MFA Egyptian Storage Grant (Draft)

PLANNING GRANT FOR THE
REORGANIZATION OF THE EGYPTIAN DEPARTMENT'S STORAGE AREA

PROJECT SUMMARY

The Museum of Fine Arts, Boston seeks support from the National Science Foundation's program of support for systematic anthropological collections for the production of an integrated plan for the reorganization, conservation and documentation of the Egyptian, Sudanese and Near Eastern anthropological materials currently stored in the Museum's basement. The objects are principally archaeological artifacts and samples recovered during systematic excavations in addition to a small but significant collection of documented ethnographic specimens from the same culture areas. This collection derives largely from excavations undertaken or supported by the Museum for nearly fifty years and is the largest and most thoroughly documented body of archaeological material from the Nile Valley in the Western Hemisphere.

The conditions under which these objects are currently stored, however, makes the use of the collection by students, scholars, scientists and museum personnel extremely difficult and have also caused considerable deterioration to a wide variety of materials.

To preserve this important body of anthropological data the Museum proposes a program of survey and planning to be undertaken by museum staff in conjunction with outside consultants. The outcome of the proposed project will be the development of three integrated plans: (1) a program for the upgrading of the physical storage space to include increased accessibility of the collections to outside researchers, (2) a schedule for moving and recording the collections as recommended renovations are undertaken and (3) a specific conservation survey to access the climatic needs of the collection and to devise a system of treatment and curatorial care to ensure the preservation of the collection during and after the renovation period. The Museum anticipates that actual renovations of the storage area can be implemented at the completion of the grant period currently proposed to the National Science Foundation.

Museum of Fine Arts, Boston

INTRODUCTION

The collection of the Department of Egyptian and Ancient Near Eastern Art is comprised of roughly 40,000 objects and represents one of the most important anthropological collections of its kind in the world. The Egyptian material of the Old Kingdom and First Intermediate Period, and Nubian and Kushite objects from the Sudan, forms the primary source of reference for the study of the ancient culture areas of the Nile Valley. Significant holdings of other archaeological and ethnographic materials from Egypt, the Sudan and the Ancient Near East are also part of the collection. As the primary body of reference data for many of these culture areas, the collection is extensively used by scientists from museums and universities world-wide. Moreover, material in the collection has been referred to, or has been the basis of, thousands of books and articles published internationally.

The Museum of Fine Arts, Boston is currently engaged in a program to increase access to and improve the care and conservation of this irreplaceable archaeological resource. This commitment can be seen in the ongoing activity relating to collection care. The proposed project, for developing a plan for the reorganization and inventory of the collection, surveying the condition and space requirements of the objects and redesigning and upgrading of the storage areas, will lay the foundations for the preservation of this invaluable collection and make it accessible for use by the museum staff and outside scholars.

Roughly 75% of the collection of the Department of Egyptian and Ancient Near Eastern Art is currently housed in permanent storage in the basement area of the Museum. Most of this is composed of archaeological materials and samples derived primarily from systematic excavations which are fully documented in the Museum's expedition records. These objects are the concrete remains of human activity; including foodstuffs, human and animal remains, botanical materials, pottery, raw materials from manufacturing sites, tools, weapons, textiles and clothing and ethnographic specimens.

Despite the fact that it is one of the most important archaeological reference collections in the United States, the conditions under which these artifacts are stored have made it extremely difficult to use the collection for teaching and research, and have, in addition, caused considerable damage to a large number of objects. A good part of the storage collection is housed in old display cases, or even in trunks and packing crates in the Museum basement. The facilities are

crowded, disorganized, and wasteful of space. In addition, due to the haphazard nature of the storage, it is often difficult to locate and examine specific objects. Exacerbating the difficulty of access is the fact that much of the collection in storage has never been properly inventoried or catalogued. Frequently, the department staff is at a loss to determine if an object is in the Museum of Fine Arts, Boston, the Peabody Museum of Archaeology and Ethnology at Harvard, the Egyptian Museum in Cairo or the National Museum in Khartoum. This, of course, presents tremendous obstacles to anyone engaged in research and requiring access to this body of data.

In order to make this wealth of anthropological material more available for educational purposes and to the scientific community, the Museum proposes to implement a systematic plan of action that will inventory and reorganize the materials in the basement storage area. The main goals of such a renovation would be (1) to document fully the materials now in storage in order to make them more accessible for scientific research and to minimize the danger of loss of information and (2) to create a storage system which will enable the optimum use of the present area and create a climate controlled environment to insure the preservation of this essential data.

During the proposed project period a variety of outside specialists would be consulted who, along with staff members of the Egyptian Department, would oversee the formulation of a long range plan of registration, conservation and renovation in conjunction with the Museum's conservation, registration and engineering staffs. Because of the commitments of the full time Egyptian Department and Conservation and Research Laboratory personnel it will be necessary to employ a research assistant to undertake the role of surveying the collections and working with the conservators, architects and other consultants. The research assistant would be aided by previously trained volunteers and interns during the course of the project under the direction of the permanent staff of the Department of Egyptian and Ancient Near Eastern Art. The position would require an individual with anthropological and archaeological background, museum experience and specialized in the study of ancient Egyptian material culture.

ANTHROPOLOGICAL SIGNIFICANCE OF THE EGYPTIAN COLLECTION

1. Scope and significance of the collections

The collection of the Department of Egyptian and Ancient Near Eastern Art, encompassing 40,000 objects, is one of the most important anthropological collections in the world. The Sudanese material, both

archaeological and ethnographic, in particular, is without parallel, and since most of the sites which yielded this material are now submerged under Lake Nasser, the objects in the Boston Museum comprise the only remaining record of a number of important Lower Nubian cultures. Moreover, both political and economic considerations are making archaeological work in these areas increasingly more difficult, underscoring the importance of this collection as the principal repository of archaeological material from this region in the New World.

The Museum of Fine Arts has long recognized the importance of archaeology and anthropology to the study of Egyptology. It was one of the first museums in the country to undertake systematic archaeological excavations with the aim of acquiring a collection of scientifically important study material, both for exhibition and research purposes. It was also the first to create an analytical facility for researching and preserving this collection. The majority of the objects in the storage collection consist of anthropological material, the concrete remains of human activity, such as: foodstuffs, human and animal remains, botanical materials, pottery, raw materials from manufacturing sites, tools and weapons, clothing and ethnographic specimens. All this material was collected to enhance the scientific understanding of the archaeology of the Nile Valley.

As the largest collection of systematically excavated archaeological material from Egypt in the Americas, the collection represents a vast and largely untapped reserve of scientific data. Such pivotal questions as the origin of the state (cf. Adams 1966), the rise of empire, the development of craft specialization (cf. Heizer 1976, Rice 1981, Lacovara and Harvey forthcoming), the evolution of social and economic systems (cf. Baer 1960, Janssen 1975), land-use patterns (cf. Butzer 1976), and the development of urbanism (cf. Bietak 1979) can all be addressed through Egyptian data. This vast repository of the material culture of antiquity represents an unsurpassed resource for understanding and explaining the ancient cultures of Northeast Africa and Western Asia.

2. Educational importance

Due to the importance of the Museum's Egyptian collection, it has been frequently used as a source for educational programs in Anthropology, Archaeology, Egyptology, Conservation and Scientific Analysis. Some recent courses given include those in the Museum Seminar program as an extension of the curriculum of Boston University, Brandeis University, Harvard University, Tufts University, Wellesley College, and the

University of Massachusetts, Boston. Recent seminars given in the program utilizing the collection include: "The Ethnoarchaeology of the Sudan" taught by Timothy Kendall, "The Material Culture of Ancient Egypt" taught by Peter Lacovara, and "The Funerary Archaeology of Ancient Egypt" taught by Sue D'Auria, Catharine Roehrig and Peter Lacovara. Courses in the Anthropology/Archaeology Program at the Massachusetts Institute of Technology, principally "The Origins of Civilization-Egypt" have made extensive use of the Museum's collections.

In addition, the conservation and scientific staff of the Research Laboratory annually offer a course entitled the Preservation and Scientific Examination of Works of Art to students from the six local universities involved in the Museum Seminar Program. The course is intended to provide the students the opportunity to view a wide variety of works of art at close range, and to enable them to gain a greater understanding of the materials and techniques that were used to create them, as well as learn how those materials are modified by their environment and what techniques can be used to gain more information about them. This course draws heavily on the collection of the Egyptian department, because it offers the broadest scope of ancient materials and techniques, which include inorganic materials such as stone, ceramics or glass, in addition to the outstanding collection of the much rarer organic materials used in antiquity, like wood, fibers, ivory or leather. As a result, students are able to compare ancient techniques with modern ones and to examine alterations that take place with time.

