

The Statue of Liberty — Ellis Island Restoration



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Holland has received several major awards, including the Department of Interior's Meritorious Service Award (1975) and the Distinguished Service Award (1983), for "outstanding contributions to the National Park Service in the field of cultural resources management." In addition, Holland has written numerous articles on maritime history, Spanish exploration, cultural resources management; and several books, including America's Lighthouses, which is in its second edition.

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Seldom, if ever, in this country has a historic site received the attention that the Statue of Liberty-Ellis Island National Monument is presently receiving. School children are raising money to donate to these sites, private citizens are making contributions, civic and patriotic organizations are sponsoring activities for funds, philanthropic foundations are making grants, and corporate America is contributing money, materials and tools for the restoration of the Statue of Liberty and Ellis Island. The media devotes considerable attention to plans for and progress on the restoration of these two sites. Many private individuals are donating their time to this effort.

It is a happy circumstance.

But these two sites deserve the attention for they embody and symbolize what American citizens feel about this country -- democracy, liberty, opportunity, hope, for example.

Today, the Statue of Liberty is probably the world's best known sculpture and the one most loved by the American people. Such was not the situation when the sculptor, Frederic August Bartholdi, first attempted to sell the idea. There was considerable snickering by much of the New York press at Bartholdi's dream, and fundraising for the pedestal for the Statue went dangerously slow.

The Beginning - The Statue of Liberty

The instigator of the Statue for the United States was Edouard de Laboulaye, a French professor of constitutional history and an especial admirer of the United States' constitution. To some extent, he and his supporters were motivated by the view that Napoleon III was deviating from republican principles and needed the application of a sharp instrument to his posterior to bring him back to the true course. Professor de Laboulaye met Bartholdi at a party and told him of his dream of commemorating American independence and the friendship between France and the United States. As they talked, Bartholdi dredged up an old idea he had -- a monumental statue that was to serve as a lighthouse at the entrance to the Suez Canal. The design of the lighthouse was quite similar to the present Statue of Liberty.

Over the next several years, the idea came closer and closer to reality, and at de Laboulaye's encouragement, Bartholdi in 1871 -- armed with letters of introduction to prominent Americans -- visited the United States to stir up interest in the Statue. When he returned to France, Bartholdi felt encouraged.

It was decided that the Statue would be a gift from the French people to the people of the United States. To this end, the French formed a committee to raise funds for the Statue. Fundraising and work on the Statue progressed slowly. In 1876, the committee shipped the forearm and torch to the Centennial Exposition in Philadelphia. Later, it went on display in New York where, for a fee, people could climb through the arm to the walkway on the torch.

Meanwhile, an American Committee came into being to plan and raise funds for a pedestal for the Statue. The Committee selected Richard Morris Hunt, a well-known architect of the time, to design the pedestal. Hunt's design was vaguely suggestive of the Pharos of Alexandria, the world's first lighthouse. As in France, the American contribution did not move rapidly. Fundraising moved at a snail's pace until Joseph Pulitzer, an immigrant who had prospered in this country, moved his New York newspaper, The World, behind the effort. His self-appointed task was not easy, and Pulitzer cajoled and browbeat the public and berated the wealthy who had not donated to the effort. However, by the time the 204 boxes holding the Statue arrived in the United States in 1885, Pulitzer had raised the money needed to complete the pedestal.

At the ceremonies held in Paris, with the erected Statue as a backdrop, France officially gave the Statue to the United States on July 4, 1884. The cornerstone of the pedestal was laid on Bedloe's Island a month later. The pedestal was completed in the Spring of 1886, and shortly afterwards, workmen began erecting the Statue on the pedestal. Dedication of the Statue occurred on October 28, 1886. The Statue and pedestal had both been built and erected entirely through private funds. About two weeks after its dedication by President Grover Cleveland, who, as Governor of New York, had vetoed an appropriation for the pedestal, the Statue, known officially as Liberty Enlightening the World, came under the administration of the Lighthouse Board. It became the first electrically lighted lighthouse and served in that capacity for over 15 years. The fact is the Statue never performed well as a lighthouse, so it was decommissioned.

Transferred to the War Department in 1902, the Statue underwent several changes. In 1916, funds were raised publicly to provide for its exterior lighting, and the torch was changed to its present condition -- the flame, originally solid copper and butchered over the years to make

it a better lighthouse, was changed to glass panes held together by thin copper bands. The exterior lighting has been improved several times over the years as technology has advanced. The last time was during the Bicentennial, when Crouse-Hinds Company donated a new system to illuminate the Statue.

