This appropriation, with the \$1,000,000 legally committed by Mr. Hirshhorn, will complete funding of construction contracts and finance supervision and related construction management costs. This will allow for the completion of the construction in time for the planned opening of the Museum in late fiscal year 1973.

CONSTRUCTION

National Air and Space Museum Planning

The Act of August 12, 1946, established the National Air Museum as a bureau of the Smithsonian Institution. The Congress included provisions for selecting a site for a National Air Museum building to be located in the Nation's Capital. By the Act of September 6, 1958, the Congress designated a site for a building to be on the Mall from Fourth Street to Seventh Street, Independence Avenue to Jefferson Drive. Planning appropriations in the amount of \$511,000 and \$1,364,000 were made available to the Smithsonian by the Congress for the fiscal year 1964 and 1965 respectively. In 1966, the Congress enacted legislation authorizing the construction of the National Air and Space Museum but deferred appropriations for construction until expenditures for the Vietnam conflict had shown a substantial reduction. Construction plans and specifications for the proposed museum building were completed and were accepted by the Commission of Fine Arts and the National Capital Planning Commission. The cost of the buildings, built to those plans and specifications, was estimated to be \$40 million dollars in 1965. Unfortunately due to the rising costs of labor and materials, this same building would cost between \$60 million and \$70 million, to construct depending on the increase in costs and the date of the beginning of construction.

The space program, with its Mercury, Gemini, and Apollo flights, has caused a considerable increase in the public's interest in aeronautical and aerospace matters. During 1970, almost 4.5 million visitors were counted in the Arts and Industries Building and the Air and Space Building, both of which

¹/ Fiscal year 1970 and fiscal year 1971 liquidation of Contract Authority. Fiscal year 1972 \$3,697,000 liquidation of Contract Authority. \$200,000 in 1970 was appropriated to move the Armed Forces Institute of Pathology.

are used to house temporarily a very small portion of the collections and exhibits of the National Air and Space Museum. With the additional space available in the new building, the National Air and Space Museum will be able to use a wide range of the more than 200 aircraft and thousands of aerospace objects in the collections to interpret the historical and technological progress of aviation and aerospace science to the millions of visitors that will come to the Museum annually. The Air and Space Museum already has in its collections such historically significant aircraft as the original Wright Brothers Flyer, Lindburgh's "Spirit of St. Louis," the NC-4 (the first to fly the Atlantic), the Bell X-1 (first to exceed the speed of sound) as well as Mercury, Gemini, and Apollo spacecrafts. To demonstrate and exhibit technological progress, the Museum can choose from literally hundreds of engines, power plants, and ancillary equipment ranging from simple rotary engines built at the turn of the century to the huge Saturn F-1 engine which produces millions of pounds of thrust. This collection of aeronautical and aerospace items which many consider the finest in the world, needs only the additional space provided by a new Museum to be displayed properly to the public.

During a Symposium on the National Air and Space Museum which was held on January 18, 1971, Senator Barry Goldwater, Dr. Wernher von Braun, Congressman Frank T. Bow, and Congressman James G. Fulton jointly proposed the following resolution be presented to the Board of Regents of the Smithsonian Institution.

--That the Smithsonian Institution should press for construction of the authorized National Air and Space Museum building;

--That a study of changes in the original approved design should be undertaken immediately in order to determine the feasibility of lowering construction costs;

--That a firm date of July 4, 1976, should be established for the opening of the new museum building as a major element of the Smithsonian Institution's contribution to the commemoration of the Bicentennial of the American Revolution;

--That consideration be given to constructing a major underground parking facility beneath the Mall in order to alleviate the increasing problem of automobile parking in the vicinity of the Mall;

--That consideration of the joint venture by the National Park Service and private capital be explored. This action would complement the requirement for parking facilities as a significant factor in construction of the National Air and Space Museum.

In consideration of the rising costs of the building and the increased public interest in air and space activities, an appropriation of \$1,900,000 for planning and redesign, and for the specifying of programs, facilities, and installations is requested. The object of this redesign would be to utilize the latest design, construction, and exhibit techniques to lower the cost of the building to approximately \$40 million, which still providing outstanding facilities to display properly the many unique aeronautical and astronautical items in the collections.

The Senate Committee on Rules and Administration has advised that a request by the Smithsonian for redesign funds would be consistent with the Committee's 1966 recommendation regarding construction funding.

Smithsonian Institution Current Building Program

<u>Project</u>	<u>Est. Total Cost</u>	<u>Appropriated to Date</u>	<u>Fiscal Year 1972 Request</u>
Construction and Improvements, National Zoological Park	\$20,000,000 (depending on redesign)	\$8,703,000	200,000 <u>1/</u>
Restoration and Renovation of Buildings	Continuing Program	8,323,000	1,050,000 <u>2/</u>
Construction, Joseph H. Hirshhorn Museum and Sculpture Garden	15,000,000 <u>3/</u>	11,303,000	3,697,000 <u>4/</u>
Construction, National Air and Space Museum	44,775,000 (depending on redesign)	1,875,000	1,900,000 <u>5/</u>

1. Buildings and facilities repair and maintenance.
2. Renwick Gallery completion (\$400,000) planning and design of Bicentennial facilities and exhibits on the History and Technology Building (\$500,000), sewer system improvements (\$125,000), and library improvements at Lamont Street (\$25,000). Total estimated cost of Bicentennial facilities is \$4,500,000.
3. Excludes \$200,000 for relocation of the Armed Forces Institute of Pathology and \$1,000,000 legally committed by Mr. Joseph H. Hirshhorn for construction.
4. Liquidation of contract authority of \$14,197,000 provided in fiscal year 1969 appropriation act.
5. Building planning and redesign.

Mrs. HANSEN. On September 2, Dr. Ripley, you wrote to me about a proposed reprogramming of \$1,419,000 for construction in the National Zoological Park. On October 7, I replied that this matter should be taken up in the hearing at which time all master planning in connection with these projects should be completed as well as required approvals. Dr. Ripley will you please discuss this for the committee. As I recall, the construction program involved an otter pool, \$215,000; a monkey island, \$376,000; support facilities, \$320,000; and major repairs and renovation, \$508,000.

Dr. RIPLEY. Mr. Bradley, would you speak to this.

Mr. BRADLEY. Of course Dr. Reed lives with all of this, but I get into it with him also. The admonition that we get all of our planning lined up was in your letter, and we have reviewed the situation this morning at the very last moment. We have not had sufficient time yet to obtain all of the clearances, such as that of the Planning Commission and the Commission of Fine Arts.

We are in contract relations now with a good firm of architects. We have an excellent landscape architect as part of the design team. Landscaping has been part of the problem, trying to subordinate the buildings and make the best of the beautiful park, but we have not yet equipped ourselves to come back to you and discuss the reprogramming.

Mrs. HANSEN. Aren't you glad I wrote and told you this?

Mr. BRADLEY. Yes.

NEED FOR GOOD PLANNING AND DESIGN

Mrs. HANSEN. I really am tremendously interested in bettering the habitat of the zoo and making it a more beautiful place.

Mr. YATES. That birdhouse is marvelous.

Mrs. HANSEN. But considering the habitat of some of the animals and comparing it with others in the country, the Washington Zoo leaves much to be desired. Part of it has been in the planning and design of the facilities.

For example, and you have heard me mention this before, the Portland Park Zoo is just lovely. The Salt Lake City Zoo and the Seattle Woodland Park area are also well designed.

The items you want to construct will help create a tremendous experience, but they do take planning and design.

Dr. REED. If I may, somewhat in defense, you have mentioned zoos that were all built since the National Zoological Park. Please remember that our lion house is an 1890 creation. We are going to replace it with an exhibit of beauty and a thing of joy. You mentioned the birdhouse. We hope to do, and I am sure that we will do, as well by the other animals as we have done by the birds, but it does take planning and we are making an extensive study right now.

Mrs. HANSEN. This past fall I was called by the *Washingtonian* and I said that you wouldn't have a much better zoo until you had some better planning, better design, and more funds. These are the ingredients of good zoos. You have the animals and you have the personnel, who are doing a good job, but now what you need is adequate facilities.

Dr. REED. I may say that I appreciate very much your kind words in the *Washingtonian* article. We needed them in that article.

Mrs. HANSEN. A zoo should be an exciting experience. It is like a portrait gallery. To a child of 5 this is perhaps his first contact with monkeys or what have you.

Dr. REED. We consider that the time and effort spent in this designing, and it may take us as long as a year, probably will be the best money that we can possibly spend.

Mrs. HANSEN. I couldn't agree with you more, because you will probably waste less in the end if you have a well planned program.

BUDGET REQUEST FOR REPAIRS

Justify your request of \$200,000 for construction and improvements at the National Zoological Park.

Dr. REED. This \$200,000 that we have in this present budget presentation is for repairs. These are the necessary repairs that we must make to keep the zoo going, including the perimeter fence. This is just renovation and repair of what we have to keep the zoo in operation until such time that the major improvement program can be reinitiated.

Mrs. HANSEN. Under what activity are you requesting your planning and design funds?

Dr. REED. The planning and design money was in funds appropriated in previous years so we have enough money to accomplish our master plan.

Mrs. HANSEN. This is the first agency that has ever admitted that.

Dr. REED. It is the truth.

Mrs. HANSEN. You also are requesting funds for the addition of a new water main loop at the south end of the zoo.

Dr. RIPLEY. And some commissary repair.

Dr. REED. And there are many other small items involved in this request for \$200,000.

RESTORATION AND RENOVATION OF BUILDINGS

RENWICK GALLERY

Mrs. HANSEN. Justify your request of \$400,000 for the Renwick Gallery.

Mr. BRADLEY. Madam Chairman, this amount is for the completion of the construction of what has been a very difficult reconstruction and restoration program. The antiquity of the structure I think is probably the reason for this difficulty.

Mrs. HANSEN. When was the facility built?

Mr. BRADLEY. In 1857, and the restoration project required much exploratory work and considerable research to determine the original and authentic nature of both the exterior and interior designs and the various original construction features. We now see the end, and we think by the end of this calendar year and with these funds, we will be able to complete construction.

BICENTENNIAL FACILITY

Mrs. HANSEN. Justify your request of \$500,000 for the National Museum of History and Technology bicentennial facility.

MR. BRADLEY. This represents the combination of both an opportunity to add some additional space that is needed and to give the Bicentennial exhibits an identity and a recognition in their own right. We have had two designs so far. One design sought to employ the terraces that extend around the building and the other design considered going out on the east lawn, and there putting up several pavilions. At any rate, the budget amount that we have submitted here would permit us to do two things: to plan and design additional floor area under a suitable structure, and, also, to design the specialized exhibits that would be housed there.

Mrs. HANSEN. How large is this going to be?

MR. BRADLEY. It would approximate 50,000 square feet, Madam Chairman.

Mrs. HANSEN. Are these permanent structures?

MR. BRADLEY. This would be permanent.

Mrs. HANSEN. The committee will be interested in the plans.

MR. BRADLEY. As soon as we have plans, we will be delighted to go over them with you.

SEWER SYSTEM IMPROVEMENTS

Mrs. HANSEN. You are requesting \$125,000 for sewer systems improvement in the south buildings. This as I understand is to correct a serious sewer problem.

MR. BRADLEY. Yes, Madam Chairman. This essentially is to separate storm water from sanitary sewage.