3. History of the collection

The initial steps taken in the formation of the Department of Egyptian Art were the gifts of the Way Collection of Egyptian Antiquities in l872 and material collected in Egypt by John Lowell in l875. In succeeding years, the Museum acquired a large number of objects from the excavations of Sir Flinders Petrie and the Egypt Exploration Fund. Important additional archaeological material was given to the department by Theodore M. Davis from his work in the Valley of the Kings in 1903-4 and John Garstang from his excavations at Beni Hasan in 1902-4. Material was also acquired from the First Archaeological Survey of Nubia in 1910 and the excavations of George Steindorff at Aniba in 1924-34.

In l905, the Museum, realizing the need to acquire additional Egyptian objects of scientific as well as artistic value, joined with Harvard University to form a joint archaeological expedition to Egypt under

the direction of George A. Reisner (Dunham 1958). Reisner is considered by many to be one of the most seminal figures in twentieth century archaeology. Ceramic seriation, ethnoarchaeology, stratigraphy, taphonomy and horizontal stratigraphy were all concepts devised or advanced by Reisner (Lacovara forthcoming). In addition his work inspired some of the most prominent archaeologists of the next generation including A. V. Kidder and George Vaillant. During the forty year duration of the Harvard-Boston Expedition, the Museum came into the possession, through the share of antiquities assigned to the expedition by the Egyptian and Sudanese governments, of one of the most outstanding archaeological collections in the world (cf. Smith 1960).

The scientific importance of the objects from the excavations is enhanced by the extensive documentary evidence relating to the excavation of this material. The department archives contain 196 volumes of field notes, 60,000 photographs, 750 boxes of notes, drawings and supplementary data, as well as manuscripts and correspondence dealing with the excavations.

4. Research and Publication

In recent years the department, recognizing its commitment to systematically publish its excavations and the necessity of reinvestigating the sites it originally excavated, has resumed active fieldwork with an archaeological and epigraphic mission at Giza under the direction of William Kelly Simpson. Surveys and excavations are also currently being conducted at the Deir el-Bersha site under the direction of Rita Freed, Deir el-Ballas under the direction of Peter Lacovara, and Gebel Barkal in the Sudan under the direction of Timothy Kendall. One of the most important programs of the department is the continuing publication of the results of the expeditions.

Moreover, the collections have provided research data for thousands of books and articles written by scholars the world over. The collection is also extensively used by researchers from other museums and universities in the U.S. and abroad, as well as interested members of the general public. In addition, the department has hosted a number of important conferences, including the second colloquium of the Groupe International D'Etude de la Céramique Egyptienne, which met to discuss the important collection of excavated Egyptian pottery in the Museum.

Another important program of the department is the loan of objects to institutions for exhibitions including science and art museums as well

as touring exhibitions initiated by the Museum of Fine Arts. Between l980 and the present, objects from the collection were loaned to nearly 40 major exhibitions. Most recently, for example, objects have been selected for "The First Egyptians," a traveling exhibition focusing on the origins of the Egyptian state and to a special adjunct exhibit at the Boston Museum of Science on the archaeology and archaeometry of Egyptian artifacts in conjunction with the "Ramesses the Great" and "King Herod's Dream" exhibitions. A major collections share and conservation project was organized in collaboration with the Dallas Museum of Art and the San Antonio Art Museum.

Major exhibitions recently initiated by the staff of the Department of Egyptian and Ancient Near Eastern Art, including "Egypt's Golden Age" and "Kush: Lost Kingdom of the Nile," were composed of objects drawn largely from the storage collections of the Museum of Fine Arts. Both of these exhibitions highlighted topics long ignored by typical Egyptological exhibitions. "Egypt's Golden Age" centered on the daily life of the ancient Egyptians, displaying a comprehensive collection of Egyptian material culture of the New Kingdom with sections on urbanism, economics and craft specialization. The objects in the exhibition were published in a scholarly catalog, Egypt's Golden Age: The Art of Living in the New Kingdom, Edward Brovarski, Susan Doll and Rita Freed eds., and a catalog for younger readers by Rita Freed.

The exhibition "Kush: Lost Kingdom of the Nile" consisted of ninety objects illustrating the development of the ancient Sudanese culture of Kush from the eighth century B.C. to the fourth century A.D. These objects, never previously exhibited and restored by the Research Laboratory of the Museum especially for the exhibition, were drawn primarily from the material excavated by the Museum from royal and private tombs at ancient Napata and Meroe and were arranged to explain such topics as Kushite society and economy, funerary customs, the role of women in Kushite society, warfare, trade, and the material culture of ancient East Africa. A catalogue initially conceived by Dows Dunham and written by Susan K.Doll and Timothy Kendall and accompanied the exhibition.

More recently, a special exhibition entitled "Mummies and Magic: The Funerary Arts of Ancient Egypt" was on display and the objects for this major exhibition were drawn exclusively from the collections of the Museum. As in the Kush show, one of the main incentives in the planning of this exhibition was the opportunity it offered to conserve many of the objects which have been in storage and were in great need of restoration.

The exhibition of over 350 objects was an important interpretive

presentation of ancient Egyptian culture and the role of archaeology is defined by the curators involved in the show. Much of the material for the exhibition came from the storage areas and had never been exhibited or published before. The exhibition catalog, containing a great number of objects that are relatively unknown to the field was designed as a guide to the permanent collection and an important resource for the study of mortuary data, which is critical to the study of Egyptian archaeology.

STORAGE ASSESSMENT

In 1989 a grant was received from the Institute of Museum Services to undertake a general conservation survey of the Egyptian department storage areas. The survey will offer concrete suggestions for integrated pest management, evaluation of microclimates in the storage areas and a complete record of existing storage conditions, hardware and layout. In February, 1989, the Museum's Research Laboratory and engineering department undertook a controlled experiment to evaluate a Kennedy-Trimnell Relative Humidity Control Module for possible use in the Egyptian collection exhibit and storage areas. This device is capable of monitoring controlled humidity of 2% in enclosed storage environments.

The recommendations generated from the I. M. S. grant will be the first step in formulating an overall plan to prioritize, plan, budget and execute improvements in the care of the Egyptian, Ancient Near Eastern, and Mediterranean archaeological collections in storage at the Museum of Fine Arts, Boston. The principal area where information and professional recommendations are needed is in environmental improvements, including the elimination or mitigation of harmful agents. Some of these agents of deterioration include temperature and relative humidity variants, insect infestations, organic acid vapors, dust and additional air pollutants. Other areas of collections care problems that need recommendations are related to policy, procedure and organization. For example, poor access to some objects has sometimes meant excessive moving and handling of them over the years. Identifying and classifying the particularly fragile types of objects and identifying appropriate storage systems and hardware will be an important first step in rectifying this problem.

The general conservation survey will significantly contribute to an understanding of both the short-term emergency and long-term treatment needs of these collections; stabilization is the first goal, maintenance the second and restoration the final level of priority. The recommendations of the survey will become part of the Museum's

overall long-range conservation plan.

DESCRIPTION OF THE COLLECTIONS

The following is a summary of the major classes of material in storage and their present state and requirements:

1) Ceramics - Ceramics represent the largest single category of objects in the collection and are among the most archaeologically significant. Although pottery has long been the principal chronological indicator used by archaeologists working in Egypt, it remains remarkably under-published and under-studied. The pottery vessels from Egypt and the Sudan in the Museum of Fine Arts represent both the largest and most comprehensive group of Egyptian ceramics outside of the Nile Valley. Numbering in excess of 7,000 specimens, these are almost all derived from archaeological excavations and are largely un-accessioned and unpublished. Recent years have seen a growing interest in Egyptian ceramics among archaeologists (cf. Bourriau 1982), and the collection here provides one of the primary sources of reference (cf. Lacovara 1982).

Most of the vessels suffer from calcium deposits and salt damage (Grist, Lormans and Lynn, 1982). This will not only eventually destroy the pots themselves, but will also remove any decoration or marks of identification in the early stages of disintegration (Gettens 1977). Suffering much the same problems as the ceramic vessels, ostraca, or sherds used as writing material, contain valuable information on the socio-economic history of ancient Egypt. The ostraca in the collection of the Egyptian department number in excess of 130 items, all of which are un-acessioned and unpublished.

ARTIFACT TYPES

1)…Objects of faience, a quartz-bodied ceramic peculiar to ancient Western Asia and North Africa, represent another important body of material. Numbering over 15,000 examples and ranging in date from the Badarian period (ca. 8,000 B.P.) to the Roman period, the MFA's holdings of 2,500 faience shawabtis, faience beads, in excess of 7,000 scarabs, thousands of amulets, and inlays, and scores of vessels and vessel fragments again represent the most comprehensive collection of this material anywhere, and several recent studies of this material have centered on the Museum's collection (cf. Kaczmarczyk and Hedges 1983). A great deal more research still needs to be done on the history and development of faience technology, but the difficulty in

locating the objects which are scattered throughout the basement hampers this important research.

