Beginning in January 2002 the Museum will be relocating almost 100,000 ethnographic artifacts from Africa, Asia, the Americas, and Oceania into the Mainwaring Wing, a new 35,000 square foot storage and research facility. There is tremendous variety in the objects contained within these collections, from minuscule Inuit fishing equipment, fragile Japanese war prints, and delicate pile cloth from Zaire to a massive house panel from New Guinea. These artifacts have been acquired from Museum-sponsored expeditions and are often accompanied by documentation that adds significantly to their educational and scientific importance.

From a conservator's point of view, the most important outcome of the move is the protection of the artifacts from adverse climatic conditions. According to Garry Thomson in his book entitled *The Museum Environment* (London: Butterworths & Co., 1986), "Conservation... has two aspects: firstly the control of the environment to minimize the decay of artefacts and materials; and, secondly, their treatment to arrest further decay and to stabilize them where possible against deterioration."

Currently these ethnographic collections are housed in overcrowded, often damp basement storage rooms that lack the environmental controls considered essential by modern museum standards. Objects made primarily from plant and animal materials are particularly susceptible to fluctuations in relative humidity and tem-
perature, high light levels, as well as insect infestation and microbial attack.
Over the years the Museum has enacted various preservation measures; however, it had come up against the limits of its ability to protect these collections under current conditions. Decades of uncontrolled fluctuations of relative humidity and temperature, high levels of light (both visible and ultraviolet), and the presence of airborne pollutants have had a perceptible impact on the ethnographic material. If left uncontrolled, such environmental conditions would have led to the complete deterioration of these irreplaceable collections. Moving them to the Mainwaring Wing is essential to their long-term viability.

This new storage and research facility is equipped with a state-of-the-art climate control system designed to remove airborne pollutants and eliminate fluctuations in temperature and relative humidity. The windowless storerooms will be maintained at 65°F, while this temperature is low for human comfort it is better for the artifacts. The building will also be equipped with a walk-in freezer-freezing is often the preferred method of insect irradiation on museum artifacts. In addition, compact storage units will be installed to maximize the number of artifacts that can be stored in the new facility.

The move of these collections has involved extensive analysis and planning. Early in the move preparation process, a Conservation Condition Assessment was conducted with the assistance of volunteers and workstudy students who were trained to evaluate the condition of artifacts. A specially designed survey form was developed to assist this group of non-conservators in making sound assessments. This group evaluated artifacts individually to determine which were in suitable condition to be transported to the Mainwaring Wing. They were also trained to cite urgent problems that required immediate attention, such as insect infestation and mold.

After a year, the survey results indicated that 10 percent of the ethnographic collections, approximately 10,000 artifacts, would require conservation intervention before being moved. Even though the survey indicated that the collections are generally in good condition, 10,000 is still a tremendous number of artifacts to make safe for transport.

Stabilization Plan

Given the size of the collections and the extent of our resources, both in funding and in personnel, it was imperative to devise a plan for stabilizing the artifacts that was both economical and efficient. For this project the stabilization process involves the creation of secondary supports, trays, and mounts to ensure that the artifacts will be protected both in transit and in storage. For artifacts in very poor condition, treatments are an integral part of the stabilization process. Additionally, since the majority of the work needed to be performed by people without conservation training, our methods of stabilization needed to be ones that could be executed by non-conservators. As a result of these constraints a three-level stabilization plan was developed, with levels 1 and 2 being performed by non-conservators.

Level 1: Mass-produced trays

Pre-made trays sized to fit the drawers of the new cabinets are assembled. These trays, which are made from inert and archival materials, are produced in large quantities by volunteers and workstudy students. Minimal training is required to produce them and

Fig. 2a. The contents of a weaver's basket from Pachacamac in a mount that both protects the artifacts and aids study.

Fig. 2b. Northwest Coast frontlet in a mount that supports the ornately decorated headpiece.

Fig. 2c. Samurai helmet in a mount that allows the artifact to be studied without riskily handling any fragile elements.

Fig. 3a. Shiluk ostrich egg container before treatment.

Fig. 3b. The container after treatment and placed in its protective mount.
they can be used on a wide variety of artifacts (Fig. 1).

**Level 2: Individual supports**

Eight mount designs were developed for artifacts that required more than the standard tray. These eight designs can be adapted or modified to accommodate all of the artifacts in the collections (Fig. 2a–c). (Depending on the level of complexity of the mount and the condition of the artifact, it can take anywhere from one hour to one day to make an individual support.) Typically it takes 4 to 6 months of close supervision and training before people become proficient in executing these mounts. All of the Levels 2 supports are made by people who have been trained in the Conservation Department.

**Level 3: Treatment**

Levels 1 and 2 cover the needs of almost 90 percent of the artifacts; however, this does mean that 1,000 artifacts require conservation. The conservation philosophy is one of minimal intervention which means treatments are only performed when absolutely necessary. For this project, treatments are only conducted on artifacts that cannot be moved without this level of intervention. An example of an artifact in this condition is 83-26-13, an ostrich shell container from the Shilluk people, an agrarian group in southern Sudan who live along the west bank of the Nile. The container is decorated with glass beads, paper and leather straps, and cowrie shells (Fig. 3a).

This artifact cannot be lifted without losing beads or tearing the leather and paper decorative straps. The paper is acidic and exceedingly brittle and thus easily torn. The string used for beading was disintegrating and beads fell off of the broken strands anytime the egg was moved. The first priority was to stabilize the beading to prevent further loss. Once this was done, the leather and paper straps could be safely secured. Because large sections of the straps were missing and the existing sections were susceptible to breakage in their current condition, both the leather and the paper on the straps were mended using a lightweight, acid-free conservation tissue paper. It is important to note that even though the artifact was treated, it still received a mount, for it is the mount that will insure the long-term preservation of this artifact (Fig. 3b).

This treatment is just one example of a Level 3 intervention required in preparation for the move; some of the other treatments have involved consolidation of flaking surfaces, relaxation of paper, and mending of basketry.

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Now the move can begin. The trays and supports will protect the artifacts during transport, and they will stay with the artifacts in storage. Since excessive or improper handling can be just as damaging as uncontrolled environmental conditions, the trays and mounts will significantly decrease the need for direct handling of the artifacts and lead to the long-term preservation of the collections.

On a final note, while this is an overview of the conservation component of the move, an operation of this size, involving a significant portion of the Museum’s collections, has required the joint efforts of curators, keepers, registrars, and members of the facilities staff.

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