

## 150 YEARS OF COLLECTIONS PRESERVATION AND THE HISTORY OF THE ANTHROPOLOGY CONSERVATION LABORATORY

The Anthropology Conservation Laboratory (ACL) was formally organized in the 1960's by the Anthropology Department as part of a centralization of departmental activities, and for the past forty years the laboratory has been active in the care and conservation of the extensive ethnographic and archeological holdings of the department. However, the history of collections preservation in Anthropology does not begin with the ACL but stretches back well into the mid nineteenth century to anthropology laboratories staffed with preparators, aides, and curators actively working in the collections. It is these early years of collections care that the staff at ACL is now actively researching using the Smithsonian and Anthropology archives, early Smithsonian publications and oral histories of staff. We have learned from preparators' annual reports beginning in 1913 that an Anthropology Laboratory staffed with skilled preparators was active in storage, cleaning, restoration, casting, and exhibits preparation, including making mannequins and dioramas. Earlier annual reports beginning in 1882 written by curators reflect an intense interest in preserving the collections from damage often from insects and poor storage.

Following the thread of collections care through the years is complicated by the move of collections from the Castle to the Arts and Industries Building and finally to the Natural History Building and also by the many changes in staff and museum reorganizations, but the thread of preservation seems unbroken. The following chronology highlights the work, some of the attitudes, shifts in priorities through the years, and a few unsung heroes. The information, much of it recorded verbatim, will appear unevenly weighted, depending on how information was gathered and recorded. Annual entries are not complete, but are intended to reflect the flavor of each report. We have placed in brackets our own interpretation or disclaimer. Most of the information comes from laboratory annual reports and a variety of other Department of Anthropology annual reports, but each reference is not specifically cited in this chronology.

Early Smithsonian publications discuss the history of the Smithsonian museums and the collections housed in them. A summary of this history follows. In 1840 the National Institution was organized in the city of Washington, later becoming the National Institute. This institute housed collections of natural history and ethnology, including collections from exploring expeditions. In 1846 the Smithsonian Institution took custody of the collections with the construction of the Smithsonian Building on the mall, now known as the Castle. In 1855 the building was finished. The transfer of collections occurred in 1857. By 1875 collections occupied three quarters of the Smithsonian Building for exhibition, storage and research. In 1876 the centennial exposition in Philadelphia resulted in a substantial increase of collections, and this was temporarily housed in the Armory Building in Washington, located at the southern end of the mall between 6th and 7th streets. Because of this increase of collections and the additional need for storage and exhibition space, another building was built, finished in 1881. This third building, built next to the Smithsonian Building was called the United States National Museum, now the Arts and Industries Building. Almost immediately this building too was overcrowded with collections. In 1910 a new US National Museum (USNM) was built to house a diverse collection including fine arts, natural history, science and technology, and anthropology. This was located across the mall (north side), and is now called the National Museum of Natural History. According to Richard Rathbun's description in 1913 in the USNM Bulletin, No. 80, preparators' workshops for anthropology were located in the east range on the ground floor of this building. The rest of the space for anthropology was on the third floor. In 1957 the USNM created two administrative subdivisions: the Museum of Natural History and the Museum of History and Technology. In 1976 the USNM ceased to exist and the National Museum of Natural History and the

National Museum of History and Technology (now National Museum of American History) separated.

Early major collections included the following: Commodore Perry's Japan Expedition (1853-1854) brought the first major Japanese ethnological accession to the Smithsonian. Captain Charles Wilkes' Exploring Expedition ethnographic collection was transferred to the Smithsonian from the Patent Office in 1857. In 1879 George Catlin deposited his collection of Indian paintings and ethnologica at the Smithsonian Institution. Between 1877 and 1881 Edward Nelson amassed a large ethnographic collection from Alaska and Siberia for the Smithsonian Institution. Preparators in the Anthropology Laboratory worked on these as well as other fine arts and historical holdings of the National Museum that remained as part of the collections until they were transferred to other Smithsonian museums, including The National Museum of American History and the National Museum of American Art.

*The following are working notes up to 1974, based on our archival research about the Anthropology Conservation Laboratory. The chronology will be continued up to 2003, and a formal report will be published pending completion of research and interviews with key individuals.*

**1875** A small two-story brick building for preparators and photographers is built on the mall [adjacent to the Smithsonian Building (Castle)].

**1879** The Bureau of Ethnology is established. The Bureau of Ethnology is the research arm of anthropology for Indians of the Western Hemisphere with its collections held by the Department of Anthropology. John Wesley Powell is appointed head of the organization. This is housed in the Patent Office (the present Old Post Office). (In 1897 the Bureau of Ethnology is renamed the Bureau of American Ethnology).

**1881** Curators install collections in the US National Museum [presently the Arts and Industries Building]. Spencer F. Baird (Secretary of the Smithsonian, 1879-1882) receives a letter from Edward Foreman of the Bureau of Ethnology, remarking on the effects of the sooty atmosphere of London [former repository] on the Catlin collection. Foreman also expresses concern about the ravages of insects within this collection. He says the collections will require much cleaning and restoration of lost portions and this should proceed the operations of poisoning. [Pest concerns and eradication, in fact, are themes that prevail throughout many of the subsequent archived reports.]

At this time they are also interested in restoration "after Indian practice", particularly for leather, and in repair of the beadwork and porcupine quill embroidery. They also want to replace the original softness of the skin with an oleaginous or saponaceous application. Foreman suggests securing the services of an expert in repair and cleaning from the schools of Hampton or Carlisle. He states the collection is of such great historical value that its preservation would merit the cost.

Labeling of objects is an early subject of debate and experimentation. Rubber faced types and stamps are initially used for labeling. When considering the 1600 specimens collected by J.W. Powell and J. Stevenson from the pueblos of New Mexico, beginning in 1879, it is reported that ink would work best on the object surfaces because so many of the specimens are stone. They consider surface characteristics and most appropriate colors. They experiment with bronze powder and glycerine, depending on the glycerine to harden so the numbers would not be abraded and lost over time. They also try whiting, zinc powder and plaster, but find the

powders to be too absorbent, reducing the effect of the adhesion. They eventually decide to use ink directly on the surfaces, in the color of blue or turquoise.

There is mention of the absolute necessity of poisoning the collection [method not noted] because of the ravages of insects. Poisoned specimens are tagged or marked and the date and kind of treatment recorded in the card catalogue.

At this time William Palmer (taxidermist) is assigned to assist with restorations and repair. He repairs pottery broken in a shipment from Amazonia, collected by Prof. Bingham. Collections of 1879 are cleaned of white dust and placed in protective drawers to protect from further deposits of dust.

The Pueblo collection is moved from the Armory to the National Museum. They are all washed.

**1882** Dr .E. Palmer and E. Foreman together restore earthenware vessels collected by E. Palmer in Tennessee and Arkansas. These had arrived in fragmentary condition. Nelson's Alaska collection is in the process of being poisoned.

**1883** The United States Congress appropriates funds for the USNM, including \$75,000 for preserving and exhibiting collections received from the exploring expeditions. The National Museum is organized into Divisions. The Division of Anthropology is created with three departments: Arts and Industries, Races of Men, and Antiquities. Dr. Rau is curator of Antiquities. According to Ensign A.P. Niblack, U.S.N. (collector for the Smithsonian Institution), collections are classified and divided up and sent to one of these departments who enters them into the Ethnological catalog, and gives them a museum number, which is painted onto the object. After this the collections are sent to the preparators for installation in the museum. During this time there are frequent references to preservation of the collection for the future. Generally this means poisoning, to rid the specimens of insect pests.

**1884** A temporary shed is built on the grounds of the USNM for exhibit preparators, including those of the Bureau of Ethnology, working to get ready for expositions. This space is also used for temporary storage. In monthly reports written by Otis Mason, Curator in the Division of Anthropology in the USNM, great concern is expressed over damage to the collection from "moths, breakages and weather". He advises contributors [donors] to the collection to put specimens in benzene to kill any vermin, and to apply a solution of arsenic and alcohol to vulnerable parts. He also states that preservation and exhibition are prominent features of his curatorship. T. W. Sweeny, preparator of the department of ethnology, is detailed to do the poisonings. Collections are sent to a "poisoning room" [location and method unknown]. They decide every "destructible" specimen is infested with eggs or larvae of moth, dermestes, or other museum pest. In deciding on the best method of pest eradication, they consider the necessity of destroying the eggs and larvae while preserving the color, softness and texture of the specimens. They want a method that will prevent future attacks, and they are concerned about danger to those handling the specimens. Edward Nelson's Alaska collections are a primary concern for early poisoning as there apparently is active insect damage.

Pueblo pottery from the Moquis is restored after being broken during transportation. Many fragments are lost, resulting in incomplete results.

Expositions in New Orleans, Cincinnati, and Louisville have a large impact on the collections. Specimens are also being prepared for expositions in Chicago and Madrid.

Sweeny is the principle mount maker for the collections traveling to these expositions. He also mounts objects for exhibit in the museum. Mr. Hawley is also involved in mount making for the New Orleans exposition. Molding and casting of a large number of objects from the collection begins around this time and continues into the early 1970's. Mason laments the loss of preparators and poisoning personnel to the New Orleans preparations.

