Electronic Imaging and Conservation

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Abstract

Conservation techniques involving imaging that were once prohibitively expensive due to cumbersome and inaccessibly large computers, are now available to more conservators with the adaptation of easier-to-use and relatively inexpensive technology. Two years ago we wrote: "We are confident that the specific investigations proposed will become valuable models for linking this technology to art historical research, thus opening new pathways of scholarship." Today, we have found that digital imaging tools, such as simulating framing options for works of art and image cataloguing systems, are used routinely in our conservation and imaging labs.

Here are some examples of the uses of digital imaging we are researching at the Art Institute of Chicago:

1. Plan image cataloguing systems for photographs of works of art, conservation documentation and exhibitions.
2. Predict or pre-evaluate the color, cleaning and consolidation alternatives when planning a major painting restoration.
3. Preview framing alternatives for works of art before fabrication.
4. Create mosaics from infra-red video and ultra-violet imaging with greater ease and precision, and clarify their presentation.
5. Manipulate radiographs to aid in presentation and analysis. Overlay X-ray images onto photographs of the surface of paintings and dynamically adjust the balance of translucency to create greater insight into the artist's working methods.

6. Simulate the original state of early Italian drawings that have had lead-white pigments turn to black.

This technology has led us to embrace these and other related investigations with continuous fascination. We hope that recent developments in the field of color space management and the growing body of image analysis and manipulation software will lead toward the common adoption of standards for the digital representation of works of art by museums.