

Art, Science and the Viewing Public: Illuminating Observations from “Art and Light” Viewers

“Art and Light” was the third iteration of the art and science collaborations between the Dunedin School of Art and the University of Otago. Both informal and formal evaluation has shown that these collaborations work well for the scientists and the artists involved, with both parties experiencing mutual stimulation (see *Scope: Art and Design* 9, November, 2014, 142-151). But what impact do these collaborative projects have on the viewing public?

“Art and Light,” the exhibition, was held in August 2015, as the culmination of the art–science collaboration (described elsewhere in this issue). It had the aim of allowing the public to encounter research that uses “light” by examining the science through interpretive artworks. Through this exhibition, University of Otago scientists were able to share the research work they carry out each day in their laboratories, which involves many diverse aspects of light. Each scientist–artist pairing worked together over many months to create a work that was “art,” but that held the essential essence of the scientific inspiration at its core, and thus had potential to pass that knowledge on to the viewer. This was our aim—but did it work?

At the exhibition, viewers were asked to complete a short questionnaire to help us understand how “art and science” was interpreted in their eyes. The exhibition attracted a large number of viewers, and 83 responded to a paper questionnaire (with 78 filling out every question). These questions queried their professional backgrounds, as well as what attracted them to the exhibition; how interested they were in learning more about the science represented; if the exhibition had changed their interest in an aspect of the science and/or their ideas about the role of art; and how they saw the relationship between art and science.

VISITOR MOTIVATIONS

When asked to identify one or more motivations that had attracted them to the exhibition, 77% indicated that they were motivated by their interest in art, whereas 41% indicated it was because of their interest in science. Additionally, 50% of viewers were motivated by their interest in how science and art can be combined. Generally, 88% of those with an interest in art, and 90% of those with an interest in science, indicated that they WANTED to learn more about the science represented in the artworks (either “very much” or “somewhat”). Of the viewers specifically interested in how science

and art can be combined, a similar proportion (88%) also expressed an interest in learning more about the science behind the artworks.

EFFECT OF THE EXHIBITION ON VISITORS

Because finding that viewers wanted to learn more about the science involved does not inform us whether this is a change of interest, the questionnaire specifically asked viewers if “viewing this exhibition has changed your interest in an aspect of the science?” For viewers attracted to the exhibition either by their interest in art or by the combination of art and science, the vast majority (70% and 85% respectively) indicated that they had changed their interest in an aspect of the science. However, for viewers mainly interested in science, only 64% expressed a change in their interest. For all groups, these levels are considerably higher than chance, indicating that exposure to the scientific aspects of light was effective in stimulating new interest in the subject.

A minority of respondents indicated that viewing the exhibition had also changed their ideas about the role of art (either “definitely yes” or “perhaps”; so 44% and 37% respectively). There was near unanimous agreement that art can help us understand science (65% agreeing “completely” and 35% “somewhat,” with only one individual in disagreement). Further, there was total agreement that art can be used to generate interest in scientific research (77% agreeing “completely,” and 23% “somewhat”).

VISITORS' BACKGROUNDS

One of the longstanding aims of the university within the art–science collaborations is to increase public engagement with the work of its scientists. Thus we sought to attract a “non-science” audience to the exhibition, and to some extent it appears that this was achieved. The dominant professional background of survey respondents was in the arts and humanities (46%), with fewer in the sciences (21%) or in both (12%). A further 21% indicated that their background did not align with either of these disciplines. It is useful to further gauge how the viewers' professional backgrounds also aligned with our key questions—including what attracted them to the exhibition; how interested they were in learning more about the science represented; if the exhibition changed their interest in an aspect of the science and/or their ideas about the role of art; and how they saw the relationship between art and science.

Viewers with a background in the arts/humanities were predominantly attracted to the exhibition because of a general interest in art (87%) and/or because they were interested in how art and science combine (53%). All but one individual expressed an interest in learning more about the science presented in the exhibition—although the level of interest expressed was generally only “somewhat interested” (47%). The majority of these viewers felt that the exhibition had changed their interest in an aspect of the science presented in the exhibition—either “definitely” or “probably” (44% and 38% respectively)—and also in their ideas about the role of art (either “definitely” or “probably”—43% and 32% respectively). There was general agreement (87%) that art can generate interest in science and that art can be used to extend our understanding of science (74%).

Viewers with a professional background in science were attracted to the exhibition for multiple reasons, including an interest in art (61%) and/or science (56%), as well as how they combine (39%). Within this group only 33% expressed a particular interest in light, which may explain why

only 62% indicated an interest in learning more about the exhibition's science. Of particular interest was the finding that within this group of viewers, 93% indicated that the exhibition had probably not changed their interest in this aspect of science (either "definitely not" or only "possibly"—both 50%). In contrast, the exhibition had changed their ideas about the role of art (either "definitely" or "perhaps"—28% and 50% respectively), and all agreed that art can generate interest in scientific research (95%) and can help us better understand science (94%). It is of note that more visitors with a science background agreed with these statements about the role of art compared with those from an arts/humanities background.

As may have been expected, for viewers with a background in both science and art/humanities, a large proportion indicated that they had been attracted to the exhibition because of their interest in art and science (50%) and in the interaction between the two (70%). This group was the most interested in learning more about the science behind the exhibition (90%) and considered that the exhibition had changed their interest in an aspect of the science (70%). For 80%, their ideas about the role of art had changed, and similarly 80% agreed that art can generate both an interest in and understanding of science.

Given the exhibition's host institutions, it was expected that most viewers would have a professional background in either science or art/humanities. However, those viewers indicating no professional association with these disciplines may be the group that is most informative with respect to the overall exhibition aim of increasing interest in science through art. Within this group of viewers, a strong majority were attracted to the exhibition because of a general interest in art (75%). Only 59% were interested in learning more about the science (and only "somewhat" so), and only 65% considered that the exhibition may possibly have affected their interest in science. Indeed, 24% indicated that it had definitely not affected their interest in the science. Despite their personal response to the exhibition, the majority of this group felt that the exhibition had changed their idea of the role of art (65%), and they agreed that art can generate interest in science (71%) as well as generate understanding about science (59%).

CONCLUSION

Although we were not able to discriminate which artworks were responsible for furthering the viewing public's general increased interest in science, we can conclude that, overall, the exhibition was successful in exposing the public to the science of light and generating further interest in this aspect of science. Overall, there was a high level of agreement that "Art can be used to generate interest in scientific research" and that "Art can help us understand aspects of science." We were lucky to have many talented artists using diverse media, a situation which will have contributed to the exhibition's success in generating an interest in science.

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