Navajo Blanket Form

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Application:

These mannequins, or forms, were originally constructed for the exhibition *Woven by th Grandmothers* which featured 19th century Navajo wearing blankets in the collection of the Nationa Museum of the American Indian. Navajo weaver co-curators, textile conservators, and exhibition designer ollaborated to design the forms. The goal was to exhibit the blankets in a three-dimensional context as the would have been worn, in contrast to the usual two-dimensional wall display.

The weavers wanted the forms to look abstract and not too human, yet evoke common postures nd represent different ages and gender. The weavers did not want torso-on-a-stick mannequins, nc hould they look ghost-like with no substance inside. The designer wanted a neutral colour, but did nc ant any heads or hands. The conservators wanted stable materials for construction, rounded backs an houlders to maximize surface area for draping, and an outer covering that worked against slippage.

Description:

Several poses required extremities, leading to the need for a structural foundation to support the textile's weight. The solution was found by constructing an internal armature of 4 cm (1 1/2-inch) PVC tubing. Using ready-made materials greatly simplified the construction; the plumbing industry had done all of the work by fabricating every possible angle joint needed to create shoulders, elbows and even bases. Additional benefits of using PVC include the ease of cutting and joining. No new carpentry skills or expensive tools were needed.

This type of armature could easily be adapted to other mounting situations. The forms were carved out of Ethafoam planks in a vertical orientation, and then covered with beige Polarfleece. The fleece provided enough padding to eliminate a layer of batting that is traditionally used. The forms were lightweight and easy to transport for a travelling exhibition.

Supplies, Special Skills:

- Ethafoam #220, 4-inch planks
- Hot-melt glue, high temperature
- PVC rigid tubing, 4 cm (1 1/2-inch) diameter
- PVC closet flanges
- PVC bushings
- PVC angle joints
- PVC cement
- Wood screws
- Polarfleece, 200 wt, beige colour

Construction Method:

1. One of the weaver/co-curators determined the body positioning and drape for the Navajo blankets. The designer created line drawings for each design using Polaroid photos of the weaver wearing his Pendleton blanket or demonstrating a pose (**Fig. 1**). Seventeen designs were established, divided into standing and sitting forms.

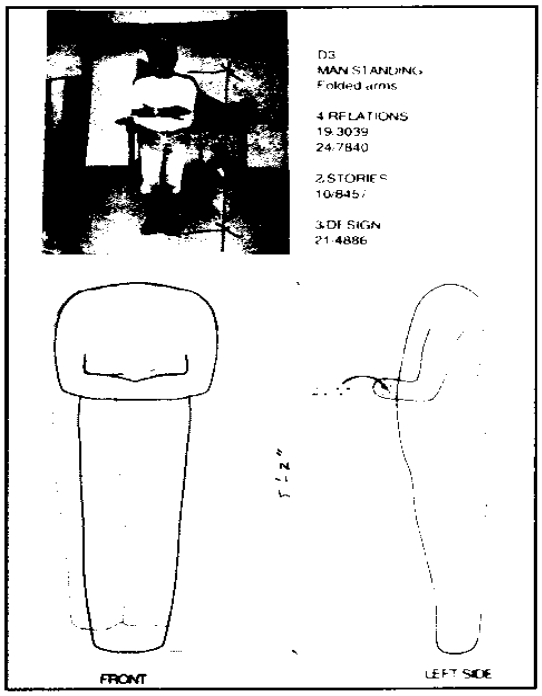
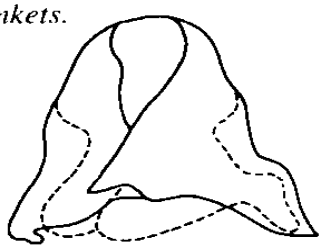


Fig. 1 *Line drawings capture the proper body positioning and drape of the blankets.*



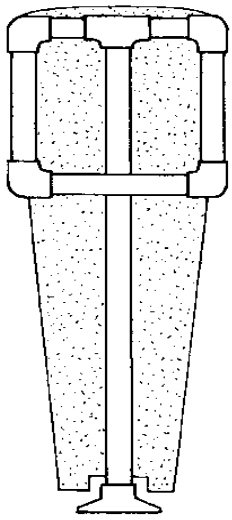
2. A paper template for each form was made The template was placed on top of the Ethafoam plank, secured with T-pins. A scroll saw was used to quickly cut the Ethafoam. Tight curves were possible. A disadvantage was that the blade was not long enough to cut the entire thickness. Two cuts were needed, one on each side.

3. The scroll saw was also used to execute the initial rounding cuts. The blade could be adjusted at 30 to 45 degrees, for an even cut along all the edges. Precision was particularly important for the lower sections of the standing forms. Further shaping of the forms was accomplished with an assortment of knives and an electric meat knife. A hand sander was used for additional smoothing. Two thicknesses of four-inch Ethafoam were used for each form, both sitting and standing. Each form was specifically sized for the blanket it was intended to support, using a mock-up blanket to test the requested drape.

4. The standing forms were all made with nternal armatures that also provided a juncture o attach the arms. The armature consisted of a :entral post, with a "T" fitting to create the houlders. While the T-shape of the armature was :mbedded within the Ethafoam, the arms were eft exposed. The positioning of the PVC houlder joint within the Ethafoam is critical to :onvey accurate body proportions. Various angle oints were used to achieve the proper pose and osition of the arms. The armature was secured ogether with wood screws in pre-drilled holes. This eliminated the need for any glue in roximity to the textiles that might be harmful. The screws can also be removed to adjust the ngle of the arms if necessary.

