

# A Table to Reckon With: Developing a Portfolio Housing Structure for an Oversized Periodic Table

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Proper storage is one of the main tenants of preservation management. Often, it is recommended that oversized flat works be stored in a map case or rolled. When this is not possible, due to the object's size, fragility, purpose, or due to a lack of storage furniture, an alternative option must be pursued.

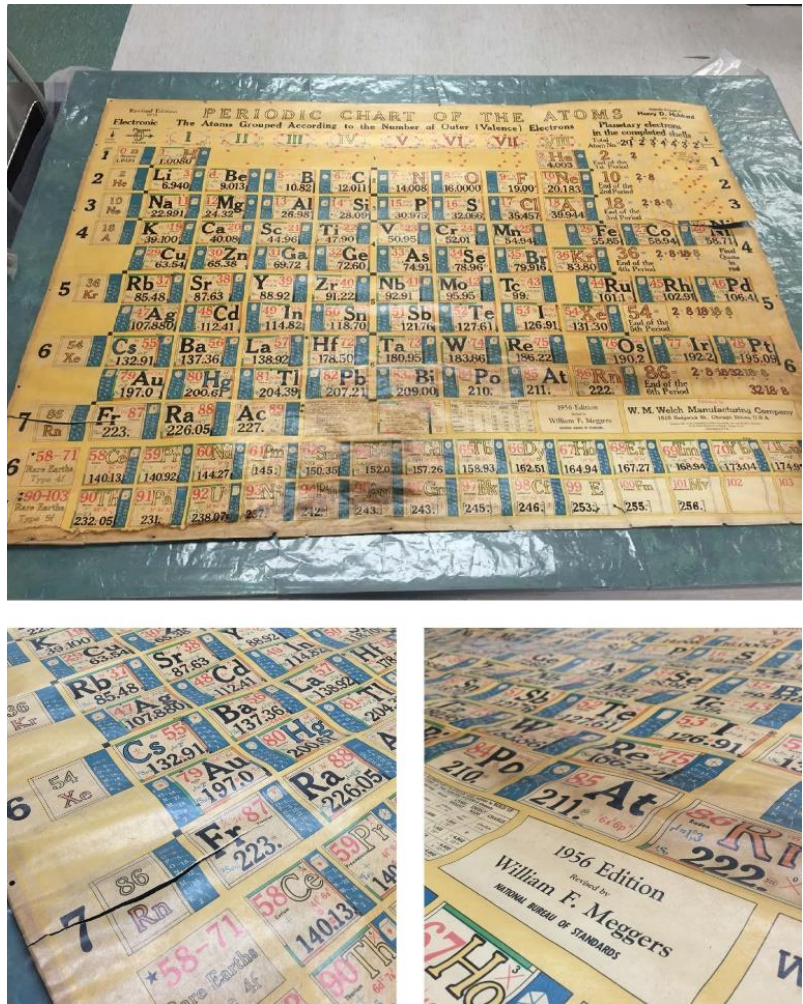


Figure 1. The print in the lab before conservation treatment.

# Conservation

In the case of this periodic table from 1956, both size and the lack of drawer space were an issue. The table itself measured 112 cm by 147 cm (41 ¼ in by 57 ¾ in). It was extremely fragile and brittle, therefore the table could not be stored rolled. Iowa State University Library's conservator, Sonya Barron, mended tears and filled losses in the piece using heavy weight Japanese tissue, pre-toned with diluted acrylic pigments and adhered with wheat starch paste. The printing inks tested as sensitive to water and ethanol, so no washing or stain reduction was advisable. Sonya added Japanese repair paper hinges to the table before the construction of the portfolio began.