Without a single safe location, many ceramic objects have been exposed to extremes in temperature and humidity and are rapidly deteriorating. Others have been kept in wooden drawers that stick when opened, jarring the objects or causing them to jostle one another, resulting in damage due to chipping, abrasion and breakage.

2) Wood - Objects of wood are rare in most Egyptian collections. However, because of the Museum's extensive excavations, a large collection of statuary, coffins, furniture, tools, weapons and domestic items of wood have been assembled, making this collection the most important for the study of wooden objects. Much of this material is not cataloged or published. These objects are also valuable as a large and well documented group of organic materials to which new methods of absolute dating may be applied. A large series of samples of these wooden objects were tested by the Laboratory of Tree-Ring Research at the University of Arizona at Tucson. Another series of wood samples from the tombs at El-Kurru in the Sudan were carbon dated by the Beta-Analytical Laboratories in Miami.

Wooden objects present a number of conservation problems. Among the worst encountered are in excess of 120 polychrome painted wooden model groups from Deir el-Bersheh, including 75 model boats and models of carpenters' shops, weavers' shops, bakeries, breweries, granaries, model food, people and animals. These models are an important source of information on the domestic life of the ancient Egyptians. The collection at the Museum of Fine Arts is paralleled only by the Metropolitan and the Cairo Museums, and is the largest unpublished group extant.

Extensive loss has been sustained by such painted wooden objects due to splitting, cracking and disintegration of the grounds and painted surfaces. The main cause of this damage has been the differential expansion and contraction of the wood substrate brought on by changes in temperature and relative humidity in the basement storage areas

The 26 wooden mummy cases and coffin panels present similar problems on a larger scale. Many of these are gessoed and painted and suffer from exfoliation of the decorated surface. Poor storage has also promoted warping and splitting due to environmental changes and lack of adequate support (David 1981). Many of these pieces are also badly in need of cleaning and consolidation. Major damage has been

sustained to these objects as the result of a leaking pipe.

3) Stone - Relief carving on stone and stone sculpture represents one of our main sources of knowledge of ancient Egyptian daily life and ritual. Temple and tomb carvings record dated events, battles, foundation ceremonies, names, titles and genealogies, all of which are fundamental in recreating the social and political history of ancient Egypt.

The stone vessels in the collection number in excess of 2,000 specimens and include those studied by Reisner in setting up the standard typology of Egyptian stone vessels in Mycerinus and Giza Necropolis II. The collection is therefore the standard corpus of reference for this class of objects, yet scholars researching the topic have been frustrated in their attempts to build on Reisner's work because of the inaccessibility of this primary data.

Relief, sculpture and vessels in a wide variety of stone types represent a large proportion of the collection. Objects of limestone and sandstone are particularly sensitive to changes in temperature and humidity and extensive damage has been done to many important objects by the movement of soluble salts. In addition, the deposition of atmospheric dirt has stained and deteriorated carved and painted surfaces on sculpture and relief. Large pieces also suffer from inadequate support and from abrasion by moving.

4) Unbaked Mud - Document and commodity sealings on unbaked mud represent a primary source of evidence for exchange and production in antiquity. The sealings in the Museum of Fine Arts, particularly those from Kerma and the Second Cataract Forts which are mostly unpublished, contain a vast amount of data critical to our understanding of trade and economy in Egypt, an area as yet largely unstudied.

Although not large, the storage collection of Ancient Near Eastern material includes a group of 25 cuneiform tablets dating from the Third Dynasty of Ur (ca. 2100-2000 B.C.) and a collection of 47 Babylonian clay plaques and figurines donated by the Society for Biblical Research. All these are of unbaked mud and are exposed to the same threats as the Egyptian material.

Objects of unbaked mud, including jar sealings and models, are among the most fragile objects in storage. These are currently stored in wooden drawers which stick and in some cases have collapsed internally on top of one another.

5) Metal - The development of smelting and casting technology in Egypt has long been of interest to historians of science. The pharaonic material is again of paramount importance because few other museum collections have such an extensive body of documented, systematically excavated objects of this type.

The metals in the Museum of Fine Arts include some of the earliest examples of iron and bronze known. Our collection of copper weapons and utensils from Kerma, including daggers, is unique, as are the materials from the later Napatan and Meroitic Periods, which also contain a large number of well dated imports from the Mediterranean world. Almost all the metal in the collection has suffered extensive corrosion, which in many cases has completely destroyed the object.

6) Organic Materials - The collection of organic materials in the Museum is unique and holds enormous potential for research. Reisner was careful to sample and preserve the contents of vessels, boxes, bags and even human stomachs. This collection of botanical and faunal material is one of the most important untapped resources in Egyptian archaeology. It could provide answers to questions on diet, production, exchange, vessel usage and the origin and development of plant and animal domestication. Again, this material is almost entirely unpublished and unknown.

Faunal and botanical material represent another significant source of anthropological data. A project was undertaken to CAT-scan the 11 human and 120 animal mummies in the collection for paleopathological data (D'Auria and Marx 1986). There are in addition over 40 boxes of human and animal skeletal material and miscellaneous mummified human remains, all of which are un-accessioned and unpublished.

A number of Egyptian and Sudanese sites excavated by the Museum provided artifacts of carved ivory. These again are a singular group and are very badly deteriorated and, until recently, presented one of the most critical conservation problems faced by the collection. Because of their alarmingly deteriorated condition and their significance the Department of Egyptian and Ancient Near Eastern Art undertook with private funds an ongoing conservation project. Many of the ivories still require desalination and/or consolidation.

Other organic material including leather, bone, shell, hair, textiles, basketry, paleo-botanical and faunal remains and foodstuffs have suffered from changing humidity, as well as insect, fungus and mold damage.

7) Glass - By excavation, donation and purchase the Museum has acquired one of the largest collections of Hellenistic and Roman glass from outside the Roman world. Glass objects from Gebel Barkal and Meroe in the Sudan form the largest dated series known and are of pivotal importance in both the history of technology and the study of Mediterranean trade.

Many of the excavated glass objects, fragile to begin with, show significant deterioration since their discovery due to both fluctuating climatic conditions and breakage from improper storage.

8) Textiles - Because of the alarming state of the important textile collection that had been housed in the Egyptian storage area, the bulk of this material was temporarily transferred to Textile Department storage in 1980 and 1983, and has subsequently been treated for insect, mold and fungus infestation and conserved in a ongoing project by the Museum's textile conservators. Although the textile collection has been placed in climate controlled storage in the Textile and Costume Department, these materials still must be inventoried and cataloged and eventually reintegrated into the entire Egyptian Department collection.

The textile collection includes many of the oldest garments known, including two Old Kingdom dresses, both discovered in storage in 1987, and a series of dresses from the First Intermediate Period (Hall 1986). These, along with an extensive collection of samples ranging in date from the Predynastic Period to the Coptic Period, are by far the most important collection outside Egypt. Also relevant to the history of costume and textile manufacture are the remains of textile workshops discovered at Kerma and Deir el-Ballas. These include samples of thread, unspun wool, flax, spindle whorls, threaders, and needles.

9) Papyrus - In addition to the "Book of the Dead" and other religious texts, the Museum's papyri include Papyrus Reisner, an account papyrus of enormous importance to the study of production and economy in ancient Egypt (Simpson 1983). Although the collection of papyri was recently conserved and rehoused much of it is already suffering from fungus growth due to improper storage. This important documentary material is in urgent need of additional treatment and proper storage.

10) Expedition Records - The excavation records stored in the Department of Egyptian and Ancient Near Eastern Art include the records of a number of Archaeological expeditions and ethnographic

observations covering a span over 100 years. These include the papers of early Egyptologists, Luigi Vasalli (1812-1887) and Heinrich Brugsch (1842-1930) and the diaries of John Lowell's expedition to Egypt and the Sudan in 1833-5 with accompanying drawings and watercolors by Charles Gleyre. The Museum also houses the records of the American branch of the Egypt Exploration Society and the early survey work of Perring and Vyse at Giza (1835-7).

The largest body of excavation records are from the Harvard University - Museum of Fine Arts expeditions to Egypt and the Sudan. These largely unpublished records include 195 volumes of field notes, excavation diaries, and object registers, 60,000 photographs, 2,400 drawings, maps, and plans of the excavation of more than 25 archaeological sites covering a span of nearly 50 years of excavation. This data directly pertaining to the collection makes it one of the most well documented collections of archaeological and ethnographic material from the Old World.