Since 1933, the Statue has been under the administration of the National Park Service. Through the years, the Statue became known as the Statue of Liberty, and its meaning has altered. No longer just a tribute to a form of government and friendship between two countries, the Statue took on the added dimensions of opportunity, freedom, and liberty. As it became the symbol of the United States, it became the symbol of hope to millions of immigrants, and today is probably the best known sculpture in the world.

Ellis Island

The other half of the Statue of Liberty-Ellis Island National Monument -- the old immigration station on Ellis Island -- came into being in 1892, and its emergence marked a change in the administration of immigration to the United States. Prior to 1891, the states handled immigration. In order to bring some system and consistency to this process, the Federal government abrogated to itself the control of immigration.

The new Bureau of Immigration selected the 3.5 acre Ellis Island in New York Harbor as the site for its principle immigration station. The island is about 1000 feet from the Statue of Liberty. Workmen busily erected several substantial buildings of Georgia pine on the island and, on January 1, 1892, the new station opened to receive and process immigrants. The first immigrant to complete the process was a lady from Ireland.

For over five years, this station served as the gateway to the United States for thousands upon thousands of immigrants. Then, one evening in June 1897, a fire swept the island destroying the buildings. No one, fortunately, was injured.

The government immediately went about laying plans for new structures. This time the government determined to erect more fire-resistant buildings, and for construction materials decided on concrete, brick, and stone. The rebuilt station opened in December, 1900 and, on the first day, processed over 2000 immigrants, the first batch being Italians.

In time, other buildings on Ellis Island appeared, so that by the mid-1930's, the island was

composed of 27 acres -- most of it fill -- and had 33 major structures possessing a total of over 600,000 square feet.

Immigration through Ellis Island continued at a hectic pace until the mid-1920's when restrictive immigration laws and the requirement that immigrants have a preliminary examination in the United States consulates in their native country slowed the tide. By the 1930's, only a trickle of immigrants moved through Ellis Island; indeed, the old station primarily handled deportees and those willingly going back to the "old country".

The government kept the buildings open: in the years after World War II, it was mainly a Coast Guard Station. In 1954, the government closed the site, and it languished, the victim of vandalism and misguided use.

In 1965, President Johnson turned Ellis Island over to the National Park Service. For a decade, neither the Service nor Congress could make up its mind what to do with the site and, consequently, no money was appropriated to the area for its maintenance, preservation, or operation, and the buildings deteriorated further.

Interest Arises in Ellis Island

In the mid-1970's, public interest in the site began to manifest itself and Dr. Peter Sammartino, then the Chancellor of Fairleigh Dickinson University, was able to persuade Congress to appropriate one million dollars so that Ellis Island could be opened to the public. This money was used to clean up a portion of the Great Hall and make it safe for visitors to go through. The building opened in 1976. Over the next six or seven years, Congress continued to appropriate money totaling less than eight million dollars. Most of this money went to repair the seawall, and today that work is nearing completion.

Meanwhile, people and organizations began virtually besieging the National Park Service to do good things for the Statue of Liberty and Ellis Island. The French-American Committee wanted to raise funds to restore the Statue. The Ellis Island Restoration Commission wanted to raise money to restore that site, as did The Coordinating Committee for Ellis Island. Individuals and companies wanted to raise funds for the two sites and for the celebration of the 100th anniversary of the Statue.

In 1982, Interior Secretary James G. Watt said that no further federal money would go into Ellis Island or the Statue of Liberty to rehabilitate them and that any funds needed for such work would have to come from the private sector. In May of that year, the establishment of the Statue of Liberty-Ellis Island Centennial Commission was announced at the White House along with the fact that Lee A. Iacocca, Chairman of Chrysler Corporation and the son of immigrants, had agreed to serve as Chairman. The Commission and its operating arm, the Statue of Liberty-Ellis Island Foundation, Inc., have taken on the mission of raising \$230 million for the restoration and preservation of these two important historic sites. So far, the Foundation has obtained over one-half of the goal, either in pledges or in cash. The bulk is in pledges.

Ellis Island - Restoration Problems

Today, Ellis Island is a mess. All of the buildings appear to be structurally sound, but the paint has peeled and plaster has fallen away from the interiors. Winds have torn away portions of the copper roofs. Vandals have stolen copper gutters and parts of machinery and equipment. Leaky roofs and clogged interior drains did further damage. An ill-conceived drug rehabilitation activity in the 1960's destroyed much of the old furnishings, particularly those of wood. Windows have been broken, as well as doors. Wooden floors have rotted or warped. Vegetation has grown up and Units 2 and 3 of the island are a veritable jungle. In general, the island and the buildings are in the condition one could expect after 30 years of abandonment and neglect.