LAMONT STREET LIBRARY MODIFICATIONS

Mrs. HANSEN. Justify your request of \$25,000 for the Lamont Street Library modifications.

MR. BRADLEY. A study of what we can do at the Smithsonian's building on Lamont Street showed that the space formerly occupied by Entomology could be modified by the addition of flooring and shelving to be very useful for library purposes. This is needed because of the lack of space which is rather chronic in the building on the Mall, the Natural History Building, where our principal library facility is located.

Mrs. HANSEN. Will this complete the modifications?

MR. BRADLEY. Yes; this will do the 1972 part of the work.

Mrs. HANSEN. You will be able to house 50,000 volumes. Is this correct?

MR. BRADLEY. That is the figure.

UNOBLIGATED AND UNEXPENDED BALANCES

Mrs. HANSEN. Please insert in the record a tabulation of your unexpended and unobligated construction fund balances as of March 31, 1971. This tabulation should list each individual project for which there is a balance and should indicate the year in which the funds were appropriated.

(The information follows:)

Balances in Construction Accounts
Information as of March 31, 1971

Project	Appropriation and Year	Unobligated Balance	Unexpended Balance
Construction, History and Technology Building	\$36,000,000 ^{1/} (1956 - 1957)	\$57,771	\$126,061
Construction, Additions to the Natural History Building	18,636,000 (1958 - 1962)	71,616	82,251
Remodeling of Civil Service Commission Building	6,865,000 (1962 - 1965)	5,962	12,402
Construction and Improvements, National Zoological Park	8,703,000 (1963 - 1971)	2,101,541	2,580,531
National Air and Space Museum Building	1,875,000 ^{2/} (1964 - 1965)	-0-	53,072
<u>Restoration and Renovation of Buildings:</u>	7,061,905 (1966 - 1971)	1,521,162	1,872,324
Smithsonian Institution Building	2,620,000	59,528	93,224
Arts and Industries Building	592,905	459,691	510,792
Feasibility Studies	250,000	60,532	60,532

^{1/} \$585,948 Returned to Treasury, September 1965.

^{2/} \$150,000 Returned to Treasury, June 1965.

Project	Appropriation and Year	Unobligated Balance	Unexpended Balance
<u>Restoration and Renovation of Buildings (Cont'd)</u>			
Renwick Gallery	\$2,370,000	\$270,269	\$354,189
Fine Arts and Portrait Galleries	125,000	44,573	50,076
Freer Gallery of Art	80,000	6,813	22,835
Radiation Biology Laboratory	601,000	484,230	527,913
Smithsonian Oceanographic Sorting Center	148,000	3,763	3,763
Smithsonian Tropical Research Institute	150,000	18,357	127,500
Library Modification	50,000	50,000	50,000
Fumigation Facility	75,000	63,406	71,500
Joseph H. Hirshhorn Museum and Sculpture Garden	11,303,000 (1968 - 1971)	787,789	12,496,480
Contract authorization	<u>3,697,000</u>		
Total	<u>15,000,000</u>		
History and Technology Supplemental (Fire)	775,000 <u>1/</u> (1971)	482,209	775,000

1/ There was a delay in this project due to the Presidential Proclamation at the requirements of the Davis-Bacon Act of March 3, 1931, amended, to be deleted from the contract requirements. The contracting officer awaited a directive from the GSA Administrator on how to proceed. This Proclamation was rescinded on March 30, 1971.

FUNDS IN RESERVE

Mrs. HANSEN. Do you have any funds in reserve?

Mr. BRADLEY. Practically none.

Mrs. HANSEN. That isn't the answer.

Mr. BRADLEY. Let us be precise.

Mr. JAMESON. There are two identical sums in reserve. The first is an amount of \$130,000 from the \$775,000 that was appropriated this year for the repair of the fire damage to the Museum of History and Technology.

Mrs. HANSEN. Why is that in reserve? I thought that was an urgent item.

Mr. JAMESON. When we came to the Congress to ask for the money to repair the damage, it was yet unknown whether there would be any major structural damage. All we could look at, at that point, was the damaged finishes. We knew that there was damaged electrical wiring, damaged elevators, and so forth, but we were not sure that once we pulled down the ceilings, looked behind the walls, whether we would find major structural damage to the building. With that understanding, the Office of Management and Budget said, "Fine, let us hold the \$130,000 and if you need it, we will release it from reserve."

Mrs. HANSEN. Has the OMB released those funds?

Mr. BRADLEY. We haven't asked them yet to release it.

Mrs. HANSEN. Why?

Mr. BRADLEY. We haven't run into the difficulty.

Mrs. HANSEN. So it wasn't such an urgent request?

Mr. BRADLEY. It was an urgent request, Madam Chairman, but we had to build a large contingency into our request because of the exploratory nature of that job. When we were asked about it, we said it is more contingency than we would normally have. They said, "Fine, we will put that into the reserve until you need it," with the understanding if we needed it, we would come and get it.

Mrs. HANSEN. What else is in reserve?

Mr. JAMESON. It is not precisely in our camp, but the Office of Management and Budget does have \$130,000 in reserve for the Woodrow Wilson Center.

Dr. RIPLEY. That is not in our appropriation account.

Mrs. HANSEN. No; but I am very glad to hear about it, because you know I can have as good a reserve as the OMB.

BICENTENNIAL FACILITIES

Dr. RIPLEY. Would you like to hear any supplementary words, Madam Chairman, if I may ask, about these proposed bicentennial facilities?

Mrs. HANSEN. Yes.

Dr. RIPLEY. Dr. Boorstin has a short statement he would like to make.

Dr. BOORSTIN. This is an effort to provide additional space which is necessary in order to produce the dramatic and significant bicentennial exhibit of the "Nation of nations," which will emphasize the unity and diversity of the American peoples; that is, the diversity of origins and the way in which Americans have all worked together to build

American civilization. We do not have appropriate available space in the existing building at the present time to provide these exhibits. It is our hope to acquire such space by making these additions, either on one side of the building or the other, or perhaps attached on the verandas of the building. This will depend on plans which we will be developing and on the reaction of the National Capital Planning Commission, and others.

Mrs. HANSEN. Is this just for plans and specifications?

Mr. BRADLEY. Yes.

Mrs. HANSEN. As I said, the committee would like to see the plans before you go further into the Mall or some other place.

Mr. BRADLEY. We have no intention of going further.

Dr. RIPLEY. We would be happy to show them to you.

OTHER FUNDS IN RESERVE

Mrs. HANSEN. Are there any other funds in reserve?

Mr. JAMESON. No, Madam Chairman.

I should say that the Woodrow Wilson Center is a separate appropriation account.

Mr. BRADLEY. We don't handle that and honestly don't know why it is in the reserve.

Mrs. HANSEN. I do.

Mr. RIPLEY. I have a suspicion.

CONSTRUCTION, JOSEPH H. HIRSHHORN MUSEUM AND SCULPTURE GARDEN

Mrs. HANSEN. \$3,697,000 is requested for construction of the Joseph H. Hirshhorn Museum and Sculpture Garden in FY 1972. Please insert in the record the total amounts of funds that have been expended on planning and design and construction.

(The information follows:)

JOSEPH H. HIRSHHORN MUSEUM AND SCULPTURE GARDEN

Construction funding

Planning (appropriated in fiscal year 1968)-----	\$803,000
Construction (contract authority in fiscal year 1969)-----	14,197,000
Moving AFIP (appropriated in fiscal year 1970)-----	200,000
Pledge from Mr. Hirshhorn (non-Federal funds)-----	1,000,000

The planning and design have been completed and the funds expended. The construction contract has been obligated and work is underway on the building. The General Services Administration expects to expend \$6,677,738 in fiscal year 1971 and \$6,660,000 in fiscal year 1972. Against the contract authority, the following amounts have been appropriated: \$2 million in fiscal year 1969; \$3,300,000 in fiscal year 1970; and \$5,200,000 in fiscal year 1971. The balance of \$3,697,000 is requested in the fiscal year 1972 budget appropriation.

CURRENT STATUS OF CONSTRUCTION

Mrs. HANSEN. What is the current status of construction on this project? We discussed this earlier, do you have any details to add?

Mr. BRADLEY. I think not, Madam Chairman.

Mrs. HANSEN. For fiscal year 1969, contract authorization in the amount not to exceed \$14,197,000 was granted for the construction of this museum. What have been your expenditures to date in this connection?

Mr. BRADLEY. Approximately \$2,435,000 have been earned and expended to date to the contractor as of March 29, 1971.

Mrs. HANSEN. If there are any additional comments that you would like to insert in the record concerning the Hirshhorn Museum and Sculpture Garden please insert them at this point in the record.

Mr. BRADLEY. We shall do so.

(The information follows:)

HIRSHHORN CHARGES AND ANSWERS

1. The Smithsonian "circumvented" a committee of Congress at the time of the original legislation.

The Smithsonian Institution has absolutely no control over the referral of bills to Congressional committees. The Hirshhorn bill was sent to the Speaker of the House and the President of the Senate by President Johnson on May 17, 1966. In the Senate, the bill was referred to both the Committee on Public Works and the Committee on Rules and Administration, both of which reported it favorably. In the House, the Speaker referred the legislation to the Committee on Public Works, which, after public hearings, also reported it favorably. The Committee on Public Works is concerned with the authorization of public buildings and grounds of the United States.

2. The Agreement between the Smithsonian and Mr. Hirshhorn presented the Congress with a *fait accompli*.

In his letter of May 17, 1966 to the Speaker and the President of the Senate, President Johnson explicitly stated: "I commend to the consideration of the Congress legislation enabling the Smithsonian Institution to accept this gift on behalf of all our people." In a statement to the Subcommittee on Public Buildings and Grounds, Committee on Public Works, it was pointed out by the Smithsonian representative that the proposed legislation "will make possible the acceptance" of the Hirshhorn collection and "will make possible the consummation of an agreement by Mr. Hirshhorn. . . ." It is explicitly provided in the Agreement between Mr. Hirshhorn and the Smithsonian, dated May 17, 1966, that immediately following the completion of the museum and sculpture garden, title to the collection of works of art shall pass to the Institution and such collection shall be delivered to the Institution at the expense of the donor.

3. The agreement was negotiated without prior Congressional approval.

The full agreement between the Smithsonian Institution and Mr. Hirshhorn was made part of the record of hearings before both Senate and House committees. That agreement was clearly contingent upon congressional action.

4. Opponents were not given an adequate chance to be heard in 1966.

The 1966 hearings before committees of the Senate and the House provided a full opportunity for anyone opposed to the Hirshhorn Museum to express his views.

5. The architect, as a member of the Commission of Fine Arts, was involved in a conflict of interest.

Mr. Gordon Bunshaft, the architect selected and member of the firm of Skidmore, Owings, and Merrill, enjoys the highest professional reputation. He has designed other museums, libraries, and public buildings. In order to avoid any possible suggestion of conflict of interest at the time the Hirshhorn plans were before the Fine Arts Commission, Mr. Bunshaft, like other Members of the Commission under similar circumstances, did not himself present his plans nor did he participate in any of the Commission's deliberations thereon. For our part, we are sure that the other six members of the Fine Arts Commission, all distinguished professionals in their own right, gave this matter independent judgment and approved it on its merits alone.

6. Mr. Hirshhorn is not living up to his agreement to care for the collection pending completion of the museum. Federal funds are being improperly used for this purpose.