Much of this important information was scattered throughout the basement and is currently being cataloged by the museum archivist in preparation for its future conservation, organization and cross referencing. This will permit access and to allow its dissemination to students and the scholarly community and insure its preservation for the future.

Recently, a number of other projects have been undertaken to preserve and organize this material. These projects include: a grant received from the Historic Conservation Program of the Commonwealth of Massachusetts Council on the Arts and Humanities to microfilm 126 bound and unbound expedition diaries and object registers; a project to mount and store under archival conditions 2,700 photographic prints of the Archaeological Survey of Nubia; and a grant received from the Massachusetts Council on the Arts and Humanities to inventory, organize and rehouse the Department's 60,000 glass plate negatives of excavation and ethnographic photographs in acid-free envelopes and formaldehyde-free metal storage cabinets.

CURRENT STATUS OF THE COLLECTIONS IN STORAGE

Roughly 75% of the Egyptian and Ancient Near Eastern Art collection is in permanent storage. The conditions under which these artifacts are stored present extreme difficulties when using the collection for research and teaching. In addition, considerable damage to a large number of objects in storage has occurred over the last 80 years. Approximately 16,000 of the objects in the Egyptian and Ancient Near

Eastern collection have been accessioned. This figure represents only about 40% of the total objects in the collection which approaches 40,000 items. Answering inquiries from archaeologists regarding their research on particular objects in the collection is made difficult by the lack of adequate documentation available. At this point, it is often impossible to tell whether an item from an excavation is in storage at the Museum of Fine Arts, at the Peabody Museum at Harvard University, in Cairo or Khartoum, or has been left in the field. A complete inventory and cataloging of the MFA collection and a concordance with these other institutions will be necessary to correct this situation.

Another obstacle in using the collection for educational purposes and for scientists engaged in research in the Museum is the disorganized state of the storage area. The present storage areas have a combined total floor area of roughly 4,000 square feet. Much of this space is badly used, poorly lit and in many cases unsafe for the storage of objects. The most serious environmental problems are fluctuating temperature and relative humidity, water leakage from pipes and windows and atmospheric dust, dirt and pollutants. High humidity has contributed to the corrosion of metal objects, movement of salts through stone and ceramic objects, and the exfoliation of gesso and paint on polychromed wooden objects. Overhead water leaks which have occurred over the years have caused significant damage to wooden coffins and other objects.

Grime deposited from polluted, unfiltered air is a source of additional problems. It settles on the surface of uncovered objects, enhancing the deterioration process and often requires extensive treatment for removal, where possible.

Insect activity, particularly that of silverfish, carpet beetles, moths and other pests, have also contributed to the deterioration of a number of objects. Both wood and textile materials have suffered from insect damage. Damage done to paper labels, which are often the only means of identifying the large numbers of unregistered material in the collection, has been the cause of considerable alarm.

Textiles from the collection were recently transferred to the Textile Department for temporary storage due to the adverse conditions in Egyptian storage. Upon examination most showed active growths of fungi and insect infestation caused by inadequate storage. These textiles were conserved and treated by textile conservators Leslie Smith and Joanna Hill and rehoused in archival containers with proper

support.

One of the problems exacerbating the deterioration of objects in storage is the difficulty in monitoring the condition of individual artifacts due to cramped and sometimes inaccessible storage. This problem is evident in the department's collection of painted wooden coffins which had been stored on large, makeshift wooden racks Because most of the coffins were obscured from view, leaks had gone unnoticed and caused considerable damage. Similar types of problems have been caused by the storage of coffins in this manner elsewhere (David 1981). Six of these coffins were severely damaged in August of 1987 when the valve on an overhead steam pipe failed and sprayed a number of them with water. All the coffins that were stored in this area have been moved to a temporary home in the Museum's climate controlled temporary exhibition staging area. Many of these coffins were conserved for the "Mummies and Magic" exhibition but all will eventually need extensive conservation and proper storage systems in the Egyptian basements.

Much of the current storage is composed of open shelves, exposing objects to dirt, air pollution and temperature/humidity change. These conditions are particularly hard on organic materials such as basketry, textiles, bones, leather, and foodstuffs, all of which are materials of great archaeological importance and unique to this collection. Many of the smaller objects and samples are stored in old cardboard pillboxes which have begun to disintegrate and spill out their contents in a confused mass. These need to be replaced with archival containers as soon as possible to prevent further loss of information.

Besides open shelving, many old exhibit cases, some of them nearly 100 years old, are used for storage . Most of these cases no longer close properly and they have very little shelf space. On occasion, some of the shelves in these cases have collapsed, causing the breakage of a number of important artifacts. Furthermore, these cases waste a tremendous amount of space. Reorganization of the basement storage space, including the replacement of out-of-date cases and shelving, is necessary to stabilize the condition of the collection and to make the objects more accessible for research purposes and monitoring their condition.

Over the past few years a number of projects have been undertaken to alleviate some of the most critical problems in the storage areas. These include the purchase of baked enameled steel storage cabinets which have maintained a stable microclimate for the storage of objects

of bone, ivory and metal. Additional baked enameled steel cases with drawers riding on frictionless wheels were purchased for the storage of mud sealings and other fragile items.

A generous donation recently has enabled us to purchase even more cabinets and shelving to replace some of the worst of the old storage cases and wooden racks. Additional space was generated by the disposal and replacement of old exhibit case storage and the demolition of poorly designed wooden storage racks.

An ongoing project to reorganize, identify, record and bag the Egyptian pottery has been undertaken by volunteers and summer interns over the last five years. The human and animal remains, numbering several hundred specimens were all recently CAT-scanned, inventoried and rehoused in archival containers.

These stop-gap measures, however, have only served to underscore the scale and complexity of the growing problems facing the storage of this great archaeological collection. A large scale renovation project is impossible at present because of the current state of the storage areas and the inadequacy of the documentation. Any wholesale shifting of materials would create a great danger of information loss, exacerbate conservation problems and disrupt continuing demands on the storage collection for study and exhibition purposes. For these reasons any reorganization of the physical plant must be carefully scheduled to minimize the movement of objects to avoid both wear and tear on the material itself and the danger of losing the archaeological provenance of the data.

INSTITUTIONAL OVERVIEW AND COMMITMENT

Collections - The Museum of Fine Arts, Boston was founded in 1870 and is one of the most important cultural institutions in the country. Its collections encompass more than one million objects divided among nine curatorial departments and are cared for by six conservation facilities. Through its schedule of internationally recognized exhibits and diverse educational programs the Museum serves individuals from academic institutions, school children, the elderly, special-needs individuals, and a variety of community groups. Each year nearly one million people visit the Museum and well over one million view exhibitions throughout the world which are organized by the MFA.

The collections of the Department of Egyptian and Ancient Near Eastern Art consist of approximately 40,000 objects and were collected largely

through systematic scientific excavation, principally by an expedition organized jointly with Harvard University in 1905, and which lasted 37 years. The Museum's collection of archaeological and ethnographic material is unparalleled outside of Cairo and Khartoum. The entire range of Egyptian culture is represented in the Museum's collection, and is the primary source of reference for Egyptian and Sudanese archaeology. Unfortunately, the lack of organization and inadequacy of the recording of the storage areas has proved a great impediment to the use of this material by outside scholars for research and publication.

Physical Plant - The Museum of Fine Arts, Boston encompasses 507,000 square feet and is located on 12 acres of land in the Back Bay Fens. Its three-storied building encloses two courtyards, and contains 198 galleries (a total of 156,791 square feet of exhibition space) which house both the permanent collections and special exhibitions. Space not allocated for galleries is divided among six conservation laboratories, educational facilities, a publications department, curatorial departments, a slide library, administrative offices, carpentry facilities, and packing, shipping and storage areas. Public facilities include a 380 seat auditorium, an 80 seat seminar room, a library with a non-circulating collection of more than 150,000 volumes, a Museum shop, and a cafeteria, cafe, and restaurant.

Staff - The Museum employs nearly 455 salaried employees. Administration and Finance are represented by 17 professionals, while the nine curatorial departments employ nine Curators, six Associate Curators, 11 Assistant Curators and five Curatorial Assistants. There are nine research assistants and 20 conservators employed in the Museum's six conservation facilities for paintings conservation, furniture conservation, textile conservation, prints and drawings conservation, Asian painting conservation and scientific research. Recently the objects conservation staff has been increased to seven individuals, principally to deal with the enormous backlog of Egyptian material requiring treatment. Professional staff are also employed in Publications, Human Resources, the Registrar's Office, Design and Security.