Ellis Island is a memorial to all the immigrants who came to this country, and plans call for the site to tell this story. Though there is no finalized development plan for the island yet, we have begun restoration work. We hope to have an approved plan for all of the island by the end of the year.

The first work will include the restoration and preservation of the most historically significant building on Ellis Island, namely the Main Building that contains the Great Hall. This structure is the one through which all the immigrants at Ellis Island passed as they were examined for physical condition, legal status, and literacy. In it is the Registry Room (Great Hall) with a high, vaulted ceiling lined with grayish glazed tile and a floor decked with a red tile. Today, this huge room literally vibrates with the memory of the estimated 17 million immigrants who waited -- with some trepidation -- for permission to enter the United States. This room in its present condition makes a powerful historical and emotional statement, and, consequently, little will be done to it in the way of exhibits or refurnishing. Ultimately, the Main Building with its over 260,000 square feet will contain exhibits illustrating three principal themes. The

first theme will deal with the history of immigration to the United States from its beginning up to the present day. The second theme will concern itself with the immigration experience at Ellis Island. The third theme will be one entitled "The American Identity" which will deal with the question of what is the American Society. Actually, the exhibits for this latter theme will only be an introduction to it, for in the years beyond 1986, other nearby buildings will be rehabilitated and restored, and will contain exhibits and displays that expand on this theme.

From a historic preservation point of view, Ellis Island is more complex and difficult than the Statue. The Statue is fairly much straightforward preservation with replacement of fabric in kind or with related materials and deciding what to replace and what not to replace. With Ellis Island, the whole broad activity of historic preservation is brought into play. Decisions on taking out portions of structures had to be made. Inserting modern equipment into prime historic buildings, taking portions of the Main Building back to a specific period, and simulating historic appendages to meet modern demands were some of the issues with which we wrestled. Moreover, there are other complex issues that have not been resolved yet.

The study of the Main Building is completed and the contract documents for the restoration work are nearly finished. We expect to begin sending the contracts out for bid early this fall. We hope to have the work completed in two years. In addition, we will rebuild during this period the two huge water tanks and restore to its original use the power house.

In the meantime, the National Park Service, with money provided by the Foundation, has contracted to have architectural studies done on the other buildings of Unit 1, adjacent to the Main Building.

The development of Units 2, 3 and 4, which have the hospital, the contagious disease ward, the commissioner's house, the nurses' quarters, recreation building, new immigration building, and the ferry building, is currently being considered. These are structures of secondary historical significance, but their use is being debated. Some people propose leaving them to become moldering ruins, some want to mothball them, and some, mainly preservationists, want to see them made into an international conference center with attendant lodging space. Because of the differences of opinion on what the future of these structures should be, reaching a final plan for development has been slow. The failure to reach a plan is now beginning to impact fundraising.

The Statue of Liberty - Restoration Problems

Fortunately, there is greater agreement over the future of the Statue of Liberty and the remainder of Liberty Island. We know the Statue has to be rehabilitated, and there is little esoteric about the work. Much of it is replacement of pieces that have worn out. Once the problems and the causes were identified, the solutions were generally fairly easy. The difficulty arose over determining the specific types of material to use to replace parts and to clean the interior of the Statue.

The skin of the Statue is in remarkably good condition. Today, it is about the same thickness -- $\frac{3}{32}$ of an inch -- as when workmen erected it in 1886. This good condition is due to the green patina of the Statue which is a natural oxidation of the copper that protects the metal. The holes in the skin are due to internal problems that caused bolt heads to be pulled through it.

The internal problem is the rusting of the armature. The Statue's main support is four pylons. Surrounding these pylons and attached to them is a framework of steel bars. Coming out from the framework are iron bars that go to the plates of copper that compose the skin and suspends them so that in effect each plate floats and is not supported by the one below it since the overall weight would be too great. The armature runs along the interior skin and bends and twists to conform to its curvature. The armature is not bolted to the skin, but rather rides through copper saddles that are attached to the skin by bolts. Thermal changes during the day cause the Statue to twist and turn. If the armature had been attached directly to the skin, the Statue long ago would have been a bent and wrinkled old lady.

The armature is made of wrought iron and it has come in contact with the copper skin. Since iron is inferior to copper, the armature has rusted. The resultant exfoliation -- expansion -- has pulled the saddles away from the skin and yanked the bolt heads through the skin.