Mr. Hirshhorn and the Hirshhorn Foundation are spending approximately \$81,000 each year for the care, storage, and insurance of the collection, in accordance with the agreement. Federal funds are being used not to care for the collection, but rather to prepare selected pieces for exhibition in the museum and sculpture garden scheduled for completion in the fall of 1972.

7. Mr. Hirshhorn has rescinded his pledge of \$1,000,000.

This is one more statement that is not true. The \$1 million gift provided in paragraph 4 of the agreement has not been rescinded. Mr. Hirshhorn has agreed that the \$1 million gift could be applied to construction of the museum if needed to make possible its completion. He agreed also to add to the original gift at least \$1 million worth of additional works of art. If the trustees of the museum should prefer a cash endowment, they will be free to sell these additional works for that purpose.

8. Use of \$1,000,000 of private funds for construction is improper.

One million dollars contributed by Mr. Hirshhorn was added to the amount appropriated for construction of the museum with the prior knowledge of the chairmen of the Smithsonian's Senate and House Appropriations Subcommittees, and the chairmen of the Senate and House Subcommittee on Public Buildings and Grounds.

It should be noted that the Smithsonian has been authorized to accept gifts since 1846, when the Congress accepted the original bequest of its first donor, James Smithsonian.

9. That the sculpture garden as originally planned is esthetically unwise.

The plan for a sunken garden of sculpture across three panels of the Mall was approved by the National Capital Planning Commission and the Fine Arts Commission in 1967. Currently, the Smithsonian and the GSA, with the agreement of Mr. Hirshhorn and the cooperation of Mr. Bunshaft, are exploring possible alternative arrangements for the sculpture garden.

10. That the museum was created "hastily."

The Smithsonian does not consider that the authorization of the museum was hasty. Five and a half months elapsed between submission of Hirshhorn legislation (May 17, 1966) and its passage (November 7, 1966). The architectural plans were subsequently approved by the Fine Arts Commission on July 13, 1967, and the National Capital Planning Commission on December 22, 1967, in accordance with law.

[From the Arts Reporting Service, March 22, 1971]

HIRSHHORN NEWS ARTICLES—WHAT CONSTITUTES GOVERNMENT INTERFERENCE

(The first of two articles)

A quiet controversy has been bobbing up and disappearing in Washington for a year about the arts and Federal opinions. The implications of this running battle are so far-reaching that it is of enormous importance to anyone interested in the future of the arts in the United States that the principles involved be aired. The Congress and the President pledged the faith of the United States to Joseph H. Hirshhorn and now some Members of the Congress wish to revise that pledge. Most surprising is the fact that none of the national news media has seen the necessity of a public exposure of the facts.

In 1966, Mr. Hirshhorn was the most sought after art collector in the world. He had made it known that he wished to give his collection in perpetuity to some jurisdiction which would value it and preserve his name as donor. New York State offered to provide land and buildings, Los Angeles, Baltimore and Zurich made generous offers and England offered to set aside ten acres of Regent's Park for a museum and sculpture garden. Mr. Hirshhorn was in England, in fact, to consummate an agreement when Roger L. Stevens managed to persuade him to wait until the United States Government could make an offer. President Johnson personally took an active role in negotiating an agreement. Mr. Hirshhorn was satisfied and honored to offer his collection.

Although the central point here is the principle involved, the size and scope of the collection is an important consideration. Paging through the complete inventory of the works held by Mr. Hirshhorn and the Joseph H. Hirshhorn Foundation is a breathtaking experience in itself. More than 4,000 paintings and drawings by a staggering number of 19th and 20th century artists, primarily Americans, are included. Virtually every artist of note is represented, not by one or two works, but by six, or a dozen. The sculpture collection is even more astounding in

its riches. Over 1500 pieces of sculpture, from American and Classical antiquity, to the most recent concepts of the most respected artists. The total value placed on the collection at the time was a conservative \$25 million. Mr. Hirshhorn also offered an additional \$1 million for additional purchases to fill out the holes in the collection and stated he intended to personally buy paintings for it until he died. Most experts agreed at the time that the United States was being offered the most valuable private collection in the world from every point of view.

What happened? President Johnson sent a bill to the House and Senate on May 17, 1966. In the Senate, the bill was referred to the Committee on Public Works and to the Committee on Rules and Administration. In the House, the Speaker sent the proposed legislation to the Committee on Public Works. Note both the date of transmittal and the committees receiving the bill; both of these facts were later challenged as improper.

In the House, hearings were held on June 15, 1966, at which administration officials, Smithsonian staff, and others testified. Since the location designated for the Hirshhorn Museum on the Mall required the demolition of the Armed Forces Medical Museum presently on the site, the Departments of Interior and Defense were asked to clear the bill. They did without objection, and subsequently funds were voted. (The collection will move to a new \$8 million building this summer.) The House committee report took note of the value of the collection, at one point listing in part some of the sculptors included: "(Artist and number of his works) Daumier, 43; Rodin, 17; Degas, 22; Giacometti, 23; Sir Henry Moore, 53; Matisse, 21; David Smith, 22; Brancusi, 3; Lipshitz, 13; and Manzu, 27." On October 11, 1966, the committee recommended the bill for passage saying the committee found it "an outstanding piece of legislation and one that in future years will be looked back on as the groundwork from which sprung into full being the establishment of one of the great art collections in the world . . ."

However, the elaborate hearings were held in the Senate Committee on Public Works which at the time claimed jurisdiction of the project. Some objection was offered at the time concerning the piercing of the Mall, but largely this was a matter of misunderstanding the plan for a *sunken* garden. In the end, the Senate was ready for floor action on August 31, 1966, and the House by October 11. Reading the more than 200 pages of reports and testimony, eliminating some of the duplication of the two Houses, one is struck by the gratitude of the Congress for the gift, and the appreciation of the work done by President Johnson and all those involved in bringing about the opportunity for the United States Capital to capture such a magnificent collection.

On the floor of both Houses, the bill met no opposition even from the traditional naysayers to art and culture. It was pointed out that no appropriation was attached at the time and that 2 years would pass before funds were needed. Several Congressmen from both parties spoke in gratitude, and the bill passed both Houses without a roll call vote. The President signed the bill making it into Public Law 89-788 on November 7, 1966. In the subsequent Congress, funds were appropriated for the construction of the museum and sculpture garden.

In July, 1970, the whole matter of the Hirshhorn gift was brought into question suddenly by a subcommittee of the House of Representative's Committee on House Administration. The Subcommittee on Library and Memorials, chaired by Rep. Frank Thompson of New Jersey, claimed it was strangely bypassed when the whole issue came up 4 years ago and now claimed jurisdiction. The roots of this sudden new interest rest in obscurity. Some people claim the opening was triggered by a vicious attack on Mr. Hirshhorn by columnist Jack Anderson, others believe Smithsonian Secretary Dillon Ripley was unpopular with members of Congress and they wanted to embarrass him publicly. At any rate, 2 weeks of hearings were held, inquiring into all the operations of the Smithsonian, resulting in a report issued December 30, 1970. Though this report recommended several minor and one or two major changes in Smithsonian policy, by far the most shaking recommendation concerned the Hirshhorn agreement: "the subcommittee recommends that no further action to carry out the proposed plans for the sculpture garden transverseing the Mall be taken until a complete review has been made by appropriate committees of Congress including the Subcommittee on Library and Memorials, the Subcommittee on Public Buildings and Grounds, and the relevant appropriations subcommittees."

In reviewing the report and the hearings held last July, several obvious questions rise to haunt an objective observer. Answers, however, don't pop up readily to belie suspicions and there lies the seeds of jeopardy for all the arts programs

in the Federal Government. For instance, why was the transcript of the hearings never published as almost all hearing transcripts are? Why did Congressman Crane, a member of the subcommittee, include a disclaimer in the report, questioning the staff research connected with the hearings and insisting he held no opinion concerning the Hirshhorn gift? How can the Smithsonian value the recommendation of the subcommittee with construction contracts already let and work in progress without suffering severe financial penalties for which the subcommittee does not assume responsibility? Of course, the overriding question is why are these particular Members of Congress except Congressman Crane, now re-considering the gift when they were present and apparently supportive of the plan on three previous floor appearances over a 4-year period? The answers are not apparent, but the implications are serious.

(Continued in the next issue of ARS.)

[From the Arts Reporting Service, Apr. 5, 1971]

WHAT CONSTITUTES GOVERNMENT INTERFERENCE?

(The second of two articles)

Joseph H. Hirshhorn offered the most important private collection of modern American art to the U.S. Government and it was accepted with enthusiasm in 1966. From May until November of that year two subcommittees of Congress, the National Capitol Planning Commission, the Fine Arts Commission, the entire House and Senate examined the gift and the agreement and passed it without dissent. Within the next 2 years, the subcommittees on appropriations, the full appropriations committees in both Houses, and the full Congress again reviewed the agreement and the cost and voted for the construction of the Hirshhorn Museum and Sculpture Garden. At the present moment, a large hole exists exactly where all these deliberative bodies have insisted that one be dug in order to fulfill the pledge of faith to Mr. Joseph Hirshhorn.

In July 1970, the Subcommittee on Library and Memorials held hearings inquiring into the operation of the Smithsonian for the first time since 1855. Based on a report by the Government Accounting Office which charged that the Smithsonian wasn't dotting all its i's and was crossing its t's from left to right instead of from right to left in the administrative area, the subcommittee spent most of its energies talking about the Hirshhorn agreement. By December 1970, when the subcommittee issued its recommendations, all the contracts had been let and construction was well underway. The report is a masterpiece of prejudicial writing. It begins by implying the subcommittee was improperly bypassed in the original legislative process, but avoids ever stating a definite claim to jurisdiction. Studying the House Rules which spell out jurisdiction only convinces the reader of the need for congressional reform. Both the slighted committee and the one which actually conducted the hearings can legitimately claim jurisdiction under the vague and overlapping wording found in the rules. The report shrewdly avoids making a case for jurisdictional challenge because it has no substantial case.

The findings of financial and administrative inefficiency were in some cases justified, in others exaggerated, and in other cases understandable errors on both sides, but most of the justified and some of the unjustified findings were corrected by the Smithsonian before the report was published.

Without doubt, the most unjustified recommendations of the report, probably the one which prompted three members of the subcommittee to file a minority view, referred to the reputation and character of Mr. Hirshhorn: "Also with respect to the future, the subcommittee recommends that no federally financed structure be named for any individual without public examination and disclosure of that person's background and character before final action is taken." The minority report said: "The minority members recommend that new hearings be held next year which would deal solely with the Hirshhorn project. Mr. Hirshhorn should be invited to clear his name and reputation of the charges and allegations which have been made." Clear his name and reputation? From what? From charges that were made without substantiation and remain unpublished? From Jack Anderson's column?

Information made available privately to ARS indicates that much of the innuendo surrounding Mr. Hirshhorn's character stems from the fact that he was

once fined by the Canadian Government for illegally taking Canadian currency across the border. The facts of the case are that in the course of building his fortune Mr. Hirshhorn crossed back and forth into Canada, literally hundreds of times. On one such trip he did not declare a considerable but not unusual amount of currency in his wallet. After passing through customs, he remembered the money and informed the authorities. Immediately, he went to the proper official and paid the technical fine and continued on his journey. This completely minor incident was known to those who were responsible for negotiating the original agreement, so thorough was the investigation of Mr. Hirshhorn's reputation. However, this same technical offense was exaggerated by his enemies into hinted accusations of money fraud, smuggling, etc.

