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*Comparison of the Perception and Evaluation of Paintings
Viewed in the Original versus Reproduction Formats*

ABSTRACT:

Comparability of the perception and evaluation of paintings viewed in the original versus reproduction formats (e.g., slide-projected, computer-generated, paper images) is discussed in this paper. The United States participants' responses on this project's questionnaire items related to this issue indicate a very strong tendency on their parts to see the valuable contribution to an aesthetic experience of interacting with original artworks in a museum setting. These findings are consistent with those of other research studies designed to evaluate the ability of various types of surrogates to reproduce the perceptual and expressional power of an original painting. Taken together, the contents of this paper support the saying that «when it comes to experiencing the pleasure of great art, there is nothing like the original».

Most museum professionals as well as individuals unsophisticated in the visual arts would agree with the saying that «when it comes to experiencing the pleasure of great art, there is nothing like the original». However, only a small percentage of individuals are physically able to view a painting by a renowned artist in the original in a museum or gallery setting. Rather, most people experience great works of visual art in some form of reproduction, either in a printed format, such as books, posters, and postcards, as slide-projected images, or increasingly as high quality digital images on personal devices. The aesthetic adequacy of surrogates of original artworks has been and continues to be a topic of much discussion among art educators (e.g., Hubard, 2007) and aesthetics theoreticians (e.g., Bundgaard & Stjernfelt, 2015). Remarkably, however, relatively few researchers have investigated empirically the comparability of viewer reactions to different reproduction formats of artworks with those of museum visitors viewing originals of the same works. This issue has become of even greater importance in recent years because of the

increasing use of the internet to view art by older and younger adults alike (e.g., Alelis, Bobrowicz & Ang, 2015). Yet, much more work has focused on the building of systems that produce high quality digital images of art that seem to capture somewhat faithfully the physical qualities of art than studies of individuals' perceptions of structural and expressional qualities of art images delivered by these systems. Furthermore, a limitation of much experimental aesthetics research is the fact that the art reproductions used as stimuli lack ecological validity in that they are either very frequently smaller (e.g., computer screen images) or sometimes larger (e.g., projected images) in size than the originals. Given the wide-spread use of reproductions of art in aesthetics research, one would suspect that many studies have been conducted to examine what aspects of an original artwork survive when an observer experiences it in a museum as compared with reproductions of it seen in different image formats in experimental settings. In fact, there are relatively few such studies reported in the literature since the new imaging technologies emerged. The findings of a select few of these studies are presented later in this paper.

But first, I will report the responses of a sample of United States participants in this research project to six questionnaire items (each using a 5-point response scale) dealing with their attitudes concerning the contribution of seeing original artworks and the value of a museum visit to an aesthetic experience. Forty-six female and 24 male university students ranging in age from 19 to 25 years ($M = 20.2$ years) volunteered to complete the questionnaire. With respect to their reported artistic education received in school and outside of school, the most frequent responses were *a little bit* and *some* for the former item and *none* and *a little bit* for the later item. Additionally, in response to the question, How often have you visited a museum, exhibition, etc. in the past 12 months?, 37% of the sample replied *never*, 22% replied *1 time*, and 40% replied *2 or more times*. Of those participants who said they visited a museum, the types of collections most frequently visited were modern and contemporary, ancient art, and science and technology (51%, 46%, and 22%, respectively – percentages include multiple category responses).

It was found that 41% of the sample agreed *much* or *very much* that their motivation to visit a museum in the past 12 months was to see the original works. Seventy-five percent *disagreed* or *strongly disagreed* with the statement, I do not think that it is necessary to visit a museum to learn what it displays; it is enough to visit its website. Similarly, 68% *disagreed* or *strongly disagreed* with the statement, I do not think that it is necessary to go to a museum or an exhibition to learn about the topics in them;

it is enough to read about them in books. Fifty percent of the sample reported that their motivation to visit a museum in the past 12 months was to learn more about art with a closer experience. Seventy-four percent of participants *disagreed* or *strongly disagreed* with the statement, Museums do not provide adequate information for a good understanding of the works or objects exhibited. Finally, 62% *disagreed* or *strongly disagreed* that museums are boring. Taken together, participants' responses indicate a very strong tendency on their parts to see the valuable contribution to an aesthetic experience of interacting with original artworks in a museum setting. This observation is supported by their responses to the questionnaire item, How eager are you to visit a museum in the next 6 months? Ratings ranged from *somewhat* - 28%, to *much* - 15%, and *very much* - 20%.