Virtually all of the armature -- some 1200 pieces -- will have to be replaced. Only a few at a time can be taken down and each new one will take approximately six hours to shape, using the old one as a model. No two pieces of armature are alike.

Since this was a problem built into the Statue when it was first designed, there was a strong desire to profit by experience. The sculptor used the best metal available to him at the time. In selecting a metal, several criteria were established: flexibility, workability, strength, and

compatibility with copper. The wrought iron met all but the last criteria. At first, we looked very closely at a new and expensive metal -- ferralium. The expense was no problem since the manufacturer would donate all we needed. Early tests indicated that it met all of the criteria. Later tests, however, revealed that the "fine tuning" of the bars -- that is, giving them that little twist or bend to make them fit precisely -- could not be done without heating them. The manufacturer said that heat would destroy some of the durability of the metal. So we then turned to a high quality stainless steel -- 316L -- which could be heated. This metal has been donated to us. Ferralium will be used to replace the flat-bars that connect the armature to the frame.

Another problem we face is removing the asphaltic substance placed on the interior skin of the Statue to seal out moisture. Through the years, this asphalt was painted over; consequently, we first had to remove the paint. We thought this job would take a long time, but someone suggested using liquid nitrogen. In tests, we found that this supercold substance popped the paint off in rapid order. This work went far faster than we had thought it would, and we gained some time in our construction schedule. But, what we gained there, we have lost in finding something that will remove the asphaltic material. Though we have found a new and modern chemical that will remove the asphalt, the work will not only go so slow, but may also contain an acid which is injurious to copper. Consequently, we are still searching for something better. We may in the end use that esoteric substance called kerosene.

The other work on the interior of the Statue will include repairing the viewing area in the crown, making the spiral stairways easier to climb, removing the old paint from the framework and the pylon and repainting them, and inserting a small elevator in the Statue for emergency and maintenance purposes.

Presently, the arm is causing concern and the torch moves about 15 inches in the wind which may be a natural condition. We do know that the stress placed on the shoulder area needs some sort of relief. We, therefore, plan to brace the arm so that it will have a proper support.

On the exterior, we will be removing the asphalt substance that has seeped through the plate joints onto the skin, replace thousands of rivets that have popped out, and we will reconstruct the torch and the spikes of the crown.

The present torch has a flame that is made of panes of yellow glass held together by thin copper

strips. It was made that way in 1916 by Gustaf Borglum. Bartholdi's original flame was made of copper and was gilded. We plan to construct the new torch as Bartholdi originally designed it. The gilding, both materials and work, is being donated.

Work is also being done in the pedestal of the Statue. A new floor will be added and an old one raised a few feet to its original level. A new double-deck hydraulic elevator requires that this re-design be done. On the colonnade level of the pedestal, we will install television monitors to give disabled visitors who cannot climb the spiral stairway a chance to see what the interior of the Statue is like. In addition, we will install a small elevator in the lobby of the Statue that will raise the disabled to the level of the main elevator that carries visitors up through the pedestal. We plan to make the pedestal and the remainder of Liberty Island as barrier-free as possible.

Final development plans for the remainder of Liberty Island are nearing completion. These plans call for a new concession building, a new maintenance area, rehabilitation of administrative space, a new dock shelter to protect the visitors from the elements, and re-landscaping. A new Statue of Liberty museum is planned in the old curatorial and office space in the base of the Statue, and the old torch will be placed in a prominent spot on the grounds.

The work is by no means as complex as the process. There are many people and organizations involved in the repair and rehabilitation of the Statue of Liberty. The French-American Committee originally hired a team of French and American architects and engineers to do the study of the Statue and make recommendations to the National Park Service as to what needed to be done to the Statue. With the completion of the study report, it became the responsibility of this group to provide the plans, specifications, and drawings required for the rehabilitation work.

The National Park Service plays a key role in this work. The Service administers the site and is legally responsible for what happens to the resource and what materials are used. If anything untoward occurred, it is the National Park Service that would have to answer to Congress.

Once the Park Service approves the plans and specifications, it transmits them to the Statue of Liberty-Ellis Island Foundation. It is our responsibility to contract out the work, see that it is done properly, and that the schedule is met. Moreover, we are the ones who raise the money to do all the planning and work.

This work is going on at a frantic pace because we have but a short time to get it accomplished. The Statue must be ready for the big celebration on July 4, 1986 when tall ships will return to New York Harbor to salute the Lady. There will be a grand celebration with national and international dignitaries in attendance, parades, fireworks, and the other things that go to make up the recognition the Statue of Liberty deserves.

10/4/84.

