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Expanding Thinking, Effecting Change, and Strengthening Education Through Art

It is nearly impossible to define “art.” Because art encompasses such a wide variety of final products and skillsets, and because no single person can decide what *is* or *isn't* a work of art, it is abstract and open-ended—it cannot really be defined. For this reason, art can be incredibly frustrating; accepting that there may not be an answer to a problem or question is sometimes more difficult than accepting that you have the answer wrong. Perhaps this is why, in a society where black and white is far easier to understand than gray, we tend to undervalue the role of art in our lives. American culture tends to value knowledge that comes from STEM (science, technology, engineering, and mathematics) education. While the advance scientific and technological innovations that emerge from STEM education are vital to human life and growth, the effects of art on our society can be equally valuable. It is also important to acknowledge that the two fields can be complementary to each other. Considering both sides can lead to greater innovation. The role of art in society is to expand yours and others thinking, to effect change on a population, and to strengthen STEM education.

Some of the best learning spurs from artistic expression, not facts and data. It is rare that numbers can cause a strong emotional reaction. But a work of art—whether it be a painting, a novel, or a song—is usually *created* to trigger some sort of response. The 2012 documentary *Chasing Ice* is a great example of obtaining new knowledge from an art form. The film follows

National Geographic photographer James Balog on his journey to capture photographic evidence of melting ice caps. His overall goal is to show the public visible, and therefore more tangible, evidence of climate change. The film opens up with a compilation of various news clips with anchors expressing disbelief in climate change, arguing that “there is no consensus” among scientists, or that scientists use *any* statistic to prove that climate change is real. Throughout the rest of the film, Balog works incredibly hard to collect the evidence he is looking for—time lapse videos of massive glaciers receding and huge chunks of ice falling into the ocean. The end result is clear: the ice caps *are* melting and at an alarming rate. Balog used his art—photography and videography—as proof in a scientific argument, and in doing so he was able to let the environment speak for itself through his photographs. Balog used art to challenge and expand people’s knowledge about climate change, create positive change, and further support a scientific argument.

Towards the end of the documentary, Balog shows his completed project at various conferences. He compiles the photos into time lapses, and creates visual scales to help viewers understand how much the ice is receding. The audience *always* appears uncomfortable; most of them look horrified by the footage. One man, Richard Ward, was so moved by Balog’s project that he quit his job working with Shell Oil. The reason art has the ability to move us so deeply is due to *empathy*. In his essay, “Necessary Edges: Arts, Empathy, and Education,” Yo-Yo Ma discusses the importance of art integration in formal education (moving from STEM to STEAM). He sees empathy, or “your capacity to imagine what someone else is going through” (Ma 259), as an important tool that the arts can teach. He believes that empathy is greatly neglected in STEM education, where the goal is constant innovation; the arts, however, “teach us that there is

something that connects us all and is bigger than each of us” (Ma 259). For Balog’s audiences, it was far easier for them to empathize with images of environmental destruction than numerical proof that ice caps are melting. Because Balog was able to evoke empathy with his art, he expanded people’s thinking, and forced them to reconsider the existence and effects of climate change, in a way that scientists and statisticians presenting facts and data could not have.

Not everyone would agree that Balog’s project was noble or worthwhile. In his essay “Is Art a Waste of Time?” writer Rhys Southan grapples with the role of art by considering the opinions of Effective Altruists (or EAs), who tend to believe the arts are a waste of time and resources. It makes sense EAs would consider the arts to be useless; it seems that the central goals of their cause are to give *everything* you can to bettering people’s lives as directly as possible, to put that goal above personal happiness, and to be replaceable. To them the work you do is more important than who *you* are. These are not usually the goals of an artist. Artists commonly create art for their own enjoyment, or to serve some personal purpose, and often strive for uniqueness. EAs, on the other hand, argue that, “it doesn’t matter who does something—what matters is that it gets done” (Southan 436). Most artists take pride in their work, and wouldn’t consider themselves replaceable. While art can cause an emotional reaction or change opinions, it cannot feed starving children or prevent curable diseases (common goals of EAs). Art is not a very direct way to effect change, making it unvaluable in the Effective Altruist community. There is little room for art in the Effective Altruism movement. They would most likely argue that the money used to pay for the expensive equipment Balog used in his photo project could have gone to a cause that actually *combated* climate change. EAs are all about taking action to change the world as directly as possible. Art does not take direct action,

however it can certainly affect change. Balog's project is an artistic representation of a consequence of climate change. The photos were used as evidence that climate change is real and happening. Balog effected change by supplying easily accessible, understandable, and visual proof of a worldwide issue to the general public, therefore increasing the chance that his audience would be inspired to fight climate change.

Experts on climate change are always scientists of some type. Fully understanding climate change requires a great deal of knowledge about planet earth, making it difficult for the general public to understand what it is and how it affects them. It is not difficult to find scientific evidence backing climate change. For example, scientists can observe changes in earth's climate through ice cores that date back more than one million years. Balog added visual proof to the prevalent scientific evidence, strengthening the argument without complicating it. This perfectly illustrates the benefits of STEAM education, discussed by Ma in his essay "Necessary Edges." Ma doesn't suggest that art should replace STEM, but rather enhance it with another perspective, providing a more balanced education. He compares this balance to the "edge effect" in ecology, in which two different environments meet, new life is created and animals can pull resources from both environments. Ma believes that there are "necessary edges" between the arts and sciences as well—in other words both are necessary, and there is a difference between the two, but they need to interact in order for new thinking to emerge. According to Ma, "Equilibrium occurs when the information from the edges is available at the core" (Ma 260). In terms of STEAM, this means that a balanced education is achieved when a person can, for example, grapple with a big scientific issue by looking at it through an art form.

James Balog's photo project, and the subsequent film documenting his process, are good examples of the kind of innovation that can arise when we combine science and art. Balog shows that with a single art installation, thoughts and ideas can be expanded upon, positive change can be effected, and scientific data can be supported. *Chasing Ice* highlights many benefits of arts integration such as increased empathy, open mindedness, and equilibrium, and disproves that art is useless, as the EAs Southan discussed believe. The role of art is too important for it to be ignored in our society and education systems.

Works Cited

*Chasing Ice*. Directed by Jeff Orlowski, Submarine Deluxe, 2012.

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