The remainder of this paper presents the findings of a select sample of research studies designed to evaluate the ability of various types of surrogates to reproduce the perceptual and expressional power of an original painting. One such study was conducted by Locher, Smith, and Smith (2001) at the New York Metropolitan Museum of Art. They examined the influence of image format on the perception and evaluation of pictorial and aesthetic qualities of paintings viewed in one of three different formats within the museum, either the originals seen in the galleries, as slide-projected images, or as images on a computer screen. Volunteer participants in the study were art-sophisticated and naïve adult museum visitors. They rated each of nine paintings by renowned artists (e.g., Bruegel, El Greco, Rembrandt, and Vermeer) under one of the three format conditions on 16 measures of physical and structural characteristics, aesthetic qualities, and novelty of content. Locher and Dolese (2004) had art-trained and naïve university students perform the same task in a follow-up study with postcard images of the 9 paintings in a laboratory setting.

Results of the two studies revealed that ratings of the adjective pairs which assessed qualitative stimulus properties of the compositions (items: symmetrical-asymmetrical, homogeneous-heterogeneous, continuous-intermittent, patterned-random) and quantitative features (items: simple-complex, crowded-uncrowded, homogeneous-heterogeneous) were very similar across the original and three reproduction formats for both sophisticated and naïve individuals. Moreover, sophisticated visitors consistently rated paintings across all formats as more complex, asymmetrical, varied, and contrasting than did naïve visitors. Thus, with respect to the physical and structural qualities of the art, the four presentation formats exhibited what Locher, Smith, and Smith (1999) call «pictorial sameness». This notion asserts there are surrogate conditions under which the reproduction of an original painting may be as

perceptually valuable as the original and that viewers are able to adjust to the fact that when they are looking at reproductions they are able to «look past» the limitations of the medium. That is, when looking at the Rembrandt painting on the computer screen, for example, participants accommodated to the image and focused their attention on the pictorial accomplishments of Rembrandt. They understood they were viewing a facsimile, adjusted to the limitations of the facsimile they were encountering (e.g., the smaller size of the artwork), and concentrated on the art.

On the other hand, expressional and aesthetic qualities of the art images delivered by the surrogate formats studied by Locher *et al.* (2001) did not produce pictorial sameness. Specifically, the majority of the artworks used as stimuli (those by Chardin, Christus, Giotto, Rembrandt, van Eyck, and Vermeer) were rated significantly more pleasant, interesting and surprising on average in the original format than in reproduction by all observers; ratings for the artworks by the sophisticated observers were again consistently higher than those of the naïve observers across formats. These findings suggest that when it comes to experiencing the pleasure of art, the adage «there is nothing like the original» may in fact be valid. Furthermore, as one would expect, differences in reactions to the artworks among the paintings did obtain. Ratings of the pleasingness and interest across formats for the works by Bruegel, El Greco, and van Ruisdael demonstrate that much additional research into the influence of format is needed to identify the characteristics of paintings which contribute to the hedonic value of a composition in the original compared to the reproductions of it typically seen by the public.

Taylor (2001) investigated the ability of four types of surrogates to reproduce the expressional qualities of original paintings using a research design similar to that employed by Locher *et al.*, (2001). Volunteers at the Toledo (Ohio) Museum of Art who were unsophisticated in the visual arts responded to the same 20 Western European and American paintings seen in five formats – oil on canvas paintings, printed pages from books, color slides projected on a screen, black-and-white glossy photos, and digital images on a computer's 13 in. monitor. Participants rated the ease of identifying feelings and emotions in the images differently across formats; originals received the highest average rating of 4.5 (with 1 indicating *very difficult* and 5 indicating *very easy*) followed by the color slide projections, photographs, digital images, and book page formats ($M_s = 3.7, 3.0, 2.9,$ and $2.8,$ respectively). They rated the formats on the intensity of emotions experienced in the following order: original art, color slide projections, photographs, digital images, and book pages ($M_s = 4.5, 3.5, 2.7, 2.7,$ and

2.6, respectively; with 1 indicating *very difficult* and 5 indicating *very easy*). Participants also rated the formats for their ability to re-create the feeling of looking at an oil on canvas painting as follows: color slides, digital images, book pages and photographs ($M_s = 3.6, 2.7, 2.5,$ and $2.2,$ respectively; with 1 indicating *not very successful* and 5 indicating *very successful*). The result of an analysis of variance performed on each of these three sets of data was significant, follow-up analyses were not reported. Taylor's findings demonstrate that originals were clearly superior to all of the surrogate types studied at conveying the expressional content depicted in paintings included as stimuli, as was found by Locher *et al.*