5. A central channel was cut with a router into the wo halves in the Ethafoam to accommodate the rmature. The channel was cut slightly smaller than he 1 1/2-inch diameter of the PVC tubing in order o provide a friction fit.

6. The two thicknesses of Ethafoam and the entral armature were all secured with hot-melt lue (**Fig. 2**). A strong bond was produced, owever, the glue cools quickly making speed f application and assembly critical.



ig. 2 *Foam and pipe construction.*

7. The bases for the standing forms are a two-part ystem using a bushing (male) that fits into a closet lange (female). A bushing was secured to the ottom of the central armature tube with PVC ement. A closet flange was secured to the xhibition deck with screws providing a wide base for the form. Once the flange is screwed to th deck, the bushing is fitted into the flange. Th system allows the form to be easily rotated insid the flange for exact display positioning.

8. The carved forms were covered with 200 wt beige Polarfleece. The exposed PVC arms wer covered with batting and Polarfleece to pad an shape the arms. The "tooth" of the Polarfleec and rounded backs and shoulders of the forms hel the blankets with no slippage. Velcro was no needed as originally planned, saving time an expense. Only minimal security stitching wa needed to hold the blankets to the forms a strategic locations.

9. The sitting forms had no armature, relying o their mass and low centre of gravity for stability They were constructed with vertically oriente Ethafoam planks secured with hot-melt glue Biscuit disc joins were used between torso and leg of some of the seated figures for added structura stability. Angle brackets were secured to th underside of the seated forms with long woo screws. The angle brackets were then screwed t the exhibition deck.

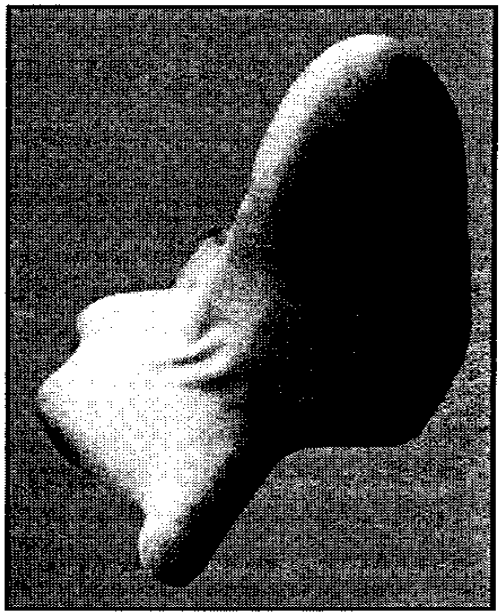


Fig. 3 *Seated form showing incision "seams".*

10. The Polarfleece "seams" were made by slicing an incision into the Ethafoam and pushing the fleece into the incision (**Fig. 3**).

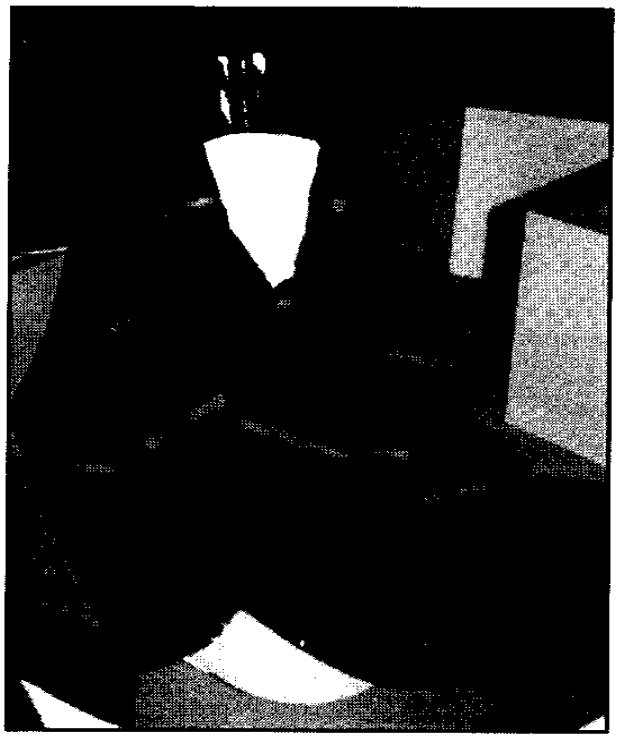


Fig. 4 *Finished mount of a seated woman.*

Adaptations, Cautions, Recommendations:

Although PVC plastic is not considered an archival material, the rigid pipe is not plasticized and does not deteriorate like flexible PVC tubing. With this construction method, the pipe is covered with Ethafoam and/or fleece and the textile never comes into contact with the PVC pipe. They are a good choice for shorter exhibitions—especially for small or mid-size institutions on tight budgets since the PVC pipe is easily procured, inexpensive, workable and strong. These forms were constructed to last for one venue, but survived a total of ten venues.

This type of armature can be used for other mannequin styles and needs. The arms can be easily detached and interchanged by unscrewing and removing the screw to allow for ease of dressing, and changing of poses. A more retrievable long pin could be used instead of a screw for quicker removal. A two-part body system could be created with a juncture at the waist for separate costume components; this could also facilitate dressing. Legs could also be created for men's clothing and uniforms; smaller sized flanges are available that could be used to anchor legs inside trousers.

In addition, this armature could be used with other types of Ethafoam-constructed forms. For the disc technique, a hole in the centre of each disc could be cut to receive the pipe.

Bibliography:

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