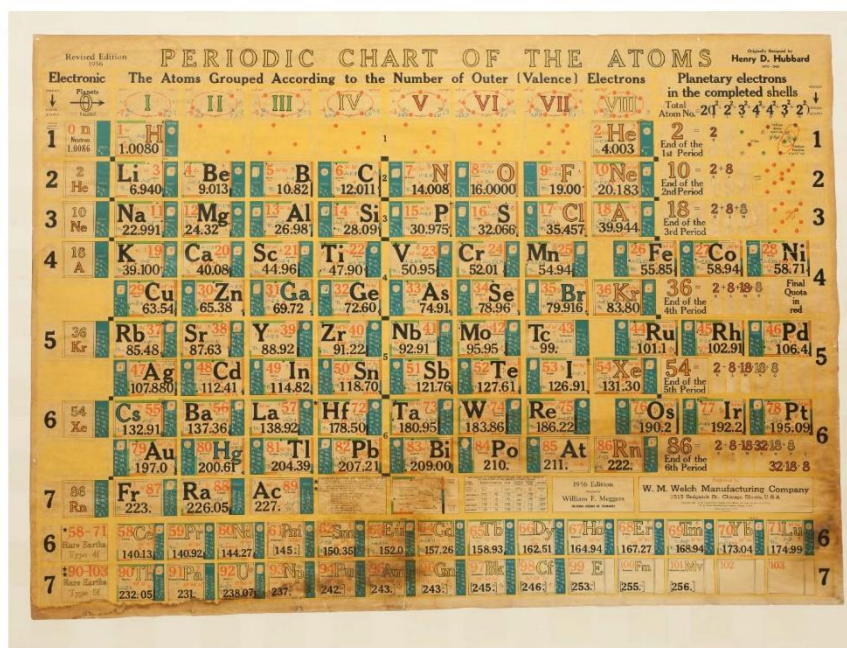
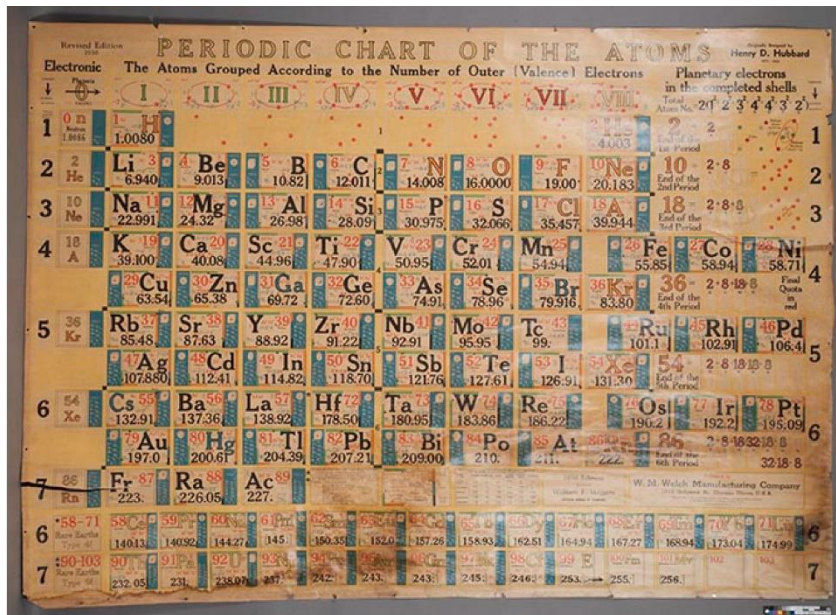


Figure 2. Before and after treatment.

## Portfolio Construction

The design for the portfolio was developed with the following stipulations in mind: it must be light enough for transportation and handling; stiff enough to withstand continuous vertical storage; prohibit dust ingress; and be able to display the periodic table easily.



Archival buffered foam-core board was used for both the shell of the portfolio and as the mounting platform for the periodic table. Book cloth was used to join the two pieces of foam-core board together at the bottom of the portfolio on both sides, forming a hinge.



*Figure 3. Edge of foam-core boards.*

Book cloth was also used to make wide flaps on the top and sides. The side flaps have circular pieces of Velcro adhered at the top, middle, and bottom of the flap near the long edges. These side flaps are closed first. The



*Figure 4. Book cloth hinge.*

top flap has a larger, stronger, rectangular piece of Velcro adhered to the center.



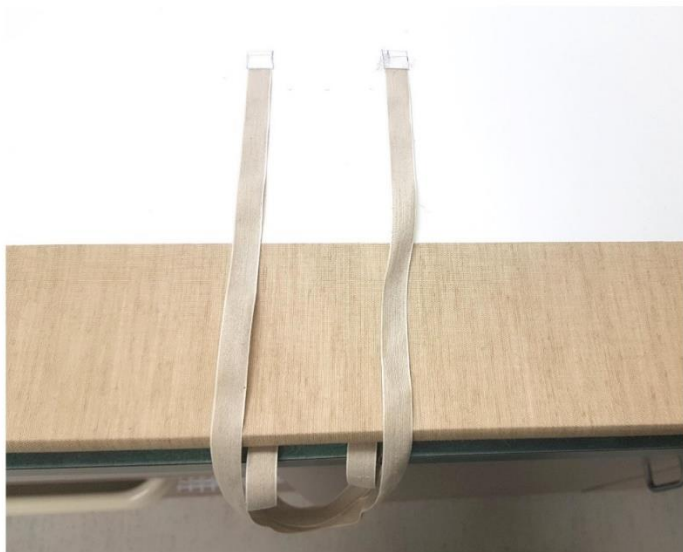
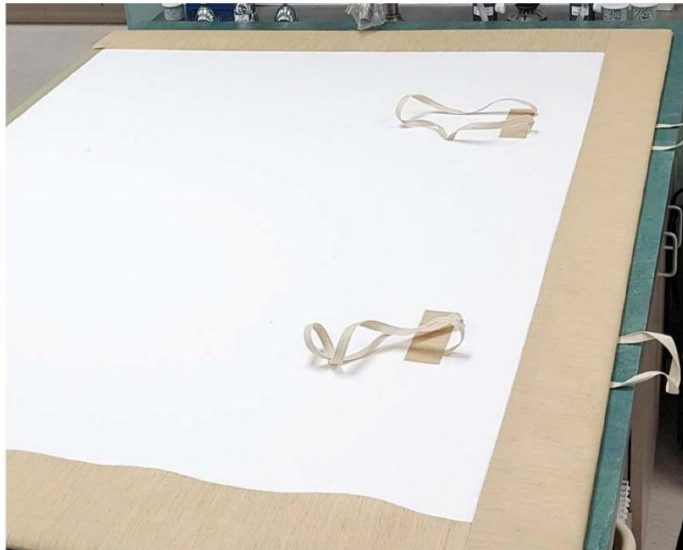
*Figure 5. Dust flaps open and closed.*