It is noted that Charles Rau, archeologist and curator, would brush a thin solution of glue and bichromate of potash onto the surface of fragile specimens so they could be handled without crumbling. He sets up the anthropological exhibits from the 1876 Philadelphia Centennial Exhibition.

**1885** The individuals doing preparatory work are referred to as "the force" by Otis Mason in the Curator Annual Report. Mr. Sweeny does considerable work in poisoning collections. He also mounts objects for exhibition. He experiments with methods of mounting ethnological specimens so a curator could add more specimens as they are collected. Henry Hendley makes a series of casts from impressions taken of engravings on aboriginal gambling sticks.

**1886 *The Stevenson collection from Zuni is poisoned.*** Walter Hough, ethnology curator, is researching the issue of pesticides. He concludes that they cannot trust camphor, pepper nor turpentine, and "insect powder" soils the furs and fabrics. He begins to subject specimens to "solutions of arsenic and corrosive sublimate". He believes this does not affect the materials adversely. Otis Mason notes that when objects have been soaked in benzene and other light coal oil products, the eggs and larvae are destroyed but the objects remain susceptible to future attacks, and this is a concern. Naphthalene prevents insect ravages, but he thinks it is deleterious to the health of the workers. Evaporation of bisulphide of carbon also destroys insects and larvae when furs and fiber objects are placed in an airtight closet. Again, this is not considered a lasting protection.

Hendley and Sweeny are the first caretakers of the collection mentioned in the archives who are not curators. Hendley repairs statues of Negroes that came from Paris. Sweeny cares for the Mexican costumes acquired at the New Orleans Exposition.

**1890** [*The 1890 annual report is the first one written with a typewriter rather than in longhand. There are even carbon copies!*]

**1891** Sweeny is now referred to as a Preparator in the annual reports. Theodore Mills, a modeler, experiments with plaster for castings that would tolerate the rigors of shipment to the Chicago Exposition. Carl Bergman, a workman, makes mannequins for the exposition and "upholsters" their bodies to be covered with clothing. [The early mannequins that until recently were still on exhibit, are covered with a precisely wrapped burlap material and may be the upholstered mannequins referred to here.]

At this time overcrowded storage conditions have already become a problem. Otis Mason writes, "I have never taken any box from storage without very much regretting that it ever went there".

**1892** Mason writes in the annual report that it seems impossible to keep insects or rust from the objects.

**1893** Thomas Wilson, a curator, in his report on the Department of Prehistoric Anthropology in the USNM, reports that storage is becoming crowded.

**1894** The Catlin paintings begin to be restored by A. Zeno Shindler, a private restorer.

**1895** Eight new tabletop storage cases are installed and are able to house 3500 specimens, helping to alleviate the overcrowding of collections.

**1897** The USNM is reorganized into three departments. One of these is the Department of Anthropology, headed by William Holmes. The other two departments are Biology and Geology. The Department of Anthropology is based on a broad concept of anthropology and includes divisions of Ethnology, Historical Archeology, Prehistoric Archeology, Physical Anthropology, Technology, Graphic Arts, Medicine, Religions, History and Biography. Many of these later collections were transferred to the Museum of History and Technology [1977].

The Bureau of Ethnology is renamed the Bureau of American Ethnology (to emphasize its geographical limits).

**1898** William Holmes, curator, states that following an acquisition, steps are required to preserve the collection. However, it is difficult because the only space available to examine new collections is exhibit space that must be cordoned off in order to do so. He states a lack of lab space is very detrimental to the interests of the department. Cleaning and preserving the collection is done in a small shop in an out building, which does not have the same safety standards as the museum [unspecified location].

**1900** The Department of Anthropology reports the museum has now conquered the pest problem and does not see evidence of active insect damage.

*[In the annual reports of the 1890's a standard questionnaire is required for the head curator. One question is always included. It is this: "What progress has been made in caring for the collections under your custody, i.e., in their preservation and installation?" Curators are also called custodians of the collections. After 1907, "Care of Collections" is no longer one of the listed topics reported to the Secretary of the Smithsonian.]*

**1906** The National Gallery is created within the National Museum. In 1937 it became known as the National Collection of Fine Arts [renamed the Museum of American Art in 1980].

**1910** The national collections are moved from the Smithsonian Building, the present Arts and Industries Building, to the new US National Museum, the present National Museum of Natural History. A general cleaning of the specimens occurs at this time. Two totem poles are installed on exhibit. There is a lab in the Department of Anthropology and Henry Hendley is in charge, assisted by Joseph Palmer, who is a modeler and Edgar Porter, who is a laborer. Much of the work is modeling and casting of Indian busts, fossils, and archeological objects, and repairing "lay figures" for the dioramas. They repair many ceramics for anthropology, meteorites for geology, and cast trilobites for the Secretary.

Napthalene is put into a number of the exhibit cases, especially among the textiles. Burglar alarms are installed in exhibit cases.

**1913** The curatorial annual report states there is almost a complete absence of destructive insects in the exhibition cases and in collections in storage. Holmes notes there is only slight deterioration of objects from light while on exhibit. Muslin curtains are hung over windows of southern exposure in the museum.

After Hendley resigns in August 1913, William Egberts takes over as head Preparator of the anthropological lab. R. A. Allen and Sweeny are employed in the Division of Ethnology as preparators, but in the other divisions, preparatory collections work is done by the curators,

assisted by laborers. Egberts writes the first lab reports to be included in the annual reports and he states it is written from the “*Anthropological Laboratory*”.

**1914** Motion pictures are taken of the process of making life masks and finishing and painting the lay figures for the Panama-Pacific Exposition.

There is a thorough inspection of all the textiles in the collection. The Peruvian textile collections are cleaned, repaired and stored. T. W. Sweeny dies on April 14.

**1915** Egberts is assisted by Frank Koterba and Edgar Porter. Figures and molds are made by U.S.J. Dunbar, who is a sculptor. Poisoning is confined to small objects because there is no facility for treating large objects. Frequent inspection of the collection prevents serious damage by insect pests. Experiments for preservation of iron, brass, pottery and basketry are carried out. The condition of the specimens on exhibit and the study collection is improved. Particular attention is given to protecting exhibits from deterioration by excessive light.

**1916** The Cocopa Indian family group diorama is installed in the museum. A full-sized granary is constructed in the lab space with 80 square feet of lumber cut by hand to give the impression of adzing. A full-length mannequin of a Chippewa infant is installed. It had been modeled from life at Columbia Hospital in Washington, D.C. and shipped to Minnesota where it was [authentically] dressed and placed in a cradle by Chippewa women. Egberts travels to San Diego to repair and paint diorama figures (Carib, Dyak, Eskimo, and Zulu groups) damaged in shipment for the Panama-Pacific Exposition.

**1917** Many molds and casts are made in the lab. Painting frames in the National Museum of Art [National Gallery] are repaired. A method of permanently removing rust from iron is applied to two medieval suits of armor. The annual report states “ Care has been taken to exterminate dangerous insects of all classes and to preserve the specimens from the deleterious effects of moisture and strong light.” It is noted the collection is in excellent condition and construction of a number of vermin proof storage cases provides an effective safeguard for collections in process of cataloguing and previous to treating them with toxic substances. Edgar Porter resigns.

**1918** A number of the exhibit halls in the USNM are closed because the War Risk Bureau occupies some of the halls. Dr. Hough, curator in charge of ethnology, mentions the lack of help in the care of the collections. Egberts and Koterba continue to model in clay, make casts in plaster, and re-install, repair and enlarge some of the diorama groupings returned from the Panama-Pacific Exposition. The period costume bust of Mrs. Roosevelt is modeled, cast, painted and installed. Egyptian figurines are repaired. The position of laborer in the laboratory is abolished.

**1919** Koterba is on furlough to participate in the war effort and George Matheny is hired as a temporary Preparator.

**1920** The major divisions within the Department of Anthropology are Ethnology, Archeology, and Physical Anthropology. Holmes leaves to become the director of the National Gallery of Art. R. A. Allen is promoted from Preparator for the Division of Ethnology to Preparator for the Anthropology Department. Matheny resigns. In the curators’ annual reports, it is noted that joining of broken pottery, skeletons, and other specimens are done using adhesive cements that had been subject to a long investigation with satisfactory results. Three divisions, Ethnology, American Archeology, and Old World Archeology report cleaning of the collections. Special attention is given to problems of decay occurring in pottery taken from burials, and almost complete success is achieved in halting the disintegration. It is mentioned that the curators are seeking to perfect museum

methods through constant and careful experiment, and the preservation of the specimens is an exacting study and requires a large proportion of the energies of the staff. Because there is such a large variety of materials to be cared for, treatment presents an endless variety of problems. For example, it is reported that the problem of rust could occupy the entire time of one person. The Division of Ethnology report states the collection is in good state of preservation with regard to insect damage.

**1921** Francis Allen Griffin, messenger boy in the laboratory, is appointed to the position of Preparator after having successfully passed the Civil Service examination. Duties consist of repair and restoration of anthropological material and picture frames, painting and plaster, clay, and pottery work.