Administration - The management of the Museum is vested in a Board of Trustees which currently has 32 members. One Trustee may be appointed annually by each of the following: The President and Fellows of Harvard College (with the consent of its Board of Overseers), the Proprietors of the Boston Athenaeum, the Massachusetts Institute of Technology and The Ladies' Committee of the Museum of Fine Arts. The Mayor of the City of Boston, the President of the Trustees of the

Boston Public Library, the Superintendent of Boston Public Schools, the Massachusetts Commissioner of Education and the Trustees of the Lowell Institute serve as Trustees ex officio. The balance of the members of the Board of Trustees are elected by the Museum's Board of Overseers, which currently consists of the Trustees and 45 other individuals. There are at present nine standing committees of the Board of Trustees, whose members are either ex officio or appointed by the Board. The Executive Committee, in cases of emergency or when in the Committee's judgment action must be taken without waiting for a meeting of the Board of Trustees, has all the powers of the Board of Trustees. The Investment Committee oversees the management of investments of the Museum. Other standing committees include the Audit Committee, the Collections Committee, the Development Committee and the Nominating Committee. Additionally, there are 14 Visiting Committees consisting of Trustees, and non-Trustees, which visit the various departments or divisions of the Museum and which report at least annually to the Board on the activity of the department.

The Director and Deputy Director report to the Board of Trustees and its President. The responsibilities for day-to-day management of the Museum are divided between the Director and Deputy Director.

Commitment of the Institution - The Museum of Fine Arts, Boston is committed to increasing access to and upgrading the curatorial care of the archaeological and ethnographic material in the Egyptian and Ancient Near Eastern collection. This commitment can be seen as only part of a larger program of collection care of which this project to plan the reorganization and inventory of the basement is a vital part.

Physical plant improvements have included the repair and replacement of broken windows in the storage areas, disposal of old storage cases and extraneous materials, records and publications in the storage areas, installation of additional lighting, and the on-going re-housing and inventory of archaeological materials in storage.

In past years projects have been undertaken with private funds to conserve and rehouse the ivory objects which were among the most fragile and adversely affected objects in the collection and to clean and restore the unique coffins of the Middle Kingdom official Djheutynakht. An ongoing project to inventory and organize the ceramics from the Museum's excavations has been conducted for the last three years through the E. L. B. Terrace Internship fund (see Appendix).

The major special exhibition, "Mummies and Magic: The Funerary Arts of Ancient Egypt," in the Fall of 1988 enabled an extensive program of

conservation to repair and stabilize a large number of objects for the exhibition. Many of the objects treated had never before been exhibited, including a comprehensive series of coffins (many of them unique examples), wooden models of everyday life, human and animal mummies and a wide variety of other grave goods.

The field diaries and object registers from the Museum's archaeological expedition were microfilmed between 1983 and 1986 with help from a grant from the Historic Conservation Program of the Commonwealth of Massachusetts Council on the Arts and Humanities.

A grant was recently received from the Institute of Museum Services to undertake a general conservation survey of the archaeological material and the storage conditions in the Egyptian basements. The information generated from this project serves as a precursor to a more specific analysis of the artifacts in storage in addition to planning the necessary steps to the upgrading of the storage areas to allow access to students and scholars and assure the preservation of this important archaeological collection.

The project proposed to the National Science Foundation will be a preparatory step in planning and implementing the ultimate installation of climate control as well as a major refurbishing of the storage areas as mandated in the Museum's renovation program. An important result of these improvements will be the generation of a wealth of new and important information as materials are identified, recorded, and made accessible for educational purposes, scholarly research and scientific analysis.

In addition, the Egyptian Department's ongoing programs of exhibition, publication and re-investigative fieldwork. The proposed project will further maximize the potential of this material for scholarly research and public education.

DESCRIPTION OF PROJECT AND TASKS

Framework for Planning of Reorganization of the Basement Storage Space

The deterioration of the collection due to poor storage conditions has reached a very real "crisis situation" which necessitates extensive improvements, notably in object housing, long term planning for conservation, facilitating collection access and installation of climate control. The present situation and long range plan of the Museum necessitate that the existing storage facilities be used. This will require an in-depth survey to plan the upgrading of the area

itself and the reorganization of the objects in a more space efficient manner. Renovation of the space will facilitate the utilization of the collection by researchers and provide safe permanent housing for the objects.

To minimize the dangers inherent in over handling the objects, the essential data and condition assessments for treatment priority must be gathered in tandem and in situ. Insofar as will be possible, the strategy for moving the artifacts will incorporate a reorganization by material, and further within that context: by period, archaeological site, and tomb group or locus. This proposed system will facilitate both research and conservation of the artifact types in storage.

PROJECT OVERVIEW

The proposed project is to continue the work already begun through the I.M.S. grant to formulate a long range plan for the reorganization and inventory of the archaeological collections of the Department of Egyptian and Ancient Near Eastern Art.

This phase of the reinstallation shall consist of five basic tasks. Each task shall comprise a number of separate activities and be the responsibility of one or more outside consultants who will work with appropriate in-house staff and who shall also draw upon the work and expertise of the other consultants as needed. The project coordinators shall facilitate the work of the consultants and interactions with the in-house staff, providing other support as needed and monitoring the overall progress of the project.

TASK SUMMARIES:

1. Documentation: Review, Analysis and Planning

The goals of this task shall be the development of a data collection sheet and the strategy for its utilization. The project research assistant shall begin by reviewing extant documentation sources in the Egyptian Department, the Registrar's Office, the Archives, and other areas as needed. The project research assistant will then complete a needs analysis, accounting for curatorial, registrarial and conservation needs through discussions with appropriate in-house staff. Based on these data review and needs analysis results, the consultant will devise a data collection sheet for the project, delimiting data fields and structures, and proposing guidelines for lexicons. The contents of the data collection sheet will be designed to fit into the overall structure of the Museum's documentation goals

and maximize the availability of this information for anthropologists and other outside scholars.

2. Computerization of Documentation

The project research assistant will utilize the data sheets developed during the documentation review, analysis and planning phase to develop a strategy for the computerization of the object information. The work begun during this phase will be overseen by the Museum's own Information Management Systems staff, Registrar's office and the Egyptian Department staff who will review the proposed data fields, structure, and lexicons with an eye to their computerization. The project research assistant shall also undertake a needs analysis, consulting with in-house curatorial, registrarial, and conservation staff as to requirements in data retrieval and use. Based on this review and needs analysis, possible hardware and software combinations to support the documentation work will be identified.

3. Conservation Survey and Analysis

The goals of this task shall be the gathering of data on object material needs for the storage renovation project, and the development of a long-range plan for the stabilization of the collection. The Museum's conservation staff and the project research assistant shall begin with a survey of the collection, separating it into appropriate units by material and structure. For each unit they shall identify: structural, climatic, and other needs; appropriate storage modes and gross measurements of the materials requiring those modes; appropriate temporary packing materials; and gather any other data needed for a long-range collection stabilization plan. The conservation staff shall work with the documentation consultant on the conservation section of the data collection sheet. After working closely with the storage systems and collection movement consultants on tasks 4 and 5, the conservation staff shall devise a long-range plan for the treatment and stabilization of the collection.

4. Storage Systems Survey and Analysis

The goals of this task shall be the identification of appropriate storage and climatic systems, and the development of a plan for the physical renovations of the storage areas. The architectural consultants shall build on the work of the conservation staff, project research assistant and curatorial staff and take into account their recommendations on climatic needs and storage modes, and shall identify appropriate systems to meet these needs. They shall also

work with the material measurements and object specifications to determine efficient allocations of the space available. The consultants will also advise on various architectural aspects of the project, such as electrical and security systems, study area furniture and the like, and will provide estimated costs on all systems. Finally, in consultation with the in-house operations staff, the Research and Conservation Laboratory Staff and the Egyptian department staff, including the project research assistant, the architectural consultants shall devise a phased plan for the renovation of the storage spaces and the installation of the selected storage and climatic systems.

5. Collection Movement Strategy Development

The goal of this task shall be the development of a strategy for the safe and efficient movement of the collection through temporary to permanent storage, incorporating the documentation step. The architectural consultants and project research assistant shall build on and unify the results of the previous four tasks. In close consultation with the in-house curatorial, registrarial and conservation staff, the consultant shall devise a strategy which ensures safe and efficient movement with minimal handling, and minimal exposure to climatic fluctuation, along with maximum efficiency in documentation, packing and physical displacement. They will also provide estimates and costs of material and personnel needs for the movement of the collection, including packing and documentation materials, and required levels of expertise for implementation phase project personnel. The consultant's final product shall be reviewed and revised by all consultants and appropriate in-house personnel.

