Developing a Universal Language to Describe Magnetic Mounting Systems

By Gwen Spicer

Magnets are amazing and the possibility of their uses in art conservation is endless. At Spicer Art Conservation, we use magnets both in treatments and for mounting artifacts. Using magnets in so many applications has made an important need evident: a **universal standard language to discuss magnetic mounts or treatments so that they can be understood and replicated by others**.

So we thought that we would share a magnetic mount that we have recently designed, and the cross section illustration to show the layers of a mount and how they might be documented for others to replicate (or alter to their own needs), or simply documented to be included with information about the artifact.

Our mount was designed for a pair of gloves that had been worn to Abraham Lincoln's funeral on April 19, 1865 in Washington, DC by Robert Van Valkenburgh, a Union Army officer and United States Congressman from New York. The gloves have been owned by the New York State Military Museum for many years and had been in a long-term museum display in the early half of last century. For their upcoming exhibition, the Museum wanted them to be included in a short-term display. These 150+ year old gloves are made of fine thin leather, and were quite stiff and misshaped from being wrapped and stored flat. Holes were present from a previous mounting method. The once black color of the outside of the leather had begun to powder and flake, mainly along the fold lines. Due to their fragility, a mount using magnets was determined to be the best. The mount can be described as follows: Once the shape of the gloves was determined, an internal form using Nomex was created for the fingers and palm of each glove. The thumb was supported separately. Stitched to the Nomex were two "L" brackets. They were positioned to support two of the fingers (image below).



The brackets were both stitched with buttonhole thread and then covered with foiled paper tape (photo below). The edges of the brackets were outlined with Volara framing tape in order to cushion the hard edges of the steel bracket. This was to be the side that faced the mount. The visible side of either glove was carefully padded out with layers of 1/4" Volara foam. For our glove mount we used block shaped, 1/2"x3/8"x1/8", N42 Neodymium rare earth magnets secured to the mount.



Much can be discussed about the nuances of the internal support and the creation of the mount, both of which are important. But it is the magnet system that we are focusing on and how to develop a more concise language to illustrate and both "show and tell" any magnetic system.



In each of the papers I have published, or any of the presentations I have given, I talk about magnetic systems as consisting of three parts:

- 1) the strength of the magnet,
- 2) the ferromagnetic material (aka what the magnet will attach to) and

3) the gap (aka the space between the magnet and the ferromagnetic material).



Developing a Language:

As a means to begin to clearly illustrate the above mounting system and the components, accurately describing the system is necessary. How do we begin to think about and write the three parts of a system? By giving each part its own symbol.

The magnetic mount description is in [brackets] with the bottom most layer listed first. The artifact is listed next in *italics.* And then finally the internal structure (i.e. the items placed within the artifact) follows within the braces (aka squiggly brackets). Within these various brackets are other symbols to indicate specific items used and the order in

which they appear. It would go something like this:

- The position of the magnet is indicated by an asterisk. The grade, shape, and size of the magnet is in parentheses and follows the asterisk: *(grade, shape, size and any adhesives used)
- 2) The ferromagnetic material, is <u>underlined</u>, it's gauge and/or thickness follows in parentheses.
- 3) The gap layers are in **bold**.

The description would then be written as follows:

[Plexiglas, *(N42, block-1/2"x3/8"x1/8" glued with B-48N), **foil paper tape, Volara tape, show cover fabric]**, *artifact (thin calf leather)*, **{foil paper tape,** steel bracket (1/16" thickness), stitched to Nomex, Volara padding}

The use of magnets is still quite new for conservators. As magnets are used more frequently, their use will require documentation. The "Spicer" word diagram of mount layers explains the materials and positioning of each clearly so that another conservator or preparator can recreate this magnetic mount (or alter this style of mount for similar needs).