**1922** The annual report states the most valuable adjunct to the Department is its laboratory. Its services are in constant demand by other divisions and other departments. Job descriptions for a Preparator and junior Preparator are formalized. The duties of a Preparator include repair and restoration for anthropological material and picture frames, and involve tinting and plastering and clay and pottery work. The duties of a junior Preparator include skinning birds, reptiles, and mammals, preparing skeletons, and mounting insects, birds, etc. Previous work experience should include taxidermy, construction and repair of fragile articles, making plaster casts, or making models. Work in the lab consists of modeling, casting, painting, gilding, repairs and restorations, in particular bronzing the original statue of Liberty, bronzing a miniature bust of Shakespeare, and repairing the plaster statue of Washington. 24 wood figures are carved for the Ward collection.

**1923** No deterioration in the collections is observed, reportedly due to the assiduous care maintained for their preservation. Specimens on exhibit show deterioration from excess light, giving rise to the supposition that museums should use only artificial lighting. The Apache Indian diorama grouping is entirely replaced and enlarged, Chinese mannequins are made for exhibition, the heads being modeled from photographic images. Eight life masks are made of members of the Blackfoot tribe of Indians who were visiting Washington. Wooden masks are carved to augment the Herbert Ward collection on exhibition. Instruction is given to Henry Collins [unknown title] on restoring pottery.

**1924** Zuni potter and Navajo silversmith diorama groups are reinstalled in the museum, following their loan to the H. J. Heinz Co. for exhibition on their Pier at Atlantic City.

**1925** The Siamese musician exhibit case is completed. The Cliff Dweller Indian group and the Creek Indian group are finished for display at the museum. Two figures for the Chinese Imperial costumes exhibit are prepared. Six gold-leafed casts were made from the Albert Gaudry medal that had been presented to Secretary Charles D. Walcott. A duplicate wooden leg was carved for one of the antique pianos in the collection. Repairs and restoration of broken prehistoric Indian pottery – from a small fragment to more than one half of a specimen is frequently missing. After the fragments on hand are cemented together, the missing parts are supplied by filling in with plaster of Paris and properly colored. Plaster impressions of a keystone in the rotunda of the Natural History Building are made for the purpose of determining how much the arch had settled. Francis Griffin resigns. William Bray is appointed Preparator.

**1926** Studies are made of insects attacking specimens. It is planned to put specimens affected by moths, dust and light into box type storage cases, which are airtight in order to mitigate these problems. The deposition of a particularly obscuring black dust consisting of minute carbon particles is noted throughout the museum and on collections, presumably due to the location of the USNM, presumably from coal burning in the city. A special exhibit case is designed for the Tuxtla statuette, the oldest dated antiquity in the new world. The Carib and

Piney Branch diorama groups are dismantled and transferred to the Hall of American Archeology. The Carib group is installed in a fixed case. Busts of Alexander Graham Bell and Daguerre are bronzed. 3 large oil paintings are cleaned and varnished. Repairs are made to an Apache Indian water jug, a Chinese lantern is restored as is a birch bark canoe. The curator of Physical Anthropology earnestly hopes this year would see addition of necessary racks for storage. He states no division is more in need.

**1927** The period costume figure of Mrs. Calvin Coolidge is made. A lot of 237 jars, bowls, and pots are restored from fragments. The diorama groupings consisting of the copper miners, the pottery makers, the weavers, and the silversmiths are dismantled at the Sesquicentennial Exposition at Philadelphia, PA and are re-installed at the museum. A plaster death mask of Napoleon is given the bronze treatment. Miscellaneous restorations are made to models and casts on exhibition.

**1928** A small model of Pueblo Bonito is made for display in the museum. 500 pieces of imitation sandstone, pottery, etc are completed for the Cliff House diorama grouping. Three colored plaster casts of the Tuxtla statuette are made. Casts are made of Peruvian prehistoric skulls. Various repairs and restorations of the collections are done for the department, as well as for the US Court of Customs Appeals. Bronzing is applied to a replica of the Francis Scott Key Memorial as well as to three other plaster busts. The busts are presented to the Museum by Mrs. U.S.J. Dunbar, widow of the sculptor. 23 pieces of Indian pottery are restored for the Division of American Archeology. In the Ward collection repairs are made to a mounted elephant head. All bronze statuary is cleaned and polished. Work on picture frames is done for the National Gallery of Art.

**1929** Zulu and Bushmen life masks are made using plasticine squeezes and piecemolds. Eyes of ten Eskimo life masks are opened and the casts are bronzed. Other replicas are made. Prehistoric pottery is restored. Restorations are made to Egyptian statues. The statues of George Washington and Joseph Henry located in the vestibule of the north entrance of the museum are repaired and bronzed.

**1930** Egbert's title is changed to Chief Preparator.

**1931** Kufa Boat group figures are designed, modeled, cast, painted, costumed and shipped to Heinz Ocean Pier, Atlantic City, and installed. Fifty miniature Indian figures for the Pueblo Bonito model are made. Molds and colored casts are made from paper squeezes. Indian figures and a bust of a papoose of the Victor Evans collection is repainted and costumes are cleaned and adjusted. A sculpture at the Cosmos Club is renovated. Two papers are given by the staff of the Anthropological Laboratory: "Wood Versus Plaster of Paris and Papier Mache Models" and "The Process of Making Facial Masks and Casts of the Body as Practiced by the Anthropological Laboratory of the United States National Museum".

**1933** Plaster life masks of Comanche Indians are made. The annual report states an urgent need to preserve, repair and restore the Egyptian mummy and cases. The life mask of Ales Hrdlicka is cast. *Space is assigned in the laboratory to Nicola Reale for the purpose of restoring and reconditioning the stringed instruments.*

**1934** Work includes a life mask and plaster cast of Walter Hough and of a Blackfoot Indian boy. Molds and casts of Persian seals are made; an Indian dugout canoe is repaired, preserved, and installed; and a Chinese rug is hung in the White House for Mrs. Franklin D. Roosevelt. The period costume figure of Mrs. Herbert Hoover is modeled, cast, and installed. Numerous casts are made, 2 prehistoric Indian pipes are restored, 19 pieces of Indian pottery are restored, a statuette by Hinton is restored for the National Gallery, and a lot of 7 specimens of logs from prehistoric Indian ruins is treated with preservatives. Alexander



Stiles, a plaster modeler, is employed through the Works Progress Administration (WPA) to restore plaster and other models in the Anthropological Laboratory.

**1935** Egberts travels to San Diego to install exhibits at the California Pacific International Exposition (at \$5.00 per diem!).

**1936** Plaster casts of Benjamin Franklin and George Washington are made for the Post Office. Many restorations and repairs are done to various objects. Indian baskets are poisoned [chemical unknown]. 17 pieces of silverware belonging to the Mary E. Maxwell collection are polished. 2 steel axes are cleaned and treated to prevent further deterioration. Loom specimens from Pueblo Bonito are treated with preservatives. Pottery is restored. Two figures, portraying Japanese male and female peasants, are crated and stored in the north attic. The Federal Arts Project and Works Progress Administration supply extra men to repair and paint plaster casts and restore pottery within the collection. Three high school boys are instructed on restoring Indian pottery.

**1937** Casts of human skulls from Florida are made in the lab. Busts are made showing the variations in American whites, Indians, and Negroes, taken from face masks. The WPA provides men to repair pottery. Numerous casts are made, 171 pieces of prehistoric Indian pottery are restored, and repairs are made to the marble statue of George Washington, located in the Smithsonian Building. A student of archeology receives instruction in laboratory practice from Egberts for five months. A scientific aid, SP - 5, for the United States National Museum is advertised, stating that the candidate should have 2 years of college with courses in anthropology, or practical training in designing, modeling, molding, and painting and have supervisory ability. Andreas Joseph Andrews from Leonia, New Jersey, is chosen above all other candidates. He had several years of experience at the American Museum of Natural History in New York and also had worked for Ned Burns of the National Park Service, at Morristown. He has not been to college, but has art training.

**1938** The National Gallery is renamed the National Collection of Fine Arts. F.M. Setzler is the Head Curator for Anthropology. Aleutian Islands wooden bowls and skins are dehydrated, treated with a preservative and restored. Plaster heads of African Negroes are restored and bronzed. Eskimo lamps are restored. A Japanese sword is enameled. 296 pieces of prehistoric Indian pottery ware are restored by WPA men. An estimate and design for a ventilating hood in the Anthropological Laboratory is given.

**1939** In September, William Egberts retires as Chief Preparator, after having been granted a year's extension beyond the mandated retirement age by President Roosevelt. The laboratory annual report states that 398 pottery vessels are restored. Work also includes casting of busts, restorations, and making intracranial casts. Restoring and regilding picture frames is done at the National Gallery, and casting meteorites is done for the division of Geology. WPA men continue to repair pottery. A wooden model of Pueblo Bonito is constructed on a 1:20 scale and placed on exhibition. A.J. Andrews is promoted from the position of scientific aid to Chief Preparator of Anthropology.

