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Extra Credit: Arizona Science Center: You Have to Research the Change You Want to See

Science and scientific knowledge are represented at the Arizona Science Center by interactive exhibits that prompt both critical and creative thinking to yield conceptual understanding. The museum space produces the concept of science by primarily focusing on the senses: sight and touch. Each area houses exhibits that centralize on a certain research idea. The visitor is drawn in by the vibrant colors and photographs of research specimens, professionals in the workplace, and real-world applications of the science that adorn the walls. The pictures construct a narrative of scientific process by visually demonstrating how an idea or question might begin in the laboratory, where a prototype or solution might develop and be approved or finalized in the industry, and mass-produced to be distributed to consumers. The exhibits in a section include all three of the aforementioned steps: research [understanding conceptual science], industry [developing a solution], and consumer products [every-day science]. Each exhibit consists of an informational placard that explained the science concept and which significant figure(s) contributed to its discovery, and a hands-on activity that provided the visitor the opportunity to discover the same fact for him/herself. These learning experiences exist to encourage young students to use “[s]cience as research... [to establish] self in the world; it is one of the pathways upon which the modern age rages toward fulfillment of its essence, with a velocity unknown to the participants” (Heidegger 170).

I visited the Arizona Science Center on “Astro Day.” Museum staff and representatives encouraged visitors to attend free science lectures or planetarium shows, create informative crafts, and subscribe to astrology magazines. This is an example of how the museum marginalized issues pertinent to American society by focusing on the space branch of science. In addition to the Astro Day festivities, the Science Center also marginalized on space science by centralizing one of the exhibit sections to flight. This section showed the history of flight development, from ancient civilizations to the Wright Brothers to the International Space Station, and everything in between. There were many photographs and models of aircraft and spacecraft in this section, in addition to several exhibits, that showed how the laws of physics and aerodynamics [to name a few] were applied to technology. Furthermore, this section revealed the relationship between science and technology as a two-way-street, otherwise described as a “struggle of world views” where “the modern age first enters into the part of its history that is the most decisive and probably the most capable of enduring” (Heidegger 170). The knowledge of physics and aerodynamics fostered the invention of the airplane, which is now used to transport people and goods in time of emergency or war. As more technologies emerged from the Space Race, people began to commercialize aircraft; society understand how technology could be used, and turned it into a business. Now, scientists and engineers work to meet demands and safety requirements to improve and innovate new products, a result of social engineering.

Social engineering might have caused museums like the Arizona Science Center to present science in a creative, innovative way to people of all ages. The museum relies on “a variety of methods for the experiential and intellectual penetration of the world in which they live, which have never been analysed with the same precision as the so-called exact modes of knowing” (Mannheim 171). The museum uses technology to explore science concepts via

kinesthetic learning. My favorite technological interactions occurred in the section of the museum that focused on neuroscience. Here, the museum centralized the issues of addiction, concentration, and brain damage. One exhibit informed readers that certain scents can trigger hormonal responses in the brain. I experienced the smells of pizza and beer at this station, one of which brought me intense pleasure. I learned that if responses are pleasurable, the brains secretes a “happy chemical” called dopamine, and will send commands to continue activity that stimulates dopamine, hence addiction. Another exhibit taught visitors about alpha and gamma brain waves. The activity engaged two people at a time; each opposed the other in a mind game. The goal of this game was to relax, reducing alpha and gamma waves, and make the ball move to the opponent’s side of the table. Courtesy of wires and bike helmets, my peers and I observed our brain activity on the digital monitor. It is important to recall that all mediums [text, photograph, film, or model] are reproduced using technology. The museum displayed information about physical and psychological brain damage with narrated pictures and videos. I believe that these exhibits used an informative, and not entertaining, learning approach for older, mature audiences to present these serious issues [car accidents, destructive behavior, eating disorders, memory loss/ Alzheimer's Disease]. “The significance of social knowledge grows proportionately with the increasing necessity of regulatory intervention in the social process” (Mannheim 171). Regardless of age, every visitor of the Arizona Science Center exits with newfound knowledge, and perhaps an inspiration to pursue a career in the STEM (science, technology, engineering, math) community to change the world.

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