The report also talks about the manner in which the agreement was rushed through Congress without "meticulous and deliberate study," and the fact that the Committee on Public Works did not "inquire into the wisdom of accepting the Hirshhorn gift." The implication clearly given is that the Congress can be intimidated and that the committees aren't clear as to their role. Anyone who has ever tried to influence the Congress will find this surprising news, including President Nixon after the SST defeat. And finally, the report refers to the "alleged excessive tax benefits" Mr. Hirshhorn received as a result of his gift. The subcommittee has the power and ability to investigate such allegations and come out with a clear and concise statement saying the benefits are right or wrong. If there are excessive benefits, so say, otherwise such statement is, to say the least, beneath the dignity of a congressional committee.

No one in Washington seems to know what is really behind this investigation which almost borders on a witch hunting expedition. Some knowledgeable people believe it is simply a vendetta between Congressman Frank Thompson, who had always been a steadfast champion of the arts—the single legislator most responsible for the establishment of the National Endowment, and Smithsonian Secretary S. Dillon Ripley. If this is so, then Frank Thompson seems to be using congressional clout inadviseably, since the situation he has created gives support to the timid folk who are afraid of Government interference in the arts. Others believe the controversy is the result of a coalition of anti-Ripleyites, antisemites, anti-Smithsonianites and Mall purists.

Whatever prompted these four Congressmen (the subcommittee has seven members, but three filed a minority report disagreeing on the Hirshhorn phases), Congressman Thompson of New Jersey, Gray of Illinois, Brademas of Indiana, and Bingham of New York, whatever prompted these men to throw mud on one of the most generous gifts of art ever offered to our Government remains a mystery. However, the causes of controversy are often not as important as the precedent which it established as a result. After the last issue of ARS went to press, Dillon Ripley surrendered to Frank Thompson and announced he was proposing an alternate site for the sculpture garden to counter criticism against "splitting the Mall." The new location parallels the Mall. Ripley said: "We have no objection to an alternate design. We never have had. Our sole desire is to get the Hirshhorn collection in Washington, D.C. and to get it open to the public." He said the alternate proposal was being made "not because someone was leveling a gun at our heads. We did this because we were asked to do so by a congressional committee" he curator of the Hirshhorn collection. Abram Lerner, said: "If they give me a place to put the sculpture, I'll be satisfied, but the critics have succeeded in wrecking a very noble plan." The new plan must now be re-approved by the planning commission and Fine Arts Commission. The changes will take time and energy, and the result will be a considerable increase in construction costs.

Do the Mall purists have an argument? Would it be a sin to have a 3 foot high concrete wall cutting across its width? It's hard to judge because of the unsightly parked automobiles and buses which now transverse the Mall daily.

What is the aftermath of this tangled web of ego clashes, verbal and literary stiletto wielding, and shadow debate? A beautiful and proud example of Federal appreciation of the arts and the generosity of one man has been made sleazy. The taxpayers are paying for unnecessary costs at a time when money is scarce. The reputation of a benefactor to the Nation is slandered without proof. Federal agencies are reminded that no action of Congress is ever final and that capriciousness is acceptable behavior. The suspicious are reinforced in their feelings about Government interference in the arts. The business community can use this event as an example of a reason why business should not become involved with Government or the arts. More important, philanthropists will now be hesitant

about contributing to the Federal Government because they risk harassment, and Federal agencies authorized to receive gifts (viz National Endowment for the Arts, the American Revolution Bi-Centennial Commission) might well become over-cautions about the source of gifts.

Most disappointing of course is the complete lack of support for the Smithsonian by individuals and organizations which have a vested interest in the Federal attitude toward the arts. Organizations interested in private giving to the arts, the museum profession, artists, individuals with philanthropic ties to the Federal establishment, have all been "good Germans" about the issue though they have followed its course with avid interest. All these, and the news media, especially the local press, have been silent or wishy-washy while a generous man has been severely criticized for giving his lifetime collection of art to his Government, while a vigorous Federal agency has been harassed into succumbing to the will of an extremely small minority of Congressmen, and while a Federal promise has been unconscionably modified, bent, and perhaps broken.

[From the Washington Star, Feb. 24, 1971]

HIRSHHORN MUSEUM DESIGN HAS AN IRONIC DEFECT

(By Benjamin Forgey)

In spite of all the recent criticism aimed at practically everything about the project, Washington almost certainly will get its new Joseph H. Hirshhorn Museum, and get it with architect Gordon Bunshaft's circular museum building on Independence Avenue and his elongated sculpture garden across the Mall.

This is both a stupendously good thing for the city and something of a shame.

It is good because the Hirshhorn bequest will add in countless ways to the city's art life.

It is unfortunate because Bunshaft's design, particularly for the sculpture garden, leaves much to be desired.

All of this may be beside the point, a futile exercise in *ex post facto* criticism, because the contracts have been signed and workers right now are putting the finishing touches on the substructure of the four-story building. Only minor work has been done so far on the sculpture garden, but one Smithsonian source said major digging is slated to start "late this spring."

It would take an act of Congress to change this schedule, and such an event is unlikely in spite of the fact that Representative Frank Thompson, Democrat, of New Jersey, has introduced a bill to forbid construction of the sculpture garden.

The bill does not seem to have generated widespread support in Congress, in fact it has been assigned to the same subcommittee which reported out favorably the original Hirshhorn measure 4 years ago.

And even if it were to pass, it would be a mixed blessing indeed, because it would seem to justify much of the ill-mannered and ill-conceived criticism of both the man and his gift. One cannot simply ignore the fact that such a law would in effect amount to breaking the contract signed by Hirshhorn and the U.S. Government. It would be an act of awesome petulance, but in such a case Hirshhorn could, legally, pick up his fabulous marbles and take them elsewhere.

In yesterday's Star I indicated just how good I believe the Hirshhorn donation to be. My conclusions, briefly restated, are that as is generally acknowledged the sculpture gift is one of the finest collections of modern sculpture in the world, and that the painting bequest is good enough to make the museum one of the greatest repositories of modern American art.

But what about the house for this treasure?

The site for the building and garden could not be better, situated on the south side of the Mall at 7th Street and Independence Avenue, diagonally across from the National Gallery of Art.

The building itself has been too much maligned. If it is not monumental architecture at its highest expression, and if it is not an inventive new solution to the architectural issues presented by a museum—and, to make myself perfectly clear, I think it neither of these things—it still is miles above the utter debasement of scale and taste of the Rayburn Building and the banal mediocrity of the Smithsonian's most recent museum structure, the Museum of History and Technology.

Bunshaft's circular design will offer a certain relief to the planar facade of Federal office buildings lining Independence Avenue, and it will, I believe, be a rather elegant and handsome addition to the row of museums on the Mall.

The top three floors of the building—two for exhibitions and one for offices—will be supported at ground level by massive and elegantly curved stilts. The open interior court with its circular fountain pool, the space around the 14-foot-high columns, and the paved rectangular plaza surrounding the building will make a lovely display area for some of the sculpture.

ALTERATIONS ALREADY

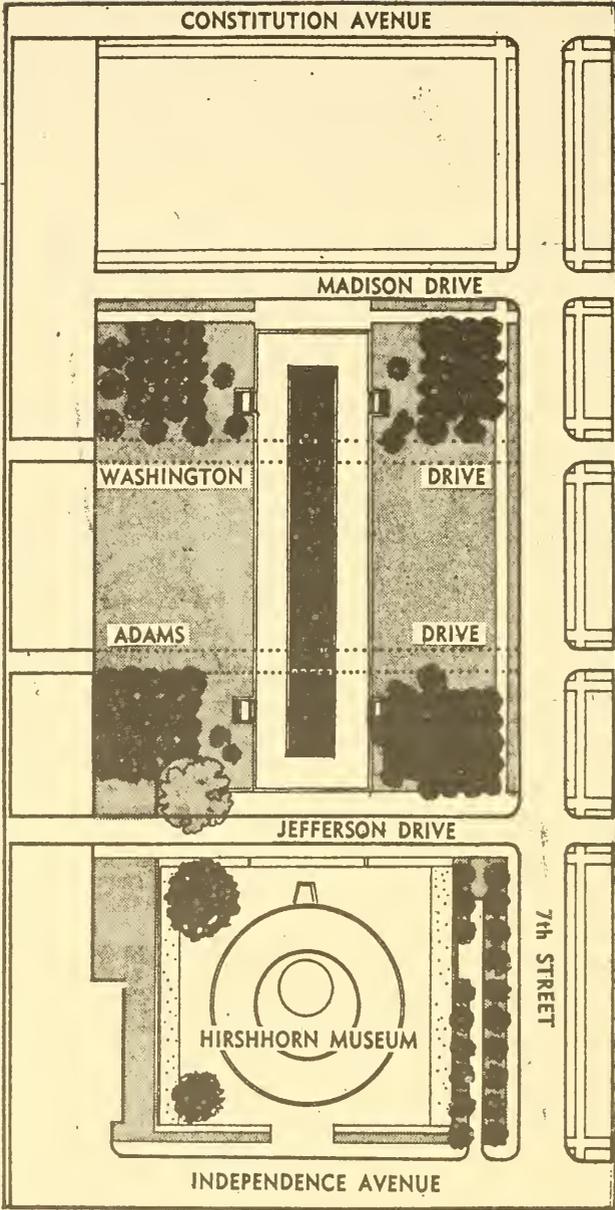
Of course, much of the final effect, the "livability" of the building, will depend on details, what stones are used, and in what pattern to pave the courtyard, how trees and benches and sculpture are placed, how surface textures are matched, et cetera. There already have been cost-induced alterations in the design, most prominent among them being the substitution of exposed reinforced concrete for marble as the material for the facade. One hopes that in this all-important matter of design details the architect has managed to find viable solutions in spite of the cost inflation.

On the inside the design represents a sort of grand galerie going in a circle, and this is an improvement over the endless stretch of paintings one gets in the conventional elongated exhibition hall, the kind that so often induces a dreary sense of sameness in the viewer's imagination no matter what masterpieces line the walls.

Still, the Hirshhorn design shares many of the drawbacks of the grand galerie concept—the lack of flexibility, the difficulty in displaying smaller pictures—and one or two drawbacks unique to the circular concept. The convex wall on the inside of the circle, for example, will limit the size of paintings that can be hung there.

All this, however, is something that Abram Lerner the Hirshhorn curator who will become director of the museum, can deal with by the imaginative use of partitions and a feeling for what is visually proper. The paintings will look good there, and that, after all, is the primary thing.

The architectural excitement of the Hirshhorn will have to come from externals, from the play between the sculpture, the building, the fountain and the surrounding space. This surrounding space. This brings us to the principal architectural issue, the sculpture garden.



Map shows the location for the proposed new Hirshhorn Museum.

Congressional critics of the garden's design stress that it will interrupt the grand sweep of the Mall from the Capitol to the Washington Monument.

Actually this is a relatively minor complaint; the fact is that it won't interfere all that much. Bunshaft designed a clean, sharp, rectilinear space 142 feet wide and 586 feet long. It will sink a total of 10 feet, with walls extending 3 feet above ground level, leaving 7 feet below ground level. A reflecting pool, 60 feet wide and 506 feet long, will punctuate this space like a long, emphatic dash right down the middle.