**1940** The WPA program is terminated. 378 pieces of American Indian pottery are restored. Wigs on mannequins of several Indian groups are dyed. Among the objects repaired for Ethnology are a small canoe, wooden African statues and 22 transparencies. Mexican pottery is repaired for the Bureau of American Ethnology. Two plaster eagles are repaired and bronzed for Graphic Arts Division. A plate and a bust are repaired for the National Gallery. Molds of cast specimens are stored in the lab and filed. Casts are catalogued, corresponding to the number of the specimen if it is a museum specimen.

**1941** Exhibit cases are insect-proofed by inserting felt strips between the [framework] of cases and all removable panels, and further sealing by caulking the glass is done. Many repairs to objects are made, including 70 pieces of Southwestern pottery, a Haida Indian totem pole, and a wood medieval Christ figure. A Pithecanthropus skull and jawbone are reconstructed. Modeling and building a mannequin for Mrs. Roosevelt's third inaugural dress is begun. A new exhibit of South American silver of Native manufacture is installed. Shifting of exhibit cases due to repairs in hall 8 results in excessive overcrowding of cases in Hall 7. A major rearrangement of ethnology storage cases housed in the west, north, and east attics into a series of geographically and tribally identified alcoves is completed. This rearrangement increases the storage space considerably.

**1942** An assistant scientific illustrator is added to the staff. Duties include painting backgrounds for dioramas. The candidate must have art school training or similar museum experience (SP 4 -7 hiring level). The bust of Wahpiyaska, Teton Sioux Indian is cast. Fragments of seven skulls and four skeletons are assembled for the Division of Physical Anthropology. Pottery from India is restored. A model of Stonehenge is repaired. 70 pieces of silver, 2 of copper, and 4 brass objects are cleaned and polished. A marble statue is repaired for the National Collection of Fine Arts.

A. J. Andrews makes plaster busts for the Bureau of Aeronautics, Department of the Navy, for Lt. Comdr. H.T. Patten for the purpose of experimenting with various types of oxygen masks. William Bray dies.

**1943** F.M. Setzler, Head Curator, is appointed the General Defense Coordinator. He presents a paper entitled "The Museum in Wartime".

A fumitorium [fumigant unknown] is installed to poison the Aleutian mummy bundles and other prehistoric perishable materials. Storage facilities are "utterly exhausted" according to the annual report. New acquisitions have to be stacked in open drawers. The Division of Archeology has had no increase of storage space in the past 25 years. During this time the collections increased by 33,510 specimens. A wooden bow is repaired. A Mexican sculpture is restored. 15 pieces of North African cutlery are cleaned and treated with a preservative. The bronzes in the Ward collection are waxed and polished. A bust, using the piece mold from the original sculpture of Benjamin Franklin by Ceracchi, is cast for the Division of Graphic Arts. An English porcelain vase is repaired for the Division of Fine Arts.

**1944** The bust of Ales Hrdlicka is modeled and a death mask of him is made for the Czech embassy. Mexican pottery is repaired. Shark tooth lined swords from the Marshall Islands are repaired. The original model of the Statue of Liberty by Frederic Auguste Bartholdi is repaired. An individual from Quito, Ecuador, is given instruction on restoring pottery and mold making. A loan of plaster models of three classical heads, three Indian face masks, three hands, eye, ear and nose is sent to the Army Reconditioning Program of wounded patients.

**1945** A. J. Andrews assists the Navy in building a diorama. Intracranial casts of 51 humans are made. The cast of Hrdlicka is made. Copies are made of the Tuxtla statuette. 144 pieces of American silver and a Chinese bowl are polished. Other repairs included 3 small tusks, a wooden gourd from Ceylon, a bone knife, a vase from Morocco, and 9 swords and scabbards from Malay. Armor worn by the first governor of Alaska (a Russian) is treated with a preservative. "The Fallen Gladiator" statue is repaired and painted for the National Collection of Fine Arts.

**1946** Setzler writes in the annual report that because of the wide variety of materials used in the manufacture of ethnological specimens, a tremendous responsibility should be assumed by the department in providing the necessary safeguards to prevent deterioration of

irreplaceable specimens from insects, sunlight, temperature, and humidity. Improvements could be made to eliminate the danger of excess sunlight in the exhibition halls as well as maintain constant humidity and temperature controls in the study collections.

Floor plans for Hall 11 in the museum are drawn and include seven life group dioramas and seven U-shaped alcoves.

**1947-48** T.D. Stewart is the Acting Head Curator for Anthropology. All perishable materials from Alaska and the Aleutian Islands are gassed in the fumitorium [fumigant unknown], as well as those from southwest United States and Peru. The museum's fumatorium is used whenever specimens are infected. Infestations that are found include Anthrenus vorax in fur and felted garments; Thylochrysis contractus in South American feather work; Attagenus piceus in rawhide material; and Lasioderma serricornis, or the cigarette beetle, in hair and fur. There is an acquisition of 125 additional quarter units for storage. All incoming collections are fumigated, cleaned and repaired as a routine procedure. A piece mold and cast are made of the Kensington Rune Stone. Casts are made of Folsom points. The bust of Spencer Baird is repaired. Andrews visits the Field Museum and a museum in Springfield to study museum techniques. Sixty-two Catlin paintings are repaired, restored and varnished.

**1949** The problem of preserving perishable objects is kept to a minimum because of the fumitorium. Fourteen Catlin paintings are cleaned and varnished. A Chinese silk screen is repaired for the Division of Ethnology, and Italian pottery and bone specimens are repaired for the Division of Archeology. An articulated life sized mannequin is made for the Department of Aviation. Instruction on museum preservation and diorama construction is given to individuals from Egypt, Korea, China, Iraq and California. Sculpture throughout the USNM is kept in good repair.

**1951** In the annual report Setzler describes the making of dioramas. After a scene has been prepared and described by the anthropologist, the museum preparators design, model, cast, paint and sculpt everything. A. J. Andrews and his assistant, J. E. Anglim, complete the miniature diorama of a Yosemite fall scene of California acorn gatherers, including painting of the background. Electrotypes of leaf impressions are made for the various tiny trees. These leaves are made for the lab by the National Engraving Bureau. The diorama depicts Indian life in the Yosemite Valley, California, a century ago. Each individual is depicted doing a realistic activity of the day. All the miniature figures are created in the Anthropology laboratory. The diorama commemorates the centennial of the discovery of the region now known as Yosemite National Park. Bridal Veil Falls and Half Dome are painted in the background. [This diorama is removed in 2003, with the dismantling of the Hall 11 exhibition].

A number of people across the US are instructed on techniques of casting, pottery repair, preservation of mummy cases, diorama construction, and mold making. Paintings are cleaned and varnished. Repairs are made to the mannequin figure groups. Egyptian vases and sculpture in the Archeology Hall are repaired. The statue of George Washington by Houdon is repaired for the National Collection of Fine Arts.

**1952** Face masks and casts are made; plasterline face impressions are made, and bronzed life masks are repaired. Baskets are repaired and treated with wax. Latex molds and casts were made for the Dumbarton Oaks research library. A compression tank for the air brush is mounted on a cart for the lab. A method is devised for softening old and brittle animal skins for the Plains Indian specimens, initiated through the Leatherwork Division, US Bureau of Standards. The Anthropology lab develops procedures for cleaning and restoring old paintings of Indian subjects. The "From Field to Laboratory" photographic exhibit is

installed [museum unspecified], showing the steps in making portrait busts. Repair, casting and restoration is done for several branches of the SI, departments of the museum, and divisions in the Anthropology Department. Andrews and Anglim modernize the exhibits and assist in building numerous special exhibits. Instruction is given to colleagues from Trinidad, the National Museum of India, and the University of Idaho.

There is a long-range project of replacing the division's [Department of Anthropology's] storage equipment of open steel racks with insect-proof storage cases. There is construction of metal racks to house the skeletal collection. One storage problem is a large collection of pianos and other keyboard instruments crowded together on the third floor rotunda. Another is the aboriginal canoes stored in the west courtyard of the National Museum Building. Several years previous, most of the dugout canoes were moved from the Arts and Industries Building to this courtyard, and it was planned to install them in an open air exhibit. Instead, the work stopped, and the boats and their painted surfaces are now badly damaged by weather. Shelter is required. A small fire also occurred in one of the canoes.

**1953** A figure for Mrs. Harry Truman is modeled and cast for a period costume exhibit for the Division of History. John Anglim and A. J. Andrews go to Philadelphia to study exhibition techniques. Two position descriptions are developed. Exhibits Worker, GS 5, for the Exhibits Preparation laboratory is as follows: Individual will work under the Chief Exhibits Preparator, and will work primarily for the implementation of an exhibits modernization program in Ethnology and Archeology; preparing sketches and scale drawings of exhibit halls and case interiors, and preparing scale models of diorama groups; painting illustrations and backgrounds in interior wall panels of exhibit cases, designing labels and selecting lettering; constructing foregrounds for diorama groups; preparing scale models, molds and casts of figures and accessories used in the exhibits. The individual will work with various materials such as, paints, waxes, woods, adhesives, papers, rubber, plastics, modeling compounds, solvents, acids, separating media, alcohols, and varnishes and these must be thoroughly understood. Exhibits worker, GS 7, is the same as GS 5 but in addition, plans and designs layouts for individual exhibit cases in cooperation with the scientific staff, and then prepares the drawings and sketches. The individual reproduces to scale various ethnological objects used in diorama groups. Materials used include plaster, papier mache, latex, plastics, paper, and wax. After final approval, he is responsible for execution of the various steps required to develop a plan into a finished exhibits display. The position also includes making estimates of and requisitions for necessary supplies and materials; contacting scientific and service division personnel; performing required artistic work on exhibit cases; cleaning, repairing, and restoring original specimens of historical and anthropological value; making decisions in the selection of cleaning and preserving agents; and employing knowledge and skills based on past experience in selecting and adapting restoration methods and techniques. The position also requires dismantling displays retired from exhibition, removing specimens and placing them in other exhibits or in available storage areas, and installing and arranging specimens and accessories in the exhibit cases according to prescribed layout diagrams.