DETAILED TASK DESCRIPTIONS:

I. Documentation: Review Analysis and Planning

History of Documentation - Lack of adequate documentation severely compromises the usefulness of the Egyptian collection for research and hampers any large scale renovation project. Only about 40% of the total number of objects in the collection have been formally accessioned, cataloged and inventoried in the museum-wide system. Most of the material is, however, extensively documented in the Museum's expedition records. Un-accessioned excavated objects are stored in a haphazard manner. As more and more interest has been generated in the anthropological nature of the collection, the inaccessibility of these excavated objects and the lack of adequate accessible documentation has become very apparent.

For the accessioned material, the inventory and catalog system as it was set up in the early part of this century consists of four cards for each object, three of which are housed in the Egyptian Department:

1). an accession card filed by number.
2). a location card filed under the storage or display area.
3). a card filed by artifactual category or under the material out of which the object was manufactured.
4). the fourth card is filed in the Registrar's Office and is integrated in numerical sequence within the museum-wide system.

In addition, permanent records for accessioned objects are kept and maintained by the Registrar's Office. These consist of the Minutes of the meetings held by the Committee on the Collection, and also in the accession books/ledgers listing a general description of each object and its source.

The un-accessioned, excavated objects are cross-referenced by a card recording the original provenance. Full information on the dimensions, date and provenance of each object are generally written only on one card. This inconsistent system is cumbersome to use. In addition, much of the information on the cards, originally written in the early part of this century, is now outdated.

In the case of the material remaining un-registered, the expedition records are often the only written source of information. These records only occasionally include present location (i.e., in the Museum basement, in Cairo, left in the field, etc.) or adequate descriptions of the objects. The unregistered material contains much scientifically valuable information which is largely inaccessible, but even the registered objects need to be more carefully and systematically documented.

The most important categories of information required by scholars engaged in research on the collection include:

accession number
description
date (of manufacture)
provenance (site, tomb, level, etc.)
material
dimensions (metric)
inscription
location

technical examination and/or treatment record
photograph negative numbers
bibliography

Development of the Data Collection Sheet

One of the primary objectives of the project is to develop a plan by which the fragmented documentation sources described above and new cataloging data may be brought into a unified whole, creating records designed to meet the immediate and long-term needs of research scholars and Museum staff, especially those in the Egyptian Department, Registrar's Office, and Research Laboratory. To accomplish this goal, a single data collection sheet must be designed which incorporates the data fields required to meet these diverse needs. The successful development of a data collection sheet is crucial to the planning phase because of the importance of capturing the documentary associations currently existing in the collection before it is removed to new storage.

The development of the data collection sheet will require several steps. First among these is a review of the existing documentation sources, including records in the Egyptian Department offices and storage, in the Registrar's Office, and in the Research Laboratory. The purpose of this review is to identify and evaluate all internal documentation sources for their impact on the data collection sheet. Second, the three museum departments listed above will discuss the results of the extant documentation review and their project data needs, and begin to delineate data fields and structures based on these needs.

As the development continues, members of the museum's Management Information Systems Department will be advising the consultant on the requirements of the museum's centralized documentation schema, ensuring that each field is appropriate for inclusion in the system and that the sum total adequately represents the collection. As each data field is identified and addressed, the consultant will work with museum staff to develop an appropriate lexicon and/or data format guidelines for that field. The final results of this development process will be a data collection sheet with carefully defined fields and a manual for use with the sheet, in which each field is described in detail, with its appropriate data type identified, a lexicon included (if necessary), and its data format defined.

Throughout the development process, the consultants and museum staff will draw upon their knowledge of documentation systems currently in

use with other comparable anthropological collections. An example of one such model, based on that in use at the Harvard University Art Museums, including the Peabody Museum of Archaeology and Ethnography, is found in Appendix xx, followed by an example of a page as it might appear in the data collection sheet manual.

Other Documentation Activities

Concomitant with the recording of the collection has been the continuation of a project to organize, microfilm, and conserve the records of the expedition. Under the auspices of a grant from the Historic Conservation Program of the Commonwealth of Massachusetts Council on the Arts and Humanities, and through private grants to the department, Timothy Kendall has already overseen the microfilming of 126 bound and unbound expedition diaries and object registers covering nearly fifty years of Museum excavation.

The large body of Egyptian department records and documents dating to l905 consist of correspondence, notes and manuscripts of Reisner and Dows Dunham, maps, tomb plans and decoration drawings previously stored in basement storage. They have been removed, organized, and properly housed in the new climate controlled Museum archives. With the aid of a two-year implementation grant from the National Historical Publications and Records Commission, the Archives was established to collect, process, arrange and describe non-current records, and offer research access to both Museum staff and the scholarly community. Because of the Museum's commitment to preservation, it has now become a full-time department.

Computerization of Documentation

Both visual and textual data, currently housed in a wide variety of poorly organized, separate archives, must be unified and accessible within a single system. Current technology allows for such unification of textual records and images. Thus accession information for a particular object, original excavation photographs of it, recent color studio photographs, and plans showing current location in the basement (or galleries) can all be brought together within a multimedia relational database. Experimental demonstration databases, using existing, commercially available software, have already been produced for the Egyptian Department using borrowed hardware.

The archival materials relating to the excavation of the objects in the collection may thus be keyed into the information retrieval system. Having visual access to both objects and records will save a

good deal of wear and tear on both, which badly need conservation and adequate storage facilities. The information assembled during this project will enable us to create and refine a vocabulary of consistent terms and a breakdown of fields of inquiry, which will serve to make our collection more accessible to researchers.

Existing computerized cataloging systems used by a number of institutions with collections of archaeological material will be considered for our purposes. These institutions include: The Cleveland Museum of Natural History, the Ashmolean Museum of Oxford University, the Department of Egyptian Antiquities of the British Museum, the Department of Egyptian Antiquities of the Louvre Museum, the Field Museum of Natural History in Chicago, the Harvard University Art Museums and the Southwest Museum in Los Angeles.

Conservation Survey and Analysis

The Museum's Research Laboratory staff will undertake a specific object conservation survey that will define a plan of action to prioritize the treatment of and stabilize the Egyptian collection. This will assure that the collection will be treated in a systematic manner as part of a comprehensive conservation program (cf. Beale 1987).

It is proposed that the specific object conservation survey of the material in storage will be conducted in tandem with the project assistant's survey to determine the exact space requirements needed for the individual objects. The Museum's conservation staff will then be able to formulate a comprehensive plan for collections care and storage re-organization. This survey will allow us to address more effectively the most critical problems in storage and to compile the information that will be needed for the eventual reorganization and inventory. The specific conservation survey will also enable us to gauge the pace and optimal strategies in developing a general plan for the movement, inventory, and rehousing of the collections.

While the survey is being conducted, objects in need of attention will be flagged as to priority of treatment on a scale of one to five:

(1) in danger of loss without immediate treatment
(2) requiring stabilization
(3) requiring treatment to make accessible
(4) would benefit from treatment
(5) no treatment required

The specific object conservation survey will gather information regarding objects stored in the Egyptian and Ancient Near Eastern Art Department storage areas. A number of such conservation surveys have taken place in the Museum over the last 18 years and are now being organized as part of a long-range conservation plan (Beale 1987). One of the earliest was the 1969 survey and catalog of the American Paintings collection. This effort which began in 1975 now allows the Painting Department to prioritize their conservation and technical examination program in a very logical and systematic way. The textile collection of some 30,000 objects benefitted from a general conservation survey in 1974-75. The Museum has created environmentally controlled storage facilities in the Asiatic Department, The Paintings Department, Musical Instruments and Prints, Drawings and Photographs, as part of an overall installation of a Museum-wide conservation program. Over the last several years, Asiatic textiles and Egyptian textiles have been temporarily relocated within the Textile department to improve access and curatorial care. In 1984, as the result of a long-term effort, the Asiatic textiles and the rest of the collection were returned and rehoused in renovated galleries and storage areas. As part of this process a general survey was undertaken as well as specific conservation surveys of the Asiatic ceramics and wooden sculpture.

This year under the auspices of a grant from the Institute of Museum Services the Conservation and Research Laboratory, in conjunction with the staff of the Egyptian Department, is undertaking a general conservation survey of the archaeological material from the Nile Valley and the Ancient Near East currently housed in the Egyptian basements as the initial step in the overall improvement and renovation of Egyptian storage.

Much of the archaeological material is currently stored in old display cases or crude open shelving or even in the original trunks and packing crates in which they had been shipped over from the field. A three-month survey of insect pests in the Egyptian collection storage area, completed in July of 1988, revealed some serious infestations. (Appendix xx). The general conservation survey will offer concrete suggestions for integrated pest management. In February of 1990 the Museum's Research Laboratory and engineering department will undertake a controlled experiment to evaluate a Kennedy-Trimnell Relative Humidity Control Module for possible use in the Egyptian collection exhibit and storage areas. This device is capable of monitoring controlled humidity of 2% in enclosed storage environments. The results of the experiment will be known in March 1989 and, if positive, will become part of the planning in the proposed project.

