

The Digital Fine Art Print – Opportunities and Challenges

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Abstract

The opportunities that digital technology offers the Artist today resonate with advances over 100 years ago when technology opened up new tools to artists in the 1800's. Painters then explored the use of photography, embraced a new understanding of color, and used new paints and pigments that chemists developed to realize their new vision. Some artists used this new technology to capture fresh and even ground-breaking interpretations of the rapidly changing world in which they lived. Today it is still unclear in what manner digital technology will provide really fundamental changes in artistic vision.

The subject of this presentation is to explore the intersection of digital technology and fine art prints. As an artist, the author has used digital imaging to enhance his own art. As a scientist, he has also used technology to develop new imaging tools for artists and photographers, and he is currently involved in characterizing the stability and durability of digital prints.

The foremost method for fine art printing has been based on ink jet technology. Improvement in the quality of printed ink jet digital images has come to fruition as a result of intensive research into and development of better receiving layers for inks and better inks. In addition, inks have been developed with a wider color gamut and better resistance to light fading, making fine art prints attractive for limited edition reproductions or original works of art. Today it is not unusual to view fine art ink jet originals on display in museums.

The requirements for fine art prints – as opposed to ink jet photos printed at home for home use – are exacting. If used for reproduction, they must match the original image to very tight tolerances. There are a wide variety of textures, brightness and whiteness values, and thicknesses to choose from. The choice of fine art media is often dictated by the requirement to be compatible with or further the artistic intent. In addition, since digital fine art

prints are usually articles of commerce, and can sell for thousands of dollars per print, they must have the stability and longevity expected by the purchaser.

While the resistance of fine art digital images to light fading has been studied and characterized for several ink and media combinations, there are other factors that must be considered when evaluating the longevity of fine art prints. Such factors include the stability of the print to environmental conditions (illumination, humidity and atmospheric pollutants) as well as finishing options (varnishing and stretching canvas prints and mounting, for example). Thus it is possible to have a print that is stable to environmental degradation but is destroyed in the mounting process. Sometimes physical damage only becomes apparent over a period of many years. While conservators have characterized this phenomenon for many traditional art media, there is little experience with newer digital media. In addition, the blending of digital and traditional media offers new opportunities for artistic vision, but also opens many questions concerning stability of the final “mixed media” print. The author discusses the current state of environmental and physical testing of fine art digital media and identifies those areas requiring further study.

Author Biography

Dr. Berger received his Ph.D. in Physical Chemistry from Harvard University in 1972 and spent several years as a Senior Technical Manager with Polaroid Corporation. Dr. Berger has investigated the stability of various imaging media to light exposure and to atmospheric chemicals. He has authored over 17 technical papers and articles on several aspects of photochemistry, atmospheric chemistry, and digital imaging, and he has nine patents. Imaging Solutions provides consulting expertise in the areas of image stability and color management and publishes limited edition digital prints for digital and traditional artists. Berger has been creating and exhibiting his own fine art digital prints since 1992.