**1954** The miniature diorama, "Lucayan Indians Discover Columbus" is completed. A duplicate of the Piltdown skull is repaired. The Division of Archeology requests preservation of the Peruvian textiles. The department wants a member of the staff to be instructed at the George Hewitt Myers Textile Museum. Much of the lab work consists of constructing exhibit panels, making dioramas, and refurbishing life sized models, all for Hall 11. A beaded Indian leather dress is treated with a preservative. 77 iron specimens are de-rusted. Information and instruction are given to a number of people, including diorama making, preservation of Japanese silk covers, feather preservation, tarnish removal from paintings, and latex mold making.

Additional space is needed to house the annual increase of collections and for objects removed from exhibit halls. Planning is underway for a controlled humidity and temperature room in the Abbott Room in the attic of the National Museum Building for the storage of Indian paintings [perhaps the Catlin paintings].

**1955** The Office of Exhibits is created in the USNM. Exhibits are prepared under the direction of Exhibits Specialist, John Anglim. A. J. Andrews remains Chief Preparator in the Anthropology lab. The Yahgan, Columbus, and Inca Farmers dioramas are installed in Hall 11. The mannequin for the period costume of Mrs. Eisenhower is modeled, molded, cast, painted and installed. All the wigs are re-dyed in the halls. Forty-seven Catlin pictures are numbered and framed. Hall 11, the American Indian hall, is re-opened. Overall plans for Hall 9 and case layouts are prepared by John Ewers, Associate Curator in Anthropology. Forty-three iron specimens are de-rusted and treated with a preservative. Casts of Abraham Lincoln's hands are made for the Division of History. An ivory elephant is repaired for the White House. A trophy is repaired for the Smithsonian bowling league. Associate curator, G. Carroll Lindsay, develops a cleaning method for embroidery stump work. He vacuums it first under a screen, then brushes it with a camel's hair brush. Carbon tetrachloride is applied to the stump work with a similar brushing, a small area at a time.

**1956** Some employees are reassigned to the new Museum of History and Technology. John Ewers is transferred to the museum as Assistant Director. The move of the collections from the National Museum Building to this new museum is being considered.

Sketches are made for a miniature diorama of a Blackfoot Indian buffalo drive. 250 pieces of silver are cleaned with Electro-Silicon polish and cream. Fifty-four are then coated with Acryloid, a tarnish preventing lacquer made from a formula prepared by Rutherford J. Gettens of the Freer Gallery of Art; forty-two are coated with Alvar lacquer and one with Egyptian lacquer. These are used to study tarnish preventive qualities of the various coatings. Pottery and glass are repaired. The annual report from Setzler mentions that equable temperature and humidity is of outstanding importance in the proper care of paintings. Because of this an air conditioning system is installed in the Abbott fireproof room in the National Museum Building attic. Paintings will be stored there. Instruction is given to individuals on latex molds, wax casting, and adhesives.

**1957** The USNM is divided into the Museum of History and Technology and the Museum of Natural History. A program in the department is initiated of completing a new exhibit hall every year. The buffalo drive diorama is built by Andrews. The scene was selected by John Ewers and the site was one actually used by the Indians just east of the Rocky Mountains in northern Montana. Setzler writes in the annual report that an assistant to Andrews is required. Setzler reports if Andrews were not so exceptionally versatile he could not complete the obligations and work load. Andrews does all of the work for the small dioramas, something practically unheard of in other museums. Andrews makes his own models, casts them in wax or plaster, builds the foreground of trees grass, bushes, rocks, mountains, etc, and paints the background. He accomplishes this in addition to all other work.

Iron is de-rusted and treated with a preservative. Drawings on birch bark are repaired. George McBride [unidentified] cleans and polishes metal and wooden statuary on exhibition. A contract is granted [for Joe Columbus?] for washing the collection of aboriginal textiles from Peru and Chile. This work is done on Saturdays in the lab. McBride also tends to the periodic fumigation [fumigant unspecified] of ethnographic specimens in the museum fumitorium. G. Carroll Lindsay, Assistant Curator, helps in the preservation of incoming specimens for the Division of American Cultural History, such as furniture and silver. Instruction is given on restoring picture frames and wood preservation. Diorama techniques are taught to students from the West Tutorial School of Annapolis.

With new storage cases, tiers of triple-stacked cases line the corridors and labs of the Department.

**1958** The Anthropology staff numbers two Ethnologists, three Archaeologists, and two Physical Anthropologists. The new Associate Curator of Ethnology and African specialist, Gordon Gibson, joins the staff. Andrews is now referred to as Chief Exhibits Specialist.

A model depicting an Eskimo home is made for exhibit in Hall 9 and the buffalo drive diorama is installed in Hall 9, "Native Peoples of the Americas". The hall is opened under John Ewers' direction. This makes the fourth complete exhibit hall in four years.

Casts of skulls are made for Physical Anthropology. 158 iron specimens are de-rusted and treated with a preservative. A replica of a carved wooden cat from Florida is made, and a replica of the Tuxtla statuette is made. Increasing deterioration and brittleness of the collection of basketry and Catlin costumes are noted. Over 100 Catlin paintings are badly flaking and torn. Russell Quandt of the Corcoran Gallery of Art restores several of the paintings on a contract basis. Canoes continue to deteriorate in the courtyard. An article is written by Andrews, entitled, "Restoring Iron and Metal Objects Corroded by Oxidation". Instruction is given on clay modeling, scale models, and gold leafing. Many objects are moved to the new Museum of History and Technology - ceramics, textiles, musical instruments, and glass.

**1959** 100 pieces of iron are de-rusted and treated with a preservative. Baskets are cleaned and repaired. A request is made for a program to repair and restore the basketry, textiles, and collection of other plant materials because they are dry and breaking. A total of 7200 objects is considered. The method suggests dipping the basket in kerosene and wax. Andrews begins this work. Setzler, Head Curator, reports the department has a physical laboratory staffed by one man, A. J. Andrews, whose specialty is that of a sculptor. This lab is also used by the Division of Cultural History. The repair and restoration of sculpture in the Smithsonian buildings has been completed by the staff in the lab. He recommends the SI create a central lab for the analysis of objects and the preservation of large archeological and ethnological collections. R. J. Gettens of the Freer writes a memo to the heads of the Smithsonian bureaus to form a committee to study staffing of an analytical lab.

**1960** Many objects are repaired, including Northwest coast slate carvings and Zulu figurines. Henri Courtais restores 134 Catlin paintings. He reattaches them to thin aluminum backings. Andrews cleans and repairs 424 baskets and treats them with a preservative. Clarence Bender becomes the divisional Museum Aid, to help Andrews. Setzler reports they cannot keep up with the rate of deterioration of the collection with the present facilities and personnel. The Division [Department?] of Anthropology alone could easily justify the services of a full-time trained lab technician for restoration and preservation. Clarence Bender has skills necessary for minor repairs.

A replica of the official Smithsonian seal is made in the lab for the opening of the Division of Mammals hall. Final plans are completed for modernization of Hall 8. Plans for Hall 7 are approved. A new archeology display unit in Hall 21 is completed.

**1961** T. Dale Stewart is the Head Curator of the Anthropology Department. 437 objects are worked on, including fiber mats, palm leaf fans, a wooden Buddha, Yukon masks, and 250 baskets are cleaned. Many casts are made, including a Tepexpan skull, five Marksville pots and obsidian spear points. Information on laboratory procedure is given to a number of individuals, including an educator from a children's museum in North Carolina, a professor from the University of Missouri, members of the Society of Missionaries in Africa, and the

Museum of Ethnology in Guatemala. Saul Riesenber, Curator, is involved in the exhibit and opening of Hall 8. Riesenber suggests in a report the functions of the anthropology lab be taken over by the museum exhibits lab because they already have specialists who in some instances accomplish tasks beyond Andrews' technical preparation and already have expensive equipment that shouldn't be duplicated.

**1962** 300 specimens are worked on by Andrews. Two tons of material are brought back from Arabia by Associate Curator, Gus Van Beek. Six tons of material from Equador are brought back by Associate Curator, Clifford Evans, and Research Associate, Betty Meggers. All of it remains unpacked and uncleaned because of lack of space. The Catlin paintings continue to be restored by Henri Courtais. A cast is made from the original life mask of Chan-ha-ha-ke, a Sioux. The sculptures throughout the building are kept in good repair. Scholarships are given to individuals from Panama and Burma to study preservation techniques in the lab. A number of individuals are instructed in a variety of techniques, including impression making and French varnishing.