This cross axis no doubt will interfere with the grassy center slice of the Mall, especially since it cuts off both Washington and Adams Drives, but one ought to keep things in perspective of the truly grand distances involved. The Mall is also "interfered" with at present by Third Street, Fourth Street, Seventh Street, an unnamed drive, 14th Street and 15th Street. The visual "sweep" of the Mall is strong enough to accommodate the streets and the sculpture garden.

A TRICKY PROBLEM

The real design defect of the garden, ironically, probably was caused by the Mall itself. Bunshaft apparently was worrying so much about that grand vista and its rigidly rational, symmetrical patterns (and, perhaps, looking over his shoulder at congressional protectors of the hallowed ground) that he did not think too carefully about the true function of the space: to make a good background for the display of modern sculpture.

This is a tricky problem, especially when one is dealing with as many pieces of sculpture as in the Hirshhorn collection. A stone-walled courtyard two football fields long, unrelieved by any visual accents except the sculpture itself, is the least imaginative solution I can think of.

Not incidentally, whereby is this sunken stone mini-Mall a "garden"? Where is the grass, where are the trees, where are the visual and physical accents that would make the space inviting to walk through and, perchance, to stop and dream a bit?

The architect—or whoever is responsible for the original idea of the transverse sculpture court—might have taken valuable lessons from almost any source, not the least of which could have been the Joseph H. Hirshhorn home in Greenwich, Conn. There, surrounding the Greenwich Tudor mansion on that tree-scaped little hill, is one of the loveliest, most comfortable and most impressive sculpture gardens in the entire world.

For a more urban-oriented solution, one could have looked carefully at the sculpture court of the Museum of Modern Art in Manhattan, which, with its trees, wandering stream, steps, tiers, enclosures, etc., is a remarkable urban park. In both places the setting vastly enhances one's enjoyment and understanding of the art.

The real shame of it all is that there is indeed—or at least there was—an alternative solution right at hand, one that would silence the protectors of the Mall and provided a better place to enjoy the sculpture.

OUTSIDE PANELS

The Mall in cross section is divided into five panels. All of the museum buildings, Hirshhorn included, sit on the outside panels. These are succeeded by two "tree" panels, and the Versailles sweep of which our solons are so jealous is primarily defined by one panel—the grassy one in the middle.

The Hirshhorn sculpture court now forms the stem of a "T" to which the building site is the cross member. What would happen if one were to swing that stem 90 degrees to the south, thus placing it in the tree panel immediately to the north of the building?

The answer is it would change the shape some, but it would fit. As designed, the sculpture court measures 83,200 square feet, 30,300 square feet of which are taken up by the reflecting pool. This leaves 52,900 square feet of dry exhibition space.

The tree panel defined by Jefferson and Adams Drives measures a total of 100,700 square feet. This high figure is somewhat misleading, because any use of the plot as a sculpture court would no doubt involve a cutback to the width of the plot on which the building stands. The building site, as indicated on our map, is set in quite a bit from Seventh Street to accommodate a service roadway. Even allowing for this, the tree panel would measure 67,450 square feet—not so much of a cutback, considering the benefits that would accrue.

In this position the design no longer would be inhibited by the need to keep the Mall's center strip free of vertical interruptions such as sculpture, walls, partitions or trees. The design potential of such a solution would be enormous: Trees, pools echoing the circular design of the building and its central fountain, benches, walk-up plateaus, etc.—all the intimate touches so remarkably lacking in the Bunshaft design.

Such a desirable new design could become a reality in 2 or 3 years if all parties to the compact were agreeable. But that would mean a voluntary turn-about on the part of the architect, the Smithsonian, and Hirshhorn himself. This seems highly unlikely, and that's a shame.

[From the Washington Evening Star, April 1, 1971]

HIRSHHORN GARDEN PLAN IS VASTLY IMPROVED

(By Benjamin Forgey)

Architect Gordon Bunshaft said a lot of good things yesterday but perhaps the best was his remarks that a lovely giant oak tree on the Mall is "the best piece of sculpture here."

Bunshaft was talking about one of the world's finest collections of modern sculpture the Joseph H. Hirshhorn gift to the Nation—but he may be forgiven the hyperbole of the comparison.

The tree in question stands majestically in the southwest corner of the plot of ground in which the architect chose to locate his new design for the Hirshhorn sculpture garden.

TREE PRESERVED

Bunshaft went to the trouble to preserve that tree in his new version of the sunken sculpture court, and that simple gesture speaks volumes about the superiority of the new design to the original one.

The architect unveiled a cardboard model and scale drawings of the revised concept for four members of a committee of the National Capital Planning Commission, which must approve the design before the garden can be built. Neither the Commission Members nor the staff appeared to be overly impressed, but they should have been.

Referring to his original inspiration of a severely elegant sunken rectangle slicing across the Mall, on a north-south axis, Bunshaft remarked that it would have been appropriate for the display of sculpted "Roman gladiators and senators" but not for the exhibition of modern sculpture.

Hence the significance of that grand oak tree. The new design is fit for habitation by people, nature and sculpture in a way that the first design was not. It will be visually more interesting, artistically more satisfying, and altogether a more pleasant place to visit.

In addition, it has the advantage of responding to the objections of congressmen strongly opposed to the original proposal on the grounds that it would have interrupted the visual sweep of the Mall from the Capitol to the Washington Monument.

These objections, which reached such a point in January that Representative Frank Thompson, Democrat-New Jersey, introduced a bill to forbid construction of the sculpture garden, were sufficient to overturn the commission's approval of the first plan and send the architect back to the drawing board.

The new sculpture garden will be confined entirely within the tree plot of the Mall immediately to the north of the Hirshhorn museum site. It, like the first version, is sunken some 10 feet below ground level, is rectangular in outline, and contains a long, narrow reflecting pool.

But in his revised design Bunshaft has managed to combine a rather severely elegant setting with an intriguingly asymmetrical push-pull of visual variety.

The oak tree, for example, will be on ground level and nicely serves the aesthetic function of anchoring the court at one corner. It is counterbalanced visually on the opposite side of the courtyard with another large tree. (This one presumably will have to be planted, so we'll have to give it time to provide its welcome shade). The oak tree also will serve as a backdrop for a second pool, this one to be equipped with water-spraying jets, that is tucked into an enclosed corner.

The court as presently proposed will offer visitors any number of places to sit down and gaze at the sculpture: Under either of the big trees, on the edge of the

reflecting pool, at any point along the two 15-inch-high "steps" with which Bunshaft has defined the largest rectangular area in the design.

Visitors can descend into the sculpture court from three entrances: From a passageway that starts in the plaza surrounding Bunshaft's doughnut-shaped museum building and burrows under Jefferson Drive, or from two neatly counterpointed "stairways" made of 6-foot granite slabs, one at the west and the other at the east end of the rectangle.

Bunshaft added a further element of variety by shielding the view from the entrance tunnel with a massive stone pier, flat on one side and gracefully concave on the other.

The ground surface will be a somewhat disappointing blend of sand and gravel where a lovely pattern of stone would have been more appropriate, but this is a money-saving solution that is absolutely necessary if the project is to be built within the budget limitations already set by Congress.

In view of all this it is difficult to understand most of the objections raised yesterday by members of the planning commission and its staff.

One member, Conrad L. Wirth, appeared to want to take advantage of this revision of an already approved design to reopen the whole issue of whether the museum should have a separate sculpture garden at all. His rationale was disappointingly familiar: The hallowed sanctity of the Mall's "gamboling greensward," as he called it.

Even the staff, which endorsed the idea of removing the sculpture court from the center strip of the Mall, asked that the Smithsonian Institution "study the feasibility of developing a sculpture garden within the surface plaza level around the museum building." Translated, this means "no sculpture garden."

It is late in the day to be asking for such "studies." One of the most pleasing aspects of Bunshaft's design for the museum building is the plaza, and the building is raised 14 feet above the plaza level by four sculptural piers. It has been part of the plan all along to display some of the Hirshhorn sculpture collection on this plaza and even under the building.

As Bunshaft said yesterday, "If this museum is to fulfill its uniqueness it must have space for sculpture. . . . A sculpture garden is as essential to this museum as a surgical section is to a hospital."

The sculpture garden is not negotiable. It is part of the agreement between Hirshhorn and the Government and of the authorizing legislation.

EFFECTS OF WITHHOLDING CONSTRUCTION APPROPRIATION

Mrs. HANSEN. What would be the situation if the committee were to decide to withhold further appropriations to liquidate contract authorization until all the matters in controversy regarding this museum were resolved?

Mr. BRADLEY. Madam Chairman, the construction job would have to be slowed down and eventually stopped.

Mrs. HANSEN. How would this affect your contract with Mr. Hirshhorn?

Mr. BRADLEY. We would have to ask Mr. Kunzig about that, the Administrator of General Services. We look to him for these technical services.

Mrs. HANSEN. Would you have him give the committee an opinion? (The information follows:)

GSA OPINION ON EFFECTS ON CONSTRUCTION AND GOVERNMENT OBLIGATIONS

The following request has been made to the General Services Administration. Their response will be made available to the committee.

APRIL 8, 1971.

Hon. A. F. SAMPSON,
*Commissioner, Public Buildings Service,
General Services Administration,
Washington, D.C.*

DEAR MR. SAMPSON: The chairman of the Subcommittee on the Department of Interior and Related Agencies of the House Committee on Appropriations has raised the following questions regarding the Joseph H. Hirshhorn Museum and

Sculpture Garden and has requested that this information be submitted for the record:

If further appropriations to liquidate contract authorization were withheld until the resolution of the controversy in proposed legislation, what would happen? Would the project be slowed down or halted?

What obligations would be incurred by the Federal Government should construction of the present contract be terminated?

Our report has been requested to be supplied to the subcommittee early during the week of April 12. Your prompt reply would be deeply appreciated.

Sincerely yours,

S. DILLON RIPLEY, *Secretary.*

GENERAL SERVICES ADMINISTRATION,
PUBLIC BUILDINGS SERVICE,
Washington, D.C.

Mr. JAMES BRADLEY,
Under Secretary, Smithsonian Institution,
Washington, D.C.

DEAR MR. BRADLEY: Your letter of March 29, 1971, requested a statement of the consequences of stopping work on the Hirshhorn Museum and Sculpture Garden. Contractually, there are two alternatives for accomplishing this, specifically, suspension or termination of the work. The most appropriate procedure depends entirely on the time element involved. In this case, we feel that the entire construction of the Museum and Garden should not be suspended for more than 30 days. If the work is to be delayed beyond the 30-day period, the contract should be terminated.

The nature and number of variables implicit in this sort of action will not permit precise analysis of costs involved. Some of the costs would be the subject of extensive negotiation and possible litigation. However, we estimate that the contractor has incurred commitments of more than six million dollars to date. Less than one third of this amount is recoverable which gives some perspective to the financial consequences of this action. Further, if the contract is suspended or terminated, the project cannot be completed within the available funds. If the contract is terminated, the structure could never be erected at the current contract amount.

As you know, construction of the original sculpture garden transversing the Mall is currently suspended. Here again, time is of the essence and determinations must be made within a two-month period. With appropriate accommodations in the design and strict adherence to the two-month schedule, a sculpture garden can be developed within the tree panel of the Mall at no increase in the contract price. However, if suspension of work extends beyond a two-month period, this part of the contract should be terminated. The cost of terminating the sculpture garden would be approximately \$700,000, with possible additional costs resulting from litigation.