The recommendations generated by this project will be used to prioritize, plan, budget and execute improvements in the care of the Egyptian, Sudanese, Mediterranean and Ancient Near Eastern archaeological collections in storage. The principal area where information and professional recommendations are needed is in environmental improvements including the elimination or mitigation of harmful agents. Some of these agents of deterioration include temperature and relative humidity variants, insect infestations, organic acid vapors, dust and other possible air pollutants. Other areas of collections care problems that need recommendations are related to policy, procedure and organization. For example, poor access to some objects has sometimes meant excessive moving and handling of them over the years. Identifying and classifying the particularly fragile types of objects and identifying appropriate storage systems and hardware will be an important first step in rectifying this problem.

The general conservation survey will significantly contribute to an understanding of both the short-term emergency and long-term treatment needs of these collections; stabilization is the first goal, maintenance the second and restoration the final level of priority. The recommendations of the survey will become part of the Museum's overall long-range conservation plan and provide essential information on the feasibility and methodology to be used to modify the existing spaces and improve environmental conditions. As a by-product of the project, the training of curatorial personnel in special handling procedures, the identification of particular deterioration

phenomena, and environmental needs will ultimately lead to better long-term care of these collections. The conservators involved will, in turn, learn more about the significance, use, materials and techniques of the objects they will be called upon to conserve. The information gathered from a specific conservation survey of the Egyptian and Ancient Near Eastern Art collection in storage and their environmental conditions will be used in developing long-range plans for the modification of the existing space to improve environmental conditions.

The specific item by item condition survey will build upon the general conservation survey undertaken during the period of the I. M. S. grant, to develop a planning strategy for prioritizing full conservation treatments. In addition to the conservation survey, environmental monitoring of the storage areas to access microclimates was done by the conservators of the Research Laboratory. The general

conservation survey extended over a one-year period and was under the direction of senior Research Laboratory personnel. The specific conservation survey will help develop a strategy for a planned effort to reorganize, register and catalog these collections in storage. This will include the development of handling and moving procedures as well as necessary information for selecting appropriate storage equipment from both conservation and curatorial viewpoints. The surveys will result in written reports and recommendations to adequately plan the upgrading of the Egyptian Department's storage facilities and insure the preservation of this important archaeological resource.

Storage and Systems Strategy Development

An architectural survey will be taken by the architectural consultants to generate basic information for the initial phase of drawing up schematic plans and specifications for the storage areas. Consultants will also review the feasibility of capping or rerouting plumbing lines and making electrical modifications to upgrade the Egyptian basement portion of the physical plant. This will provide background data to prepare for future installation of climate control and the creation of a suitable environment for object storage.

In addition, the architects drawing on their expertise in designing storage systems for anthropological collections will be consulted in determining the most effective ways to utilize the given space in the Egyptian basements. They will work with Egyptian Department, Research Laboratory, and the Museum's Buildings and Grounds Department to consider the overall framework of the project and both the accessibility and climatic needs of the objects in the collection. They will consult on the specific object conservation survey with the temporary project research assistant and Research Laboratory staffs as it relates to storage systems and collections storage space design. Utilizing plans and other drawings and information generated under the I. M. S. grant and supplemented by first hand observation the architectural consultants will prepare a set of plans for the refurbishing of the Egyptian basements noting relevant architectural changes, structural, mechanical and electrical improvements of the storage areas and the modifications necessary for the area(s) selected for temporary storage of the collections during renovation.

In concert with the Research Laboratory, Buildings and Grounds Department, Egyptian Department and project research assistant, the architects will develop a set of standards and procedures for the environmental, access, fire protection, security, handling and storage

requirements for the classes of objects in the collection. With the information compiled the architectural consultants will prepare a detailed plan for the scope of work involved. These will then be reviewed by the Research Laboratory, Buildings and Grounds Department and the Egyptian Department. After the initial plans have been reviewed, a final set of drawings will be produced and an outline of the scope of work prepared.

The architects in collaboration with the Research Laboratory, the Buildings and Grounds Department, the Egyptian Department and project research assistant will prepare an implementation schedule for construction work and storage furniture purchase, fabrication, layout and installation. Working with a professional cost consultant and storage equipment suppliers and fabricators, an estimate of the probable construction and furnishing costs will be prepared. This will allow the Museum to undertake the planning and fundraising necessary to implement the storage renovation plan. At the completion of the grant period, a final study report will be prepared and disseminated to a wide audience.

Collection Movement Strategy Development

In the development of a plan for the movement of the Egyptian Department collection, the architectural consultants will have the following goals constantly in mind: 1) to ensure that the physical conditions under which the collection is stored are improved; 2) to maintain or re-establish collection integrity; 3) to handle and move materials as little as possible; and 4) to ensure that all documentation, conservation, and construction goals are met. The complete plan will address questions of staffing, materials, and scheduling, and will be compatible with any restrictions imposed by the documentation, conservation, and construction aspects of the renovation.

Important aspects include:

1. Collection priority. The Research Laboratory along with the Egyptian department staff and the architectural consultants will identify the order in which particular portions of the collection will be packed and moved during the implementation phase. Scheduling will depend in part upon documentation and conservation needs, but will realistically recognize the priority of construction demands.

2. Packing constraints. The nature and extent of packing needed for different portions of the collection will be dictated by the artifact

type, conservation concerns, accessibility, projected movement while encrated, and anticipated length of time elapsing between packing and unpacking. Materials must be identified and evaluated for effectiveness, stability, and cost; appropriate skill levels for packing personnel must be defined. Object types posing special problems (e.g., sarcophagi) will be addressed in detail.

3. Physical removal. Various moving modes for the packed materials will be assessed, including hand-carry, carting, slings, etc. Appropriate methods will be developed for particular artifact types, necessary personnel identified, and actual routes evaluated to ensure minimal handling and risk.

4. Temporary storage. As needed, on-site areas for temporary storage of the collections will be identified, and any preparation needs addressed, including object identification, storage furniture, security, and accessibility.

5. Unpacking. Effective and efficient methods for object return, unpacking, and re-storage will be developed. Important considerations include proper identification of new storage types, disposal of packing materials, and development of inventory records.

The final product will be a detailed plan for the movement of the Egyptian collection from its current inadequate storage through temporary accommodations to the renovated permanent storage. The report will thus provide an excellent overview of the entire project for other institutions contemplating similar programs.

PROJECT PERSONNEL

Overseeing the operation will be Peter Lacovara, Assistant Curator in the Department of Egyptian and Ancient Near Eastern Art, under the supervision of Rita E. Freed, Curator of Egyptian and Ancient Near Eastern Art. They will be responsible for the overall direction of the project. Working with the staff of the Department of Egyptian and Ancient Near Eastern Art, they will be obtaining input from the conservation and support staff of the Museum of Fine Arts.

The identification recording of the objects and the development of the data sheets will be overseen by the Egyptian Department staff, the project research assistant, Research Laboratory staff and project consultants. Each staff member will supervise the recording and storage of those objects which pertain to his or her specialties. Dr.

Freed, Curator of the Department of Egyptian and Ancient Near Eastern Art, is an authority on Middle Kingdom archaeology and art. Peter Lacovara has had extensive archaeological fieldwork experience in Egypt and has concentrated on Egyptian ceramics, stone vessels, the earlier Nubian and Sudanese material and other aspects of ancient Egyptian material culture. Dr. Timothy Kendall, Associate Curator of Egyptian and

Ancient Near Eastern Art, has specialized knowledge of Ancient Near Eastern material, the archaeology of the later periods in Nubia and the Sudan, and Sudanese ethno-archaeology. Peter Manuelian, Curatorial Assistant, has an extensive background in computer technology, photography and documentation of archaeological materials and will work closely with the project research assistant, the Registrar's office and the architectural consultants in formulating the artifact recording sheets for the survey and developing the eventual computer inventory program for the collection. Yvonne Markowitz, Research Assistant in the Department of Egyptian and Ancient Near Eastern Art, has done extensive work on Egyptian seals and sealings and early faience and glass technology.

Full-time participation by a research assistant for a period of one year is requested to compile data on the spatial requirements of the storage collection, assist with the development of the data sheet and collections movement strategy development. This individual will be directed by the Egyptian Department staff and work closely with both the architectural consultants and Research Lab staff in identifying the storage system needs of the various classes of objects in reserve. The research assistant will also assist in devising a plan for the systematic processing of objects for the planned renovation and inventory. The individual should have a basic background in anthropology and Egyptian archaeology and will be trained in the fundamentals of curatorial care. The National Science Foundation is being asked to fund the temporary project assistant's salary.