Fumigants are now introduced semi-annually into the collection, using a new fumigation method. Cotton wadding is saturated with a liquid fumigant and placed in tin holders on the inside of storage case doors, and renewed semi-annually. The fumigant used is a mixture of carbon tetrachloride, ethylene dibromide and ethylene dichloride. The cases where this fumigant is used are clearly marked.

This year exhibits modernization overshadow all other activities in the department. Halls 7, 8, 25, and 26 are modernized. Exhibition work is not looked upon by administration as equivalent to publication. Stewart thinks this evaluation is mistaken. Promotions are not given to curators who produce exhibits instead of publications. Care of collections is now viewed by administration as a job of supervision. According to Stewart, a well-done job of collections care deserves rewarding as much as a well-done exhibition or publication.

A plan emerges to move a large proportion of specimens from the attic and behind exhibit halls into new storage on the fifth floor of the new wing of the USNM. The hope is to reduce overcrowding. The current storage drawers are filled beyond capacity, and objects are now stored in the open because of lack of space in the storage units.

Associate Curator, Clifford Evans is in communication with Jacqueline and Charles Olin about the possibility of providing analytical services for the museum.

**1963** Joseph Andrews' title is changed to Exhibits Specialist. Waldo Wedel is the Head Curator. The anthropology lab is moved from Room 25 on the ground floor of the Museum of Natural History in the USNM to Room 378 on the third floor. Gus Van Beek is investigating, with a plastics specialist in the Office of Exhibits, a lighter, more durable and more accurate medium to reproduce some of the old plaster casts of Near Eastern antiquities. Some of the casts in the collection which are the only existing reproductions of the original, are now badly deteriorated. Cuneiform tablets are baked by Mary Miller, a ceramist from Baltimore, so they can be cleaned and read, otherwise they are too fragile. Several of these will be used in Hall 26. Over 400 objects are cleaned and repaired, including a wooden statue of a Chinese warrior, a shrine from India, and a Fiji bamboo tapa marker for the Division of Ethnology. Fiji pots and bone needles are repaired for the Division of Archeology, and a mandible and leg casts of Homo Neanderthalensis are made for the Division of Physical Anthropology. Oil jugs are repaired for the Division of Cultural History. A marble bust is repaired for the National Collection of Fine Arts. A plaster bust is repaired for the Barney House. Van Beek plans to collaborate with Charles Olin and Jacqueline Olin of the new Smithsonian Institution Analytical and Preservation Laboratory, on the spectrographic analysis of selected specimens of copper, bronze, and iron from the site of Hajar Bin Humeid.

This is to be a beginning of the study of the metallurgy of ancient Arabia. Charles Olin sets up a temporary lab in the Archeology Division in Van Beek's lab area for the Analytical Laboratory (later to become known as the Conservation Analytical Laboratory) from June to November of 1963 in the USNM. Charles Olin, is named conservator for the USNM and with the aid of an assistant (Mrs. Schlafman) from the Exhibits department, directs restoration and preservation work for objects for Hall 7 - cultures of Africa and Asia. Charles Olin develops a treatment tracking form entitled 'Requisition for Services of Analytical Laboratory' (SI-USNM- 930) clearly designating fields of information for object name, catalog number, description, nature of request, and on the back examination and treatment. Because of the large number of objects needing work, contractors are hired, usually students of anthropology from a local university, who then work under Olin's supervision. A temporary conservation workshop is set up in the attic in the National Museum Building. Funds for these contractors are supplied by the Office of Exhibits.

A conservation program is proposed for the department. Waldo Wedel reports the museum is 20 years behind European museums in skill and knowledgeable conservation practices of collections. He writes a letter to Frank Taylor, Director of the museum, requesting assistance to determine the long term care of the collections. He requests a program that will require a budget and staff, as well as the support of the curatorial staff. To be resolved, is if it should be a central lab [for the museum?] or a departmental lab or both. He questions whether supervision would most appropriately be done by the conservator or a curator, or perhaps the conservator would train personnel and oversee the work, but general supervision be retained by curators.

Collection storage in the north attic is moved to the east and west wings of the attic. A pottery rack is ordered for the north attic, thus removing pottery from tops of storage units on the third floor. The area around the skylight in the attic has been covered with flooring for storage of large objects as well as to provide adequate space for study. Wedel writes of his concern about the high temperatures of 90 degrees or more in the recently floored north attic skylight area, which he feels will quickly deteriorate the skin and birch bark canoes stored there. He notes care of collections is a major problem, particularly the lack of suitable storage drawers. Crowding and inaccessibility contribute to the problem of preservation.

The exhibits modernization program continues. However, it is reported exhibits maintenance is a problem. Exhibits deteriorate after they are installed.

**1964** The Smithsonian Office of Anthropology is created on July 29, 1964 (before it was called the Smithsonian Office for Anthropological Research) in order to merge and continue the activities of the Bureau of American Ethnology and the Department of Anthropology of the Museum of Natural History in the USNM. The Office of Anthropology includes all of the personnel of both former units and its head is also an Assistant Director of the Museum of Natural History. The Office consists of two divisions - Cultural Anthropology and Physical Anthropology. In addition it administers the River Basin Surveys. It also includes the Archives, formerly part of the BAE; a conservation laboratory; a section for illustrations; and an anthropological library.

The annual report for the lab, which is now referred to as the Conservation and Restoration Laboratory, is submitted by Andrews through Gus Van Beek.

The North American Indian collection is moved into the north attic. New storage cases are placed in the attic. African and Asian collections are put into Room 525 of the east wing, and it is already filled beyond efficiency, according to the annual report.



200 objects are repaired and restored by Andrews, including carved polychromed wood from New Guinea, a Japanese Hakata doll and a North African pot. Technical information on preservation and conservation is given by Andrews to various individuals.

The Analytical Laboratory is moved from the temporary quarters in the Division of Archeology to the Museum of History and Technology and is now referred to as the Conservation Research Laboratory with Charles Olin as the conservator-in-charge. Van Beek discusses the continuing preservation and conservation plans for the department with Gordon Gibson. A memo with clarification of roles of curators and conservator (Charles Olin) from S. H. Riesenbergs states that departmental conservation needs the following: Conservator to determine proper methods of cleaning and treatment, to conduct experiments to determine methods, and to train staff. Curators will choose objects, request treatment, check progress, determine priorities, and accept completed work. Due to competing priorities of the new Analytical Lab, it proves to be less helpful to the Department of Anthropology than anticipated in providing solutions to preservation problems. Cleaning and preparation for exhibits on ancient metal objects will pose a problem if more active assistance cannot be provided by the analytical and conservation lab at the Museum of History and Technology. Olin is asked by S. H. Riesenbergs, Curator, to experiment with samples of badly deteriorated basketry to develop a treatment for all collections.

Frank Taylor proposes forming a committee consisting of Charles Olin, John Ewers, Dr. Washburn and others to plan the first installations in the new Museum of History and Technology (MHT). Consideration is given to controlling daylight in the First Ladies Hall and the Hall of Everyday Life, and relative humidity in sensitive areas, and overall safety of the Star Spangled Banner. They recommend exclusion of daylight and maintenance of specific temperature and relative humidity. The committee suggests discussing each hall with the curators, the designers, and a representative from the building management.

**1965** The Division of Cultural Anthropology is created. Clifford Evans is put in charge of processing all ethnographic and archeology collections and the management of museum aides, technicians and specialists formerly in the old Divisions of Archeology and Ethnology.

The attic conservation workshop is continued. Half of the time is devoted to archeology specimens for Hall 26 and half for Hall 7, Africa and Asia. Bethune Gibson, wife of Gordon Gibson, starts work as a conservationist [conservator] September 1, 1965. Andrews continues repair, restoration and casting. Forty-eight specimens, including several life-masks are made for exhibit and study. There is extensive restoration, cleaning, and repair of spears, swords, wood carvings, and masks of Africa. They also clean, treat, and repair over 100 specimens for Old World Archeology. A student is in a training program in the conservation lab for 9 weeks.

In May there is a fire in two cases in Hall 11. One case has Zuni and Hopi Kachina figures. The other has objects from the Spanish Mission period of the Southwest US. Nearly all the objects in these cases are a total loss. An adjoining case of Cocopa Indians is somewhat damaged by water and flames but the material is saved.

Van Beek is now responsible for the Anthropology Conservation and Restoration Laboratory (ACRL). He reports he desperately wants training of the technicians in conservation of ancient metals. Van Beek meets with Robert Organ in Toronto for consultation and advice regarding the development of the Analytical and Conservation Laboratory [Conservation Research Laboratory?]. Organ states they must have a qualified scientist in charge of the lab, who will direct technicians in proper scientific methods and communicate with other scientists. Many of the departmental curators have surveyed the conservation literature and are also in communication with other museums regarding conservation problems. They also

feel they are best qualified to decide on an outside conservation contractor. In a letter from the committee examining the Conservation Research lab at MHT and chaired by Gus Van Beek, the name is changed to the Conservation Analytical Laboratory (CAL) because of the need for analysis. The committee recommends the various division laboratories do the bulk of conservation treatment, not the CAL. Another suggestion is to augment departmental labs with additional technicians and equipment; create conservation labs where they do not now exist; and increase interdepartmental cooperation to make their labs available to assist in conservation of specimens in other departments.