Sincerely,

A. F. SAMPSON,
Commissioner, Public Buildings Service.

SMITHSONIAN INSTITUTION,
Washington, D.C., April 28, 1971.

HON. JULIA BUTLER HANSEN,
Chairman, Subcommittee on Interior and Related Agencies, U.S. House of Representatives, Washington, D.C.

DEAR MADAM CHAIRMAN: You asked during our recent hearing on the appropriations for the fiscal year 1972 about the consequences if no further appropriation was made for construction of the Hirshhorn Museum and Sculpture Garden.

Since passage of legislation authorizing the Museum in 1966, design and construction have gone steadily forward. The estimated completion date for the Museum is September 1972, eighteen months away. With the approval of the Senate and House Committees on Public Works, of the Senate Committee on Rules and Administration, of the Appropriations Committees, and of the Congress, a substantial financial commitment has been made by the Federal Government.

The Museum received its first appropriation in Fiscal Year 1968: \$803,000 for plans and specifications. By the Act of July 26, 1968, specific contract authority in the amount of \$14,197,000 was provided. In the Fiscal Year 1969 budget, \$2,000,000 was appropriated as part of the liquidation of this contract authority. Additional sums of \$3,300,000 and \$5,200,000 were appropriated in Fiscal Year 1970 and Fiscal Year 1971 further to liquidate this authority. Based on this authority, the General Services Administration on February 27, 1970, signed contracts for the construction of the Museum and Sculpture Garden and the Piracci Construction Company, committing \$13.8 million. Associated costs such as the demolition of the Armed Forces Institute of Pathology and moving it to its new quarters, the design fee, supervision, post contract services, survey, bids, tests and contingencies amounted to approximately \$2.1 million. Costs in excess of the authorized total of \$15 million are to be borne by an additional donation from Mr. Hirshhorn of \$1 million to be made under an existing firm legal commitment. The Smithsonian's budget request for Fiscal Year 1972 includes \$3,697,000 which, with Mr. Hirshhorn's donation, will complete the funding of construction contracts.

The construction of the Museum and Sculpture Garden was begun in March 1970. Excavation, foundation, and the lower structure of the Museum are nearly completed. Through March 1971, accrued costs for the Museum have totaled \$3,447,424.

Should the General Services Administration be forced to terminate this contract, the Government would be faced with substantial and grave uncertainties. Lengthy negotiations would be required with the Piracci Construction Company for an appropriate settlement of terminating or delaying the contract.

Implicit in this description of moneys already appropriated and spent under Congressional authority is the fact that at every step of the way this project has been under the scrutiny of authorizing and appropriating Committees of the Congress. In addition, the designs and plans for the Museum were approved by the National Capital Planning Commission and the Commission of Fine Arts. For the past five years, the Smithsonian has acted in compliance with repeated Congressional mandates. Each year since 1967, funds for the planning and construction of the Museum have been included in the Smithsonian's budget and approved by the Appropriations Committees and the Congress. Each fiscal year since 1968, the Congress has also approved funds for the authorized museum functions of the Hirshhorn Museum and Sculpture Garden, including the preparation of works of art for display when the Museum is open.

We believe that deferment or termination of construction would bring into question the agreement between the Smithsonian and Mr. Hirshhorn. There would be for consideration the effect on the completion date. We have no understanding with Mr. Hirshhorn in the uncertain circumstances which might result from the termination or interruption of an authorized and funded public building under construction. We recognize that such action could result in the loss of the entire Hirshhorn collection of art to the Nation, a collection whose value was appraised in 1965-66 at approximately \$25,000,000 and today may be worth as much as \$50,000,000.

Art experts have described this as the most comprehensive collection of American painting of the 20th century in existence, and as the most important collection of modern sculpture in existence. Mr. Hirshhorn built this collection with taste and devotion over a period of forty years. To assemble such a collection now would probably be impossible.

Equally important to the legal problem of deferring or terminating the construction contract by the United States is the question of breach of faith. Deferring or terminating construction would not only impair the obligations of the contract entered into in good faith by the General Services Administration pursuant to express contract authority carried in the Act of July 26, 1968. It would also repudiate the obligations of the United States accepted by the Congress and the President in the Act of November 7, 1966, which pledges "the faith of the United States" to provide for the upkeep, operation, and administration of "the Joseph H. Hirshhorn Museum and Sculpture Garden."¹ This is the same

¹"Sec. 2(b) The faith of the United States is pledged that the United States shall provide such funds as may be necessary for the upkeep, operation, and administration of the Joseph H. Hirshhorn Museum and Sculpture Garden." P.L. 89-788, Nov. 7, 1966; 80 Stat. 1404; 20 U.S.C. § 766b(b).

pledge, "the faith of the United States," that was made by the Congress and the President on behalf of the United States in the Act of July 1, 1836, which accepted the obligations of the testamentary trust of James Smithson, to found the Smithsonian Institution.²

With all best wishes.

Sincerely yours,

S. DILLON RIPLEY, *Secretary.*

SCHEDULE FOR BUILDING COMPLETION

Mrs. HANSEN. Is your construction program on schedule?

Mr. BRADLEY. No, Madam Chairman. The construction program is somewhat behind schedule. The estimate, as of the end of March, called for approximately 26 percent completion and the job is now approximating 17 percent of completion.

Mrs. HANSEN. Why is your construction program behind schedule?

Mr. BRADLEY. We understand from the written reports of the engineer inspection team that difficulty has been experienced from the complexity of the design for the pouring of concrete, which is to have an exposed aggregate finish. The building has some very massive pediments that support the building. These four columns or pediments, we understand, have also given some difficulty. We understand that the difficulties are being surmounted and the job is picking up.

Dr. RIPLEY. This is the hardest part, I think, of the construction. These are a very interesting sort of sculptural forms, these four major buttress supports for the whole building. Once they are completed, the hanging of the panels on the exterior surface I think will go very rapidly, but this is the hardest. This is a novel and innovative device, these four pediments, and they have required a very careful and cautious approach toward completing them.

Mr. BRADLEY. I should add that the estimated completion date has not changed on the official report. It is still predicted to come in on September 4, 1972.

Mrs. HANSEN. This will be the completion of the structure. When is the museum expected to open?

Dr. RIPLEY. Six months later.

FUNDING OF POSSIBLE ADDITIONAL DESIGN

Mrs. HANSEN. If it becomes necessary to revise any of the planning engineering design or architectural design of any of the facilities in connection with this project, what would be the situation with regard to funding the additional cost? I have in mind whether or not it would be necessary for you to get additional legislative authorization, and also any rough estimates you can give of what the additional cost might be?

Mr. BRADLEY. The additional design cost, Madam Chairman, would be \$55,000, and this money would be taken from the contingency fund that is on hand.

Mrs. HANSEN. You don't need additional authorization?

² "Sec. 3. *And be it further enacted*, That any and all sums of money, and other funds which shall be received for, or on account of, the said legacy, shall be applied in such manner as Congress may hereafter direct, to the purpose of founding and endowing at Washington, under the name of the Smithsonian Institution, an establishment for the increase and diffusion of knowledge among men; to which application of the said moneys, and other funds, the faith of the United States is hereby pledged." Act of July 1, 1836; 5 stat. 64.

Mr. BRADLEY. No additional authorization or appropriation. GSA has advised by letter of March 17, 1971, that the proposed changes can be developed within the present contract price.

EFFECTS OF DELAY ON AGREEMENT

Mrs. HANSEN. If this project were delayed because of the necessity to revise your plans, what effect, if any, would that have on the agreement under which this project was originally started?

Mr. BRADLEY. As of this moment, we do not anticipate that this redesign would have any effect on the agreement with Mr. Hirshhorn, because we think that we have so far arranged that we can carry on the studies of redesign, and get on with an accelerated job of drawing new contract drawings in order to avoid a delay in the construction project.

NATIONAL AIR AND SPACE MUSEUM

Mrs. HANSEN. \$1,900,000 is requested for planning and redesign of the National Air and Space Museum. What is the current status of this project? Also what amount has been spent to date for planning and design?

Mr. BRADLEY. The amount that has been appropriated, Madam Chairman, is \$1,875,000. That is planning only.

Mrs. HANSEN. Is this amount a complete loss because of the necessity to change the design?

Dr. RIPLEY. No.

Mr. BRADLEY. We think not, because we plan to employ the same architect, and he has had this grounding in the needs of an air and space museum. We think that should reflect economy in both time and money.

Dr. RIPLEY. Substantially the elements of design will be the same. What we will do will be scaling down the building, so we do not believe that that money has gone to waste.

COST FACTORS IN DESIGN ESTIMATE

Mrs. HANSEN. \$1.9 million is a rather high figure for planning and design. Please give us the cost factors involved in this estimate.

Mr. BRADLEY. If we may put that in the record we will get it from GSA.

(The information follows:)

NATIONAL AIR AND SPACE MUSEUM ESTIMATE OF REDESIGN COSTS

From letter dated July 30, 1970, from the General Services Administration to the Smithsonian Institution.

National Air and Space Museum

Estimated total project cost (January 1973) \$40 million included for design, review, and inspection:

Surveys and bids.....	\$108, 000
Drawings and specifications.....	1, 922, 000
GSA review, included above.....	100, 000
Supervision and inspection.....	792, 000

Subtotal	\$2, 822, 000
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Recapitulation (drawings, specifications and review) :	
Drawings and specifications-----	\$1,822,000
GSA review-----	100,000
	<hr/>
Total -----	1,922,000
Rounded estimate-----	1,900,000

The amount of the architectural/engineering fee will be subject to negotiation with the architect.

SELECTION OF ARCHITECT

Mrs. HANSEN. Have you selected the architect to do this work?

Dr. RIPLEY. We have. It is Mr. Gyo Obata, the same architect we had already employed for the original building. I made the point of going directly back to him when we contemplated trying to come back to the Congress for a request of this sort and said, "Will you do it because you have lived with it for years?"

Mrs. HANSEN. You felt that this would be saving funds because he could better utilize whatever plans had been developed?

Dr. RIPLEY. This seemed to us to be the only prudent course to follow.

COST OF CONSTRUCTION

Mrs. HANSEN. As you currently visualize it, what is your estimate of the total cost of the construction of this project?

Dr. RIPLEY. We have consulted with the Smithsonian regents, and the regents have recommended that we try to come back for a building which would not cost much in excess, if at all, of what we had originally asked for and had been authorized in 1966. That is approximately \$40 million for construction.

Mrs. HANSEN. Where would it be located?

Dr. RIPLEY. It would be located on the authorized site between Fourth and Seventh Streets, Independence Avenue, and Jefferson Drive.

PRIOR EXPENDITURES FOR PLANNING

Mrs. HANSEN. What have been your total expenditures in this connection to date?

Dr. RIPLEY. We will insert that in the record, Madam Chairman, if we may.

Mrs. HANSEN. Please do.