Quiroga, Dudley, and Binnie (2011) provide evidence that presentation format matters with respect to the way viewers look at and experience the same artwork in a museum gallery versus electronically in a laboratory setting. They compared the eye movements patterns of participants viewing the actual painting *Ophelia* (1851-1852) by Millais for a few minutes in the Tate Britain museum to those looking at a digital image of it on a monitor in a laboratory setting for 1 minute with no particular task. (The level of participants' art sophistication is not mentioned.) The painting depicts Ophelia, a character from William Shakespeare's play *Hamlet*, floating in a river just before she drowns. The painting is known for its depiction of the detailed flora of the river and the riverbank, stressing the patterns of growth and decay in a natural ecosystem. Quiroga *et al.* observed that the majority of fixations for the laboratory participants were directed to the figure of Ophelia, especially clustering over her face and hands. On the other hand, participants who viewed the original painting in the Tate Modern directed their gaze mostly over the undergrowth surrounding Ophelia which contributes to the context in which she lies. The researchers suggest several reasons for these differences in scanning patterns as a function of format. First, the physical behaviors of viewers differed between the two groups. Viewers at the Tate were free to alter their stance to adjust their viewing position and distance from the original to obtain more detailed information about the image such as the compositional features, the brushstrokes and texture of the paint, etc. Such movements were highly restricted in the laboratory setting where participants were seated in front of the image, unable to walk about the artwork. However, viewers in the laboratory did not indicate that they felt so restricted due to lack of actual physical behavior so as to stop them from tilting their heads to look at the painting from different angles. Standing in front of the painting, free to move about in front of it while tilting the head enabled the museum subjects to acquire greater detail about the original image.

Furthermore, as the researchers point out, «if we zoom into details in the museum, we see the brushstrokes and the texture of the paint, whereas if we do the same in the lab, we just see pixels». (Quiroga *et al.*, 2011: 17).

Quiroga *et al.* (2011) suggest two other factors that very likely contributed in some degree to the observed differences in viewers' scanning behavior in the two presentation format conditions. The first of these is the difference in size of the images. While the size of the original work was close to that of the displayed digital image in the laboratory setting, (76.2x111.8 cm *vs.* 1024x768 pixels, respectively), the difference could have influenced the eye fixation patterns. This is an issue relevant not just to the findings of this study but as Taylor (2001: 2) points out, the size of the image is a factor influencing how users perceive the many electronic surrogate forms that are now used to represent original works of art. The second factor is also universal to the issue of painting format. It consists of the special value assigned to original artworks and the cultural aura of the museum itself to which Smith (2014) has attached the term 'the museum effect'. With respect to the value of original artworks, people give more value to originals painted by famous artists simply because they have observed this fact about the art world in the news media. For example, it was widely publicized that Paul Gauguin's painting *Nafea Faa Ipoipo (When Will You Marry?)* (1892) remains at the time of this writing the most expensive painting ever sold at \$300 million. Recently, Locher, Krupinski, and Schaefer (2015) demonstrated that viewers' beliefs about the authenticity status of a painting (originals, copies, or fakes) serve as a powerful context cue that triggers, in a direct and in a mediated top-down fashion, art-sophisticated and naïve viewer's behavioral and visual responses to art.

As mentioned, the aesthetic adequacy of surrogates of original artworks has been and continues to be a topic of much discussion and some research among art educators. For example, Hubbard (2007) investigated the influence of presentation format on 14-year-olds' responses to a Renaissance painting by the artist Petrus Christus entitled *A Goldsmith in his Shop, Possibly Saint Eligius* (1449) seen in one of four viewing conditions. Participants saw either the actual painting in the New York Metropolitan Museum of Art, or as a postcard, on a computer screen in their school, or they saw the painting counterbalanced across all three levels of reproduction. The students responded to a structured interview designed to engage them in dialogue with the pictorial contents of the work as they viewed it for 20 minutes. Hubbard observed commonality in response content across formats for issues related to compositional details, the use of color, and the narrative suggested by the painting. There were also differences in participants' reactions to the

originals compared to those elicited by both types of reproduction. For example, the visual clarity and richness of the larger original led to more accurate identification of the painting's components and to more complex interpretations of the painting than the same components perceived in the reproductions. Furthermore, the narratives of participants who saw the original were more consistent with the one described in the wall label prepared by the museum. Additionally, students who saw the work in all three formats preferred the original to the reproductions. They explained that this was because the size of the original made it easier to examine the smallest details of the composition. As mentioned earlier, digital images of artworks are typically seen in a much diminished size compared to the original.

Finally, participants who compared the three formats stated that the original was «the real thing» which made them feel they had access to something unique and socially valued. This observation is consistent with the notion described above that art museums are imbued by the public with high social status and with the literature describing the contribution of the social prestige factors that have become associated with art museums and original masterworks. Smith (2014) has proposed a model of what he calls «the museum effect» that describes the many factors that contribute to what happens when people visit an art museum. Tinio, Smith, and Smith (2014) also provide a detailed description of a number of elements that contribute to an individual's experience with art in a museum context. Some of these include: 1) the motivations and expectations of museum visitors; 2) their demographic characteristics, personal histories, and level of art-related knowledge, and 3) their behaviors within the galleries.

In conclusion, the United States participants' responses on this project's questionnaire presented above indicate a very strong tendency on their parts to see the valuable contribution to an aesthetic experience of interacting with original artworks in a museum setting. The research findings reviewed in this paper provide strong support for their attitudes and those of art museum professionals concerning this issue.

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