Another committee [unnamed] is formed to assess, store, and condemn materials housed by the SOA conservation lab (ACRL). The members are William Crocker, chairman, Kent Flannery, and Lucille Hoyme. The committee reports to Gus Van Beek.

Charles Olin returns the baskets to the Division of Ethnology that were used for experimental purposes investigating Zytel 61 (soluble nylon). [As per curator Riesenberg's 1964 request].

**1966** Two research scientists join the Smithsonian Office of Anthropology (SOA) - John Ewers, formerly Director of MHT and T. Dale Stewart, formerly Director of the Museum of Natural History.

A new conservation laboratory is created, which replaces and incorporates the previous preparatory service. It retains the name, the Anthropology Conservation and Restoration Laboratory. In August, it is set up in its new quarters. Drawings are made for the furniture layout for the new lab, to be moved from Room 378 to Rooms 360 - 362, NHB. The staff includes A. J. Andrews, who remains Chief Preparator, and Bethune Gibson, who joined the staff as a Museum Technician specializing in conservation, under the immediate supervision of Gus Van Beek. The annual report, written by Andrews, now is sent directly to Van Beek. Priority is given to specimens needed for exhibit; specimens being loaned and emergency conservation problems; specimens to be published; and specimens to be photographed for research purposes. The laboratory is to focus on the conservation and duplication of SOA specimens with cleaning, repairing, treating, and reproduction as necessary. It is to provide advice on conservation in the field. It is not a research facility - this falls under CAL located at MHT. No work is done for any other bureau, department, division, or individual outside the SI, because of the need to work on the SOA collection. A requisition form (SI MNH 331), patterned after the earlier form developed by Olin, for recording specific treatment is designed, and made in triplicate. The form records the particular request for treatment, or the lab will use its judgment. The form is submitted to Gus Van Beek. Van Beek will assign the conservation task to a member of the lab. The third copy is filed in Van Beek's office until the end of the fiscal year and end of the treatment. The other two copies stay with the object, and the treatment is entered on the back of copies one and two with the signature of the person doing the treatment. Copy two stays in the lab and is filed. Copy one is returned to Van Beek with the specimen. It is stapled to the back of the catalog card. Van Beek requests all complaints go to him and all praise should go directly to the person who does the work.

A total of 1313 specimens are worked on during the year. The lab staff develops processes for removal of noncarbonate encrustations on pottery, and black "ink blot" and root deposits on ancient pottery from various environmental situations. For the Division of Cultural Anthropology, work includes a plaster model of a papoose, Japanese porcelain cups, and Roman lamps; for the Division of Archeology, an Attic red figure kylix; for the Division of Physical Anthropology, a plaster cast of Osceola from a face mold, with a bronze patina is applied. Portrait busts of Walter Hough and William Holmes are repaired for the SOA.

Statues of Walter Henry and Washington are repaired for the National Collection of Fine Arts. A plaster head is repaired for the Division of Political History.

Collections in the attic are rehoused into quarter unit storage cases, which are placed against the west wall of the hall in which the lab is now located. Quarter and half-unit storage cases, specially built weapons cases and ceramic cases are added in the African section. Old World archaeological collections are moved and installed into new storage units in their permanent storage area behind the Old World Archeology exhibits in Hall 26. Japanese ceramics are brought to the new storage room of the East Wing. This includes those formerly at the Arts and Industries Building. All ethnology [including the Catlin paintings?] paintings made by European non-native artists are transferred to the National Collection of Fine Arts.

Information is given to several people on modeling and patination of bronze statuary. For ten weeks Susan Mintz, a Bennington College student, assists Beth Gibson with general conservation.

**1967** The US National Museum is abolished and the Museum of Natural History and the Museum of History and Technology are separate entities within the National Museum Building (later called the National Museum of Natural History). Robert Organ takes over as Chief of the CAL.

The annual report from Andrews is now sent to William Crocker, supervisor of the lab. A memo from Gordon Gibson, Acting Chairman of the Anthropology Department, requests an assistant to work on two projects—the effect of different versenes and sodium hydroxide on iron silicate encrustations on Greek pottery, and types of abrasives for different materials to be used with the new S. S. White airbrasive unit. The Conservation and Restoration Laboratory processes 1930 specimens. The increased volume is due in part to new conservation and restoration processes now carried out on a wide variety of materials. Andrews makes plaster of Paris reproductions of Kiowa and Cheyenne Indian face masks and finishes them with a bronze patina for the Division of Physical Anthropology, including piece molds for "Bitter", a Kiowa warrior. For the Division of North American Anthropology, a Northwest coast slate dish and stone tray, among others are treated. For the Division of Latin American Anthropology, repairs are made to a Mayan monument. For the Division of Old World Anthropology, repairs are made to a Cypriot black on white amphora; salts and discoloration are removed from Etruscan foot plates. For the senior scientists, catalog markings are removed from buckskin covers of Comanche shields, and molds are made of ivory figurines from Alaska. For the German embassy, a Mexican head is restored. Beth Gibson experiments with various chemical reagents to remove stains from Greek pottery, testing various humectants (desiccation preventatives) to find which can be best applied to certain fibers and grasses, and tries different kinds of waxes in the treatment of wood surfaces to prevent atmospheric changes in temperature and humidity from causing warping and cracking.

Special storage racks for Asian musical instruments and Pacific Island clubs are designed and constructed.

Instruction in lab techniques is given to various people on, among other things, old restoration removal and pottery repair. Janet Stone, graduate student from the NYU conservation center, experiments with electrolytic cleaning of metal objects [African knives?].

**1968** The annual report from Andrews is sent to William Crocker. Photographic records, usually colored slides of processed specimens, has greatly expanded. Use of an airbrasive unit is extended to include leather, basketry, and beadwork. A fumehood is installed in the lab and

the kiln is stored in the attic. 1680 specimens are processed, including Etruscan vases, Cypriote jars, Chinese pottery, and Argillite pipes. The method of using this machine to clean ethnological specimens is developed in the laboratory. Beth Gibson, upgraded to Museum Specialist, expands her activities by training more volunteer workers, and showing her conservation methods to many visitors. Photographic records (usually color slides) of processed specimens are greatly expanded. Eight volunteers work in the lab. The Office of Public Affairs makes a series of photographs showing steps for repairing and restoring pottery.

Saul Riesenberg, Chairman of the Department of Anthropology, writes a letter to R.S. Cowan, director of the Museum of Natural History, suggesting a model for moving the anthropology collections from the USNM Building (later renamed the National Museum of Natural History) to a larger facility, following a request from Cowan. The present space is 62,000 square feet. Anticipated growth of the collections requires 125,000 square feet, double stacked. This does not include access space. Technical assistance and transport facilities would be required. Four to twelve laborers would be necessary for about a year, plus two technicians to supervise. Special environmental conditions would be necessary, as well as space for work *in situ* with the collections. The collections information level should be upgraded at the same time with an inventory as the first step. A duplicate set of catalog cards would be necessary. There should be a photographic lab, security guards, heat, and building maintenance. He also suggested having an exhibition of conservation lab activities in the museum foyer.

A departmental Processing Laboratory is officially recognized as a unit carrying out functions of storing, cataloging, and accessioning collections of all the Divisions. George Metcalf is assigned the position of supervisor of this unit. This lab will standardize all record keeping, accessioning, and loan procedures.

**1969** The annual report is written to Lucille E. St Hoyme from A.J. Andrews. William Trousdale replaces William Crocker as supervisor of the conservation lab. 1283 specimens are processed, including Japanese pots, an incense burner, Inca pottery, New Guinea boat models, Cypriot amphora, and African figurines. Japanese lacquer is repaired and polished. Springfield rifles are cleaned of rust and polished. Information about lab techniques is given to a variety of people, including general preservation and conservation to 58 students through the Office of Academic Programs from the State Department. Instruction is given regarding the care of Indian costumes; cleaning and care of ivory; and painting restoration. Fifteen volunteers work in the lab. Saul Riesenberg, chairman of the department, requests A. J. Andrews and Beth Gibson attend Robert Organ's lectures, and they complete a year-long course in chemistry of conservation.

In a March letter to Paul Knierim, Assistant Director of MNH, Saul Riesenberg suggests more ideas regarding a model for relocating collections to an off-campus site. He states the physical transfer of collections should come as the first step. "Specimens cannot go back into smaller numbers of storage units they formerly occupied. It seems criminal and scientifically destructive to jam them back in the way they were before. Also, many specimens require conservation work because of the way they have been stored for so long; and this means even more expansion of space." He states the new facility should have large areas for laying out specimens. If a specific collection is moved as it is in its present storage, it could be worked on in the new area and this would mean a conservation lab would have to be established in the new quarters. This would be necessary anyway as a lab should be located where the specimens are. This would mean setting up a lab before the move of the collections. At this time only the ethnological collections are being considered for the move.