(The information follows:)

NATIONAL AIR AND SPACE MUSEUM EXPENDITURES TO DATE FOR PLANNING AND DESIGN

A total amount of \$1,875,000 was appropriated for planning and design of the National Air and Space Museum. These funds were made available in fiscal year 1964 (\$511,000) and 1965 (\$1,364,000). Of these amounts, \$1,725,000 were obligated for plans and specifications for a building design which was fully approved by the National Capital Planning Commission and the Commission of Fine Arts. These appropriations were annual accounts so the \$150,000 balance is no longer available for obligations. This expenditure is not a wasted effort, however, since the proposed redesign can take advantage of much of the prior work.

HISTORY OF EFFORTS TO CONSTRUCT THE BUILDING

Mrs. HANSEN. Various individuals have criticized you for delaying the construction of the Space Museum, which we discussed earlier to-

day. May we have your comments for the record as to why progress on this project has not been at a faster rate?

Dr. RIPLEY. We would be glad to supply that for the record.
(The information follows:)

REASONS FOR DELAY IN CONSTRUCTION OF THE NATIONAL AIR AND SPACE MUSEUM

Starting with the act of August 12, 1946, the Congress established the National Air Museum as a part of the Smithsonian Institution. The Congress included provisions for selecting a site for a National Air Museum Building to be located in the Nation's Capital. By the act of September 6, 1958, the Congress designated a site for a building to be on the Mall from Fourth Street to Seventh Street Independence Avenue to Jefferson Drive. Planning appropriations in the amount of \$511,000 and \$1,364,000 have been made available to the Smithsonian by the Congress for the fiscal years 1964 and 1965, respectively. These resulted in a building design approved by the National Capital Planning Commission and the Commission of Fine Arts.

It appeared that the building might soon be approved for construction, it was so recommended but the bill was not passed by the House after it had been approved by the Senate.

The Congress subsequently enacted legislation approved on July 19, 1966, authorizing the construction of the National Air and Space Museum.

In connection with this authorization, Public Law 89-509, the Senate Committee on Rules and Administration in its report to the Senate stated:

"In reporting favorably on H.R. 6125, the Committee on Rules and Administration noted with satisfaction the letter of May 13, 1966, from Secretary Ripley, giving assurances that funds would not be requested in this session of Congress pursuant to the authorization on H.R. 6125. The committee expressly recommends that funding for the National Air and Space Museum should be deferred even further, if need be, and that appropriations should not be requested pursuant to H.R. 6125 unless and until there is a substantial reduction in our military expenditures in Vietnam."

Rather than assume the responsibility for interpreting the wording, "substantial reductions in military expenditures in Vietnam," the Smithsonian Institution continued to seek appropriations for the Air and Space Museum. Funds for construction were then requested in the fiscal year 1966 and fiscal year 1967 budget submissions to the Bureau of the Budget in the amount of \$40,045,000 and \$40,331,000, respectively, as estimated by the General Services Administration. Both requests were deleted by the administration prior to submittal of the budget to the Congress. During preparation of the fiscal year 1968 budget, it was decided that an incremental request for construction funds for the foundation and underground parking garage might be more acceptable, following the precedent used by the Public Buildings Service of the General Services Administration to start the FBI Building and the new Labor Department Building. Funds in the amount of \$9,500,000 were therefore requested for this purpose in both the fiscal year 1968 and fiscal year 1969 budget submittals to the Bureau of the Budget and each time the item was deleted and not submitted to the Congress.

With the passage of time and unusually sharp increases in construction costs, the GSA was requested to update the construction cost estimate. In January 1968 we were advised by GSA that the building would now cost nearly \$56 million and in the next few years would increase to \$65 million, if the then planned planetarium were added to the project. This substantial increase in cost led to consideration of reducing the cost by reducing the size of the building and even completely redesigning if necessary.

The Chancellor of the Smithsonian Institution then wrote to the President on November 19, 1969, to inform him of the resolution approved by the Board of Regents on November 5, 1969, as follows:

Voted that the Board of Regents of the Smithsonian Institution recognizes the intense interest of the American people in the national air and space programs and in the historic flight of Apollo 11 to the Moon and return. The Regents recognize that by Public Law 89-509 the Nation's Air and Space Museum is authorized to be constructed on the Mall on a site designated by Act of Congress. The Regents further recognize that because of substantial increases in construction costs, the building as now designed should be scaled down from its present

level of \$65 million to a cost level not to exceed \$40 million. The Regents, therefore, most respectfully and most urgently request that the President include in his budget for the fiscal year 1971 an amount of \$2 million to finance the necessary redesign of this great educational and exhibition center for our air and space exploration.

The assistant to the President for Domestic Affairs responded to the Chancellor's letter on December 10, 1969, and stated that funds for redesign had not been included in the 1971 budget by the Bureau of the Budget because of budgetary constraints, but that it would be included in a list of appealed items to be presented to the President during his review.

After a discussion of these efforts, Regent William A. M. Burden wrote to the President, urging that redesign funds be inserted as an amendment to the Presidential budget. He stated that his concern "arises from our intense desire to complete the National Air and Space Museum within the years of your incumbency as President. In order to complete such an historic structure in time for 1976 at the earliest, it will be necessary to commence planning for a rescaling downwards in cost of the present approved structure. The Nation can save perhaps more than \$20 million in completed costs by spending \$2 million for replanning now."

"Mindful of the vital need which the Administration faces in cutting costs, it seems to us that this planning item, which could be inserted as an amendment to the Presidential budget, would be viewed as a prudent investment for the future."

In the interim, the architect has been authorized to prepare a feasibility study to show in outline form the maximum size and arrangement for a building estimated to cost \$40 million. This study was completed in June 1970.

The Smithsonian was subsequently advised that the Senate had requested in 1966 that appropriations for this purpose not be sought "unless and until there is a substantial redirection in our military expenditures in Vietnam." While the military effort in Vietnam is certainly redirected, we were advised, unfortunately the military expenditure level has not lessened appreciably. We were further advised that the President has directed very drastic cuts in all budgets for fiscal year 1971 and that there is no possibility of reinstating this request under the circumstances.

In our submission of the fiscal year 1972 budget to the Office of Management and Budget, we again requested an appropriation of \$1,900,000 for planning. The investment of redesign costs will result in a substantial decrease in ultimate construction costs and thereby increase the prospect of starting construction at the earliest possible date. The Senate Rules Committee has advised that it has no objection to a request for redesign funds.

ACCELERATION OF PROJECT

Mrs. HANSEN. What have been the determining influences in the past year that have caused you to accelerate your work on this project?

Dr. RIPLEY. With due homage, Madam Chairman, to the senior Senator from a western State, I would like to say that we have been trying to get this project back on the tracks for some time.

Mrs. HANSEN. Hasn't the Vietnam war been a deterring factor?

Dr. RIPLEY. The war in Vietnam has been a deterring factor, as shown in the report of the Senate Committee on Rules and Administration. Once Apollo 11 flew the summer before last, in 1969, we made a very strong appeal to the Budget Bureau, to have a redesign item put back into our budget for last year, fiscal 1971. This was eventually turned down at the highest level by the Budget Bureau, and was not, therefore, in our request for this year's funds. This is prior, of course, to the publicity and so on that emerged during the subsequent winter.

We did at that time justify our appeal to the Office of Management and Budget on the basis that we felt that there appeared to be, at least from the press and statements by the administration, some decline in

the war in Vietnam. At the same time we attempted to get an opinion from the Senate Committee on Rules and Administration that it would be appropriate for us to ask for these redesign funds in the light of the language of the earlier committee report. Senator Jordan and Senator Pell agreed last year that it would be appropriate for us to ask for redesign money.

PARKING ON THE MALL

Mrs. HANSEN. Would the construction of this museum necessitate the relocation of any existing buildings or structures?

Dr. RIPLEY. It would merely add to the burden of the parked cars on the Mall. There are no structural changes of any sort.

Mrs. HANSEN. What are you going to do with the parked cars?

Dr. RIPLEY. We have, of course, been conducting studies on this for sometime. Of course it is true that the design for the Air and Space Museum includes a garage for cars in the basement areas as requested by the National Capital Planning Commission at the time we went for approval of the original plans for the building. I mentioned the parked cars because the General Services Administration, the National Park Service, and the Smithsonian are constantly struggling for ways to solve the problem of the car parking in the Mall area.

BUDGET APPENDICES

Mrs. HANSEN. At this point in the record please insert justification pages E-1 through E-6.

(The pages follow:)

SMITHSONIAN INSTITUTION

"SALARIES AND EXPENSES"

Report on the Number of Permanent Positions by Organization Unit

	1970	1971	1972	Increase 1971 over
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>1970</u>
National Museum of Natural History . . .	258	271	349	78
Smithsonian Astrophysical Observatory . . .	57	57	57	0
Smithsonian Tropical Research Institute	40	45	57	12
Radiation Biology Laboratory	36	40	46	6
Office of Environmental Sciences	23	34	42	8
National Air and Space Museum	41	41	44	3
Center for the Study of Man	6	7	10	3
Center for Short-Lived Phenomena	0	1	4	3
National Zoological Park	0	249	297	48
Museum of History and Technology	158	158	157	-1
National Collection of Fine Arts	59	70	72	2
National Portrait Gallery	30	37	38	1
Joseph H. Hirshhorn Museum and Sculpture Garden	13	18	21	3
Freer Gallery of Art	7	7	8	1
Archives of American Art	0	0	11	11
National Armed Forces Museum Adv. Bd.	8	8	6	-2
Office of Museum Programs	7	9	9	0
Exhibits	167	167	164	-3
Conservation Analytical Laboratory	11	11	14	3
Registrar	29	29	30	1
Anacostia Neighborhood Museum	9	11	15	4
Office of International Activities	8	8	9	1
International Exchange Service	9	9	9	0
Performing Arts	7	7	7	0
Public Affairs	12	12	12	0
American Revolution Bicentennial	0	2	2	0
Environmental Sciences Program	0	3	8	5
Major Exhibitions	0	0	0	0
National Museum Act	0	0	3	3
Academic & Educational Programs	18	20	23	3
Research Awards	0	0	0	0
Secretary	38	38	40	0
General Counsel	8	8	9	1
Treasurer	31	31	33	2
Personnel	26	28	29	1
Libraries	49	54	63	9
Press	23	25	25	0
Information Systems Division	13	14	16	2
Archives	6	6	6	0
Photographic Services Division	20	20	20	0
Supply Division	21	21	21	0
Administrative Systems Division	9	9	9	0
Duplicating	7	7	7	0
Other Central Support	13	13	13	0
Buildings Management Department	748	768	793	25
Woodrow Wilson International Center for Scholars	8	0	0	0
Total	2,033	2,373	2,608	235

SMITHSONIAN INSTITUTION
"Salaries and Expenses"

Report of Obligations by Objects

	1970 <u>Actual</u>	1970 <u>Estimate</u>	1972 <u>Estimate</u>	Increase or Decrease(-) <u>'72 over '71</u>
11 Personnel Compensation ..	\$20,631,000	\$25,126,000	\$28,000,000	\$2,874,000
12 Personnel Benefits.....	1,564,000	1,942,000	2,177,000	235,000
21 Travel & Transportation of Persons.....	313,000	329,000	527,000	198,000
22 Transportation of Things..	210,000	180,000	253,000	73,000
23 Rent, Communications, and Utilities.....	1,889,000	2,349,000	2,656,000	307,000
24 Printing and Reproduction.	597,000	885,000	1,095,000	210,000
25 Other Services.....	2,397,000	3,297,000	5,376,000	2,079,000
26 Supplies and Materials....	1,048,000	1,204,000	1,763,000	559,000
31 Equipment.....	1,355,000	1,012,000	3,134,000	2,122,000
41 Grants.....	<u>8,000</u>	<u>8,000</u>	<u>23,000</u>	<u>15,000</u>
Total Obligations	\$30,012,000	\$36,332,000	\$45,004,000	\$8,672,000

Appropriation Adjustments:

Receipts and Reimbursements from Federal Funds.....	-61,000	0	0	0
Unobligated balance lapsing...	<u>14,000</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>Appropriation or estimate....</u>	<u>\$29,965,000</u>	<u>\$36,332,000*</u>	<u>\$45,004,000</u>	<u>\$8,672,000</u>

* Includes anticipated supplemental
of \$1,630,000.