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Appendix xx

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PROPOSED PRELIMINARY DATA RECORDING SHEET

DEPARTMENT OF EGYPTIAN AND ANCIENT NEAR EASTERN ART
MUSEUM OF FINE ARTS, BOSTON

1. ACCESSION NUMBER

2. DEPARTMENT

3. CLASSIFICATION

4. SUB CLASSIFICATION A.

B.

5. CULTURE OF ORIGIN

6. DATE OF MANUFACTURE
(period)
(dynastic or alternate date)
(reign dates)
(first date)
(last date)

7. DATE OF DEPOSITION (period)
(dynastic or alternate date)
(reign dates)
(first date)
(last date)

8. PROVENANCE (Site)
(Locus)
(Level)

9. MEDIUM

10. SUPPORT MEDIUM

11. DETAIL MEDIUM

12. TECHNIQUE OF MANUFACTURE

13. SHAPE/FORM

14. DECORATION

15. INSCRIPTION
(Names)
(Filiation/Relationship)
(Titles)
(Geographic Names)
(Royal Names)
(Divine Names and Epithets)

16. MEASUREMENTS
Height cms. Width cms. Depth cms.
Greatest Diameter cms.

17. CREDIT LINE
(please indicate whether excavated (E), donor: gift (G) or bequest (B), loan (L), purchase (P), or exchange (X))

18. LOCATION

19. CONDITION

20. TREATMENT/ANALYSIS RECORD

21. DRAWINGS

22. NOTEBOOK REFERENCES

23. PHOTOGRAPH NUMBERS

24. BIBLIOGRAPHY

25. LOANS

26. COMMENTS

27. Information Compiled by:

Appendix xx

MATERIALS CURRENTLY IN THE ARCHIVAL STORAGE AREA

Notes and Manuscripts: Reisner and subsequent curators have done substantial analytical work on the excavated material, as well as work on related material and sites.

Total Notes and Manuscripts: 750 boxes, 38 cubic feet

Maps, Tomb Plans, and Decoration Drawings: These include inked drawings of sites, inscriptions, and scenes from tombs, as well as the tracings and measured diagrams from which they are produced. These original materials are important even after publication, since they were made at the site or in front of the object and often contain notations and information omitted from the published drawings.

Total Maps, Plans, and Decoration Drawings: App. 385 rolls,

Correspondence: All departmental correspondence, including letters to MFA field staffs, outside scholars, and other museums, is contained in this collection.

Total Correspondence: App. 57 cubic feet

MATERIALS STILL TO BE PLACED IN THE ARCHIVAL STORAGE AREA

Diaries: During Reisner's excavations a daily diary was kept of work at each site. These diaries contain notes, plans, sketches of finds, and comments on the activities of the Antiquities Department and other

archaeological expeditions. In many cases they are the only source for the provenance of pieces now in the Museum's Egyptian collection, as well as records of their provenance, dimensions, material and conservation treatment along with line drawings and the date of excavation

Object Registers: Each object removed from the excavation was registered with their locations and dates taken.

Total Registers and Diaries: 195 volumes, app. 20 cubic feet

Tomb Cards: Data pertaining to each grave discovered by the Museum expedition was recorded on 12 x 18.5 cm. notecards at the time of excavation. These cards are in most instances the only source of detailed information on the tombs and their contents, and are usually composed of a sketch drawing of the tomb and a scale rendering of each of the objects. Over 16,000 of these cards from 24 sites are now housed in the department office.

Total Number: App 16,000

Expedition Photographs: During the 38 years of excavation, both the objects and architecture uncovered were regularly photographed in situ. The photographs frequently contain information that is not recorded elsewhere. They are especially important in cases where the original architecture has decayed substantially, where wall reliefs, inscriptions and paintings are no longer clear, and where an object has subsequently been much restored. Prints of most of these photographs have been mounted and are organized by site and by tomb number. Negatives and glass plates are presently stored in a variety of basement storage cabinets.

Total Photographs: App. 60,000
Total Negatives: App. 57,000

Other Photographs: The Department also houses more recent photographs, most of them photo-reductions of drawings and other photographs taken for use in publications. Many of these negatives are oversized; some are spliced together so that they are quite large. There are also a substantial number of "safety film" nitrate negatives, which must be rephotographed because of their conservation problems presented by nitrate composition. The photographic collection will continue to expand as a result of further fieldwork.

Total Non-Expedition Photographs: App. 9,600
Total Non-Expedition Negatives: App. 3,100

1,935 sheets

PROJECT SCHEDULE

Architectural and engineering surveys have already been done by the architectural consultants for the initial phase of drawing up schematic plans and specifications for the storage areas under a grant from the Conservation Project Support Program of the I.M.S. As a continuation of this project and to lay all the groundwork to undertake the renovation of the Egyptian storage area the following steps are being proposed for the project submitted to the National Science Foundation:

1. The architectural consultants will devise a recording sheet for data needed to determine object storage space needs.

2. The project research assistant will use the recording sheets to initiate a detailed survey of the contents of the basement noting the quantity and dimensions of each class of object as currently stored, as well as their location, in concert with members of the Research Laboratory who will be conducting the specific object conservation survey of the collection. Treating the tasks in tandem will provide a savings in time for the Research Laboratory staff and minimize danger to the objects through excessive handling.

3. The research assistant will survey the extant documentation sources of the collection, and meet with staff in the Egyptian Department, Registrar's Office, and Research Laboratory to assess their documentation needs. Based on this research, the assistant will design a data collection sheet and manual for its completion. The consultant, Mr. Russ Gant of Gant Associates, again working with members in the departments mentioned, will devise a documentation plan for the completion of the data sheets incorporating extant and new original field, catalog, accession, inventory, and technical data. This material will then be presented to the computerization consultant who will prepare a report on the various data recording options.

4. The architectural consultants will prepare a set of existing condition drawings recording all relevant architectural, structural, mechanical and electrical features of the proposed renovated storage areas and the area(s) selected for temporary storage of the collections during renovation.

5. In concert with the Research Laboratory, Buildings and Grounds Department, Egyptian Department and temporary project assistant, the

architects will develop a set of standards for the environmental, access, fire protection, security, handling and storage requirements for the classes of objects in the collection. After the initial plans have been reviewed, a final set of schematic design drawings will be produced and an outline of the scope of work prepared.

6. In collaboration with the Egyptian Department and research assistant, the Buildings and Grounds Department, Research Laboratory and collection movement consultant, the architects will design the temporary staging area for processing the collections through the planned renovation program and will devise a schedule for moving and recording the collections during the planned renovation program.

7. The architects along with the Research Laboratory, Buildings and Grounds Department, Egyptian Department and project research assistant will prepare an implementation schedule for construction work and storage furniture purchase, fabrication, layout and installation. Working with a professional cost consultant and storage equipment suppliers and fabricators, an estimate of the probable construction and furnishing costs will be prepared.

8. The information generated during the project will allow the museum to formulate an overall plan for the renovation of storage and the full documentation of the archaeological material in the collection. The final results of the project will be disseminated in the scholarly literature, principally in archaeological and conservation journals as well as in more general formats. Such information will maximize the potential benefits of the project to scholars and museum professionals engaged in research and in improving their own systems of curatorial care. The Museum will then begin planning and fundraising to implement the suggestions arrived at by the project consultants.

December 21, 1989

Dr. John E. Yellen
Program Director for Systematic
Anthropological Collections
National Science Foundation
Room 320
Washington, D.C. 20550

Dear Dr. Yellen:

On behalf of the Museum of Fine Arts, Boston, I respectfully submit a grant requesting $ to support the production of an integrated plan for reorganization, conservation and documentation of the Egyptian, Sudanese and Near Eastern anthropological materials currently stored in the Museum's basement storage area. The Museum places a high priority on this project and is committed to this renovation.

Before I assumed the role of Director at the Museum, I was on a committee to review museums for accredidation for the American Association of Museums. The Museum of Fine Arts, Boston was one of the institutions I visited and one of the problems I noted was the lack of climate control and generally poor storage conditions in the Egyptian Department's storage area. I am particularly committed to remedying this situation and have already secured funds from private sources to contribute to this project. In addition to this, a grant has been received from the Institute of Museum Services for an environmental engineering survey of the storage area containing objects from the Department of Egyptian and Ancient Near Eastern Art.

I January of this year, the Board of Truestees approved the formation of a Task Force to aid in the development of a comprehensive long range (over 5-10 year period) conservation plan for the institution. This plan will establish future priorities for the care of collections and a plan for improving the process for determining such priorities.

I hope that the National Science Foundation looks favorably upon this proposal.

Sincerely,