**1970** The annual report from Andrews is sent to William Trousdale. Robert Laughlin is the Acting Supervisor of the Conservation-Restoration Laboratory. The lab is reorganized and the table tops are resurfaced with chemical resistant formica. An S.S. White Airbrasive unit is purchased for the lab. 1475 objects are processed, including a scale model of Stonehenge, Haida slate boxes, terra cotta platters, and California and Northwest Coast baskets. George Washington University museology class students visit the lab. Short internships of several days are for students from McAlester College in Minnesota and individuals from the Museum of Man, Ottawa. Information is also given to Yale University students, and student groups from George Washington University, Mary Washington College, and Shaw High School. There are ten volunteers, including Eleanor McMillen and Yasuo Toyoda. Janet Stone, from Earlham College, works in the lab as a trainee. There are 127 visitors to the lab. Beth Gibson is elected secretary of the Washington Conservation Guild. She is a member of the British Council course, "Conservation of Antiquities" held in London. She publishes an article on airbrasive techniques. Andrews and Gibson complete the second year of the course, "Chemistry of Conservation", given by Robert Organ.

Discussion continues about relocating collections to an off campus site. The number of anthropology collections is about 200,000 specimens. Operations would involve preparation, validation and collation of data; data input into a computer system; EDP systems design and development; physical transfer of the collection; and maintenance of the collection at the new location. The substantial cost of this project is the legacy of long years of acquiring large numbers of valuable specimens without having personnel funds, nor space to permit proper curation and maintenance of the growing collection. Additional Federal funds are requested to initiate work on as many of the collections as funds will permit. A detailed work plan is being estimated, a labor crew of 12 men with supervision. Shortly after the transfer of collections has begun, transportation of staff and visiting scientists to and from the Museum and the site would be provided. A messenger chauffeur is considered. They are considering one station wagon and one panel truck to be necessary.

In October Clifford Evans, chairman, writes a letter to Paul Knierim stating, "in the last five years the anthropology department has never turned down a collection of archaeological or ethnological material that was offered to us. But there has been lack of funds for adequate storage. Lack of conservation personnel also does not permit cleaning and preserving objects the department has already had for 75-100 years." He states that items are improperly stored. The leather, bark cloth, and textiles are folded and jammed into small drawers. Deterioration of basketry, leather, and matting is occurring. The basketry is not clean and they are nested in each other. The pottery is stacked. Painted leather skins are folded and the paint is cracking. Armor is jammed into drawers. Costumes are folded. They need large flat drawers. Some objects still have coal dust on them. This is especially true in the North American Indian collection, but also in the Pacific and Indonesian collections.

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In his annual report, Clifford Evans describes a plan and a long range budget for a conservation lab, to be studied by a special committee headed by Robert Organ, Chief of the Analytical and Conservation Research Lab (ACRL) and consisting of an archeologist, ethnologist, and physical anthropologist. The committee will make periodic studies, reports and recommendations throughout the year to the chairman, who in turn will use them as arguments for budgeting, justifying slots and equipment, and tie in the anthropology conservation lab with various conservation and analytical labs throughout the Smithsonian. The old arrangement of a single scientific supervisor over the lab will be discontinued. This is to free the research curators from routine administration duties (from a man power management study of the Civil Service Commission) of functioning units within the department and instead use advisory committees. Clifford Evans states he wants to resume the use of Dowfume.

**1971** The annual report is written by A. J. Andrews to Robert Organ, Chairman of the ACRL Committee and to Cliff Evans, chairman of the department. Bethune Gibson also submits annual reports. 2981 objects are processed. Beth Gibson organizes the lab, has tables built and cabinets installed. Joseph Andrews is in charge of the Restoration Section. Five models of birch bark canoes with quillwork are repaired and treated with a preservative. Pottery from Japan, Korea, and India are repaired. A teakwood screen, mosque model, glass bracelet, and Japanese costumed figurines are repaired. The life mask of T.D. Stewart is repaired. Plaster casts of teeth models, brain casts, and 5 boxes of casts of tibia and fibulae are restored for the division of physical anthropology. During the period of June 10 through December 1 Mr. Terutoyo Fujimoto, a Japanese sword polisher, examines and conserves the Smithsonian's Samurai sword collection. Mr. Fujimoto provides his comments on 180 Samurai swords and related items and polishes and repairs 20 items. An additional 13 examples return with him for examination and polishing in Japan. Visitors to the lab include students from the Naval Academy in Annapolis and students from Edmond Benko School, DC. Information on lab procedures is given to several people. Six volunteers work in the lab, including Carolyn Rusch. Approximately 100 students visit the lab. George Washington University (Robert Humphrey, Instructor), Catholic University and Mary Washington College send students for slide lectures and conservation demonstrations. A Museum of Man, Ottawa, student has a week-long internship. Several researchers on grants are working in the lab.

Gibson publishes a paper on pottery conservation in *Studies in Conservation*. Consultation is given to the National Park Service's Harper's Ferry.

Temporary exhibits in the NMNH foyer will start and will be changed monthly.

**1972** The annual report is written by Andrews to the department chairman, Clifford Evans, with a copy to Robert Organ. Quarterly reports are submitted by Beth Gibson and Carolyn Rose to Clifford Evans (quarterly reports are also submitted by Andrews for the same period of time and report many of the same things).

Carolyn Rose becomes assistant to the lab on January 3, 1972, taking over the conservation section while Gibson is on vacation.

1020 objects are processed, exclusive of A.J. Andrews' restoration lab. The lab also worked on objects from the NPS. A model of a Palau house is cleaned, repaired and reassembled. Japanese ceramic figures and wooden statues are repaired. In the diorama for hall 11, The Southernmost People, new figures replace the man carrying a spear and the women in the boat. Latex molds of femurs and a plaster of Paris skull is made for the division of physical anthropology. Casts of Israelite stone weights are made for the division of Old World Archeology.

The three staff members attend chemistry lectures given by Robert Organ at CAL (Conservation Analytical Laboratory). The staff attend the annual meeting of the International Institute of Conservation- American Group at the Winterthur Museum. Gibson gives a paper on "Mechanical Cleaning of Ethnographic Materials by Use of the Airbrasive Process".

Additional people working in the lab include Lloyd Soehren from Bishop Museum in Honolulu, and Bettina Raphael. Latex and neoprene casting compound instruction is given, as well as information about restoring pottery. Various conservation techniques are shown to students from Mary Washington College, University of Virginia, and Catholic University. Dr. Robert Humphrey and his students from George Washington University visit the lab. Slide lectures are given to the anthropology class of Mary Washington College. The museology class of GW now meets in the lab once a year for a lecture.

**1973** The annual report is sent from Beth Gibson to Clifford Evans. A. Joseph Andrews retires December, 1973, after 37 years with the department. 1200 objects are cleaned and repaired. The quarterly report of Spring, 1973, mentions 402 specimens cleaned and repaired. The project of cleaning and repairing Pueblo pottery continues. Repairs are made on a clay forge from Pakistan. Silicone rubber molds are made of Eskimo ivory carvings. Casts are made from hydrocal and painted with oil colors.

Beth attends the ICOM meeting in Madrid. She gives a paper on airbrasive techniques. She is invited by Anthony Werner, chemist at the British Museum, to be on the AIC committee of Methods of Consolidation of Materials. Beth is also invited to be on a committee for collaboration between conservators and curators in Natural History museums.

Gibson and Rose teach seminars at the AAM and SAA in archeology and ethnography. They are working with interns from other museums. These are conservators or lab technicians who wish to gain more experience with ethnographic conservation, since, according to the annual report, this is probably the only large lab in the country which specializes in this type of work. Interns come from Bishop Museum, Peabody Harvard, Museum of Man in Ottawa, and others. Each intern is here about three months. Various individuals and volunteers work in the lab including Susan Nash, Dianne Davis, Vera Espinola (student), Joan Gardner, Dennis Piechota, (Conservator Preparator), Jane Norman and Edith Dietz. Visitors to the lab include 6th grade students from Virginia Hills Elementary School, students from Sherwood High School, Dr Humphrey and his class from GWU, and students from the Mary Washington School.

One volunteer starts to work with Gus Van Beek with his pottery. Volunteers work on a library research for a publication entitled, "Guide to Materials Composing Ethnographic Objects". Plans for the new lab in the proposed building are drawn up and submitted to Doug Ubelaker, the space organizer.

Rodent and insect control is a problem. One reason is consumption of food in offices and other work places.

**1974** 1062 objects are processed. Beth Gibson is the lab supervisor. Carolyn Rose is a conservator. Jane Norman begins in April as a technician, assisting in keeping records and working on conservation problems. Carolyn Rose tests materials for use in the field. She spends July in Italy, supervising conservation on an archeological site. This project is done in collaboration with the Smithsonian and George Washington University. Rose presents a paper entitled, "Notes on Archeological Conservation" at AIC. She attends the McCrone Microscopy course. A training program begins January 1, 1974. Carolyn Rose teaches two courses. If students want to go into conservation as a career, they have to do lab work as well. The training program is limited to three students from GW and three from other universities. The obvious need for conservators of archeological and ethnographic materials brought about the creation of the training program, which combines course study at George Washington University and lab training in the conservation lab. University students must spend 20 hours or more a week in the lab. Volunteers are discontinued because of the number of university students applying for training in conservation.