SMITHSONIAN VISITORS
(by fiscal year)

Fiscal Year	Smithsonian Institution Building	Arts and Industries Building	Museum of Natural History	National Air and Space Building	Freer Gallery of Art	Museum of History and Technology	Fine Art and Portrait Galleries	Total
1961	1,024,526	2,942,371	2,047,973	597,853	130,746	a	c	7,103,474
1962	1,222,112	3,471,050	2,113,953	1,226,319	130,597	a	c	8,923,131
1963	1,630,280	3,534,182	2,208,397	2,673,618	183,359	a	c	10,309,836
1964	1,311,061	2,457,243	2,512,306	1,854,186	168,625	2,509,774 ^a	c	10,813,195 ^b
1965	1,065,635	2,028,175	3,051,472	1,705,633	210,972	5,091,776	c	13,153,713
1966	870,010	1,746,715	3,988,006	1,494,922	222,089	4,829,112	c	12,150,854
1967	1,020,312	1,638,873	3,409,957	1,430,422	212,920	5,346,102	c	13,312,586
1968	847,176	1,344,622	3,257,997	1,123,698	169,533	4,750,023	30,888	11,523,897 ^a
1969	275,259 ^e	1,493,141	2,916,749	1,225,959	179,374	4,174,071	166,177	10,430,730 ^f
1970		2,557,155 ^f	3,269,791	1,839,373	217,305	5,483,555	216,523	13,583,702 ^h

a Museum of History and Technology opened January 1964.

b July-August 1964, certain Smithsonian Institution buildings were open 4:30 to 10 p.m. for the first time.

c National Collection of Fine Arts opened May 1968, and the National Portrait Gallery in October 1968.

d Reflects the significant decrease in visitors to the Nation's Capital in the first six months of CY 1968, due to unsettled local conditions.

e Building closed for renovation October 1968.

f Since the first display of the lunar sample in September 1969, visitors to this building have averaged approximately 213,000 per month.

g Fiscal year 1969 visitor totals represent the effect of local conditions in late 1968 on visitor attendance. During CY 1969, a total of 12,438,909 visitors came to the Smithsonian, an increase of 25 percent over CY 1968.

h Reflects a significant increase of 30 percent in visitors to the Smithsonian's museums and galleries.

j An additional 5,000,000 visitors visit the National Zoological Park annually, and 50,000 to the Anacostia Museum.

SIGNIFICANT EXHIBITS, FISCAL YEAR 1970

Natural History Building

John Wesley Powell: The Indomitable Major	Malay Archipelago
Smithsonian Science Illustrators	Arnard Hammer Exhibit
Bengal Tiger	A Heritage in Peril - Alaska's Vanishing Totems
Dead Sea Scrolls, Parts I and II	Studies of South African Costumes
Daco-Roman Traces in Romania	

Arts and Industries Building

Contemporary Black American Artists	Louis Corinth
British Designer Crafts	Moon Rock
Yugoslavian Tapestry & Graphics	Toledo Glass
Urban Transit	Johannes Gutenberg
Apollo Art	Art Protis
White House Press Photographers	Polish Folk Art

History and Technology Building

Historical machinery and products of the American textile industry	"The Roots of California Culture"
Energy Conversion	"Women and Politics"
	"Laser 10"

Fine Arts and Portrait Galleries

Retrospective of the work of Milton Avery	Tibetan Art
"Explorations"	Winslow Homer
Mid-career retrospective of Leonard Baskin	Paintings and sculpture from the 1930's
	Augustus Saint-Gaudens: "The Portrait Reliefs"

Cooper-Hewitt Museum of Decorative Arts and Design

"Kabuki Prints"	Posters by E. McKnight Kauffer
Contemporary Japanese Posters	1890-1965
A Stately Pleasure Dome:	Contemporary Drawings by New York Artists
"The Royal Pavilion at Brighton"	
Light and Line: Etchings by Rembrandt	India Chintz

Smithsonian Institution Traveling Exhibitions

The exhibits originated at the Smithsonian with Smithsonian collections and were planned and produced by Smithsonian programs.

Jean Louis Berlandier	Werner Drewes Woodcuts
Photography and The City	The People's Choice

Performing Arts

Folk Festival on the Mall - Third Annual Event

Anacostia

The Rat: Man's Invited Affliction	"The Douglass Years" Frederick Douglass
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CONTRACTS AND GRANTS TO THE SMITHSONIAN INSTITUTION
Fiscal Years 1970 and 1971

<u>Contracts</u>	<u>1970</u>	<u>1971</u>	<u>Grants</u>	<u>1970</u>	<u>1971</u>
<u>National Aeronautics and Space Administration</u>					
Interdisciplinary Communication	\$ 199,606	\$ 155,379	Satellite Tracking Program . . .	\$1,635,000	\$2,100,000
Radio Meteor Research	500,839	300,000	Recovery of Meteorites	130,000	150,000
Celestcope	747,000	900,000	Miscellaneous	155,000	275,000
Barium Cloud Experiments	132,000	201,603			
Miscellaneous	<u>300,000</u>	<u>400,000</u>		\$1,920,000	\$2,525,000
	\$1,879,445	\$1,956,982			
<u>Department of Defense</u>					
Mosquitoes in Southeast Asia . . .	\$ 161,895	\$ 170,000			
Diseases in Overseas Areas	119,300	73,580			
Mammalian Parasites	100,937	95,999			
Mediterranean Biological Studies	0	133,068			
Ocean Acre	38,505	0			
Miscellaneous (Dept. Army)	100,000	175,000			
Miscellaneous (Dept. Navy)	<u>95,000</u>	<u>125,000</u>			
	\$ 615,637	\$ 772,647			
<u>Department of Health, Education, and Welfare</u>					
Drug Exhibit	\$ 87,538	\$ 40,000	Human Osteon Chemistry	\$ 41,124	\$ 35,069
			Interdisciplinary Exploration of Carcinogenesis Problems	<u>94,097</u>	<u>86,000</u>
				\$ 135,221	\$ 121,069
<u>Atomic Energy Commission</u>					
Protein Properties	\$ 15,634	\$ 15,634			
Radiation & Plant Metabolism . . .	<u>70,000</u>	<u>70,313</u>			
	\$ 85,634	\$ 85,947			

<u>Contracts</u>	<u>1970</u>	<u>1971</u>	<u>Grants</u>	<u>1970</u>	<u>1971</u>
			<u>National Science Foundation</u>		
Processing Antarctic Collections	\$ 136,862	\$ 142,297	Study of Neotropical		
Science Information Exchange	1,637,367	1,600,000	Phanerograms	\$ 38,500	\$ 30,000
Miscellaneous	<u>18,000</u>	<u>25,212</u>	Papers of Joseph Henry	30,000	0
	\$1,792,229	\$1,767,509	Undergraduate Research	24,910	0
			Program	<u>121,191</u>	<u>291,290</u>
			Miscellaneous		
				\$ 214,601	\$ 321,290
			<u>National Institutes of Health</u>		
Miscellaneous	\$ 60,000	\$ 65,000			
			<u>Department of the Interior</u>		
Oil Pollution	\$ 79,375	\$ 60,000			
Water Pollution Control	86,500	75,000			
Miscellaneous	<u>35,000</u>	<u>50,000</u>			
	\$ 200,875	\$ 185,000			
			<u>Department of State - A. I. D.</u>		
MeKong Basin Project	\$ 149,276	\$ 150,000			
Int'l. Environment Assess.	98,370	100,000			
Miscellaneous	<u>0</u>	<u>10,000</u>			
	\$ 247,646	\$ 260,000			
			<u>Other</u>		
			Miscellaneous	\$ 30,000	\$ 50,000
Total, Contracts	<u>\$4,969,004</u>	<u>\$5,133,085</u>	Total, Grants	<u>\$2,299,822</u>	<u>\$3,017,359</u>

Mrs. HANSEN. Thank you, Dr. Ripley, for a very informative hearing. I also want to thank Mr. Bradley and the members of your staff for a very excellent presentation and a most informative 2 days.

Dr. RIPLEY. Thank you, Madam Chairman.

TUESDAY, APRIL 6, 1971.

NATIONAL COUNCIL ON INDIAN OPPORTUNITY

WITNESSES

ROBERT ROBERTSON, EXECUTIVE DIRECTOR

DALE WING, ASSISTANT EXECUTIVE DIRECTOR

CARL W. GUIDICE, CHIEF, DIVISION OF FISCAL SERVICES, DEPARTMENT OF THE INTERIOR

Mrs. HANSEN. We now have the National Council on Indian Opportunity and our principal witness is Mr. Robertson, Executive Director.

GENERAL STATEMENT

Mr. Robertson, please insert your general statement in the record and summarize it for us.

(The statement follows:)

It is a deep pleasure to appear before this subcommittee today to support the fiscal year 1972 budget request to the National Council on Indian Opportunity, hereinafter called the Council.

THE COUNCIL

The Council was established by Executive Order No. 11399 on March 6, 1968. It was authorized by the Congress in late November of 1969 and the first appropriation was given to the Council in December 1969.

The Council membership consists of the Vice President, who is Chairman; the Secretary of Interior, the Secretary of Agriculture, the Secretary of Commerce, the Secretary of Labor, the Secretary of Health, Education, and Welfare, the Secretary of Housing and Urban Development, the Director of the Office of Economic Opportunity, and the Attorney General. Eight Indian members are appointed for 2-year terms by the President of the United States. The eight new Indian members are:

Dr. B. Frank Belvin, Choctaw, Okmulgee, Okla. (Baptist Missionary to Creek and Seminole Indians).

Mrs. Laura Bergt, Eskimo, Fairbanks, Alaska (active in Alaska Native land claims issue).

Mrs. Betty Mae Jumper, Seminole, Hollywood, Fla. (chairman, Seminole Tribal Council).

Mr. Earl Old Person, Blackfeet, Browning, Mont. (president, National Congress of American Indians).

Mr. John C. Rainer, Taos Pueblo, Taos, N. Mex. (director, National Indian Graduate Scholarship Program).

Mr. Harold W. Shunk, Yankton-Sioux, Rapid City, S. Dak. (former BIA superintendent).

Mr. Martin E. Seneca, Jr., Seneca, Versailles, N.Y. (Harvard University Law School student).

Mr. Joseph C. Vasquez, Apache-Sioux, Los Angeles, Calif. (founder, Urban Indian Development Organization).

THE COUNCIL AND THE PRESIDENT

President Nixon sent his Indian policy message to the Congress on July 8, 1970. The nine points in his message are: (1) rejecting the concept of termination



SMITHSONIAN INSTITUTION LIBRARIES



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