Curved pieces of flexible cloth were attached at the four corners to keep dust from entering. They usually fold in easily when the portfolio is closed, but sometimes require manual assistance.



*Figure 6. Velcro fasteners on the dust flaps*

To facilitate handling, four cloth straps of seamed bookbinding tape were inserted beneath flaps of the foam-core board that had been cut and lifted with a spatula; these were adhered using PVA. Rectangular pieces of book cloth were adhered over both the pasted cut-out flaps and about 2 cm of book tape to secure their attachment.



*Figure 7. Cloth tape handles.*

The portfolio was allowed to off-gas for one month to allow the acetic acid in the PVA to escape. The periodic table was then attached to the inside of the front cover of the portfolio by adhering the Japanese paper hinges with wheat starch paste. The next day, another Japanese paper hinge was adhered with wheat starch paste over the first hinge to form a T-shaped hinge.



Figure 8. Attachment of hinges with wheat starch paste.

## Concluding Statements

The portfolio was stored for a week and a half leaning against the wall at a slight angle. After one week slight bowing in the board was noted. This could be attributed to the pulling of the hinges on the board creating unequal tension, the board succumbing to vertical storage, or both. This is something to consider when creating a portfolio using similar techniques and materials. Another factor is durability of the foam-core boards. They are rather soft, which aids in making them lightweight, however the caveat being they are easily dented. More modification and testing is needed to perfect this type of housing.



Figure 9. Portfolio opened in the style of a sandwich board, front and back.

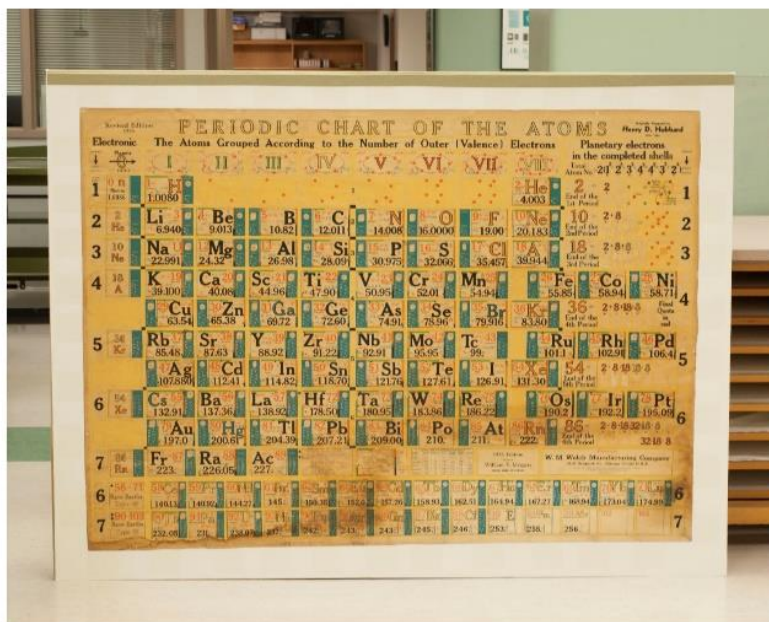


Figure 10. The hinged print in the opened portfolio standing upright; Cynthia delivering the mounted print, enclosed in the portfolio, to Dr. Kliemann's office.

## Materials Used and Suppliers:

**Foam-core Board:** Trademark name is Acid-Free Fome-Cor® from Crescent Artists. We ordered ours from The Frame Shop, a local shop in Ames, IA. Their stock comes from Twin City Moulding Wholesale Distributer <http://tcmoulding.com/>.

**PVA:** Jade 403. Talas [www.talasonline.com](http://www.talasonline.com).

**Canapetta Bookcloth:** Light Brown bookcloth used for the large flaps. 1415. Talas [www.talasonline.com](http://www.talasonline.com).

**Conservation Buckram:** Olive green 860. Archival products Conservation Buckram.

**Stiff Muslin for dust flaps:** The source for the stiff muslin roll we have on hand is unknown. If unsized muslin is used, it is recommended to size it for added stiffness for the dust flaps. It must not be too stiff, or the flaps will resist folding.

**Bookbinding linen tape:** Books By Hand 3/8" Linen Binding Tape. Talas [www.talasonline.com](http://www.talasonline.com).

**Velcro:** Can be ordered online from any Velcro brand distributor.