

So Why Art?

Notes on Art, STEM, and STEAM

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We as artists are usually indignant when asked to justify visual art programs. Art has always been – however tenuously - a part of a liberal arts education. There are many important reasons for this, some of which I will discuss below, but they have been overshadowed by the new economic environment of educational budget cuts and a conservative critique of liberal arts in general. Our students at BCC (and community colleges generally) have already been guided into an instrumental approach to their own education: *Teach me what I need to know to get a good job*. STEM is the order of the day, and as many administrators will argue, the technological/business menu is what students (our “clients” according to the new utilitarian model) and, by extension, the market demand.

Having achieved an advanced degree and elaborated a career in the academy as an artist or art historian surely invests one in making a stand for the arts. However, indignation is an emotional, not a critical response. To respond with arguments that place art (visual art in particular) as a necessary part of a “well-rounded” education sound increasingly hollow, particularly now as critics and scholars wonder aloud about what Art (with a capital “A”) has become and where it is going.¹ That we as artists are being asked to evaluate our field of endeavor and consider our contribution to society and the academy is utterly fair and should be welcomed.² We shouldn’t be alarmed nor afraid to face and answer the question, “Why art?”

¹ See Arthur C. Danto, “After the End of Art: Contemporary Art and the Pale of History.” (1997)

² Administrators and legislators must be open to answers to these questions that are both inside and outside of their own paradigms of what is important in education.

But First, Why Not Art?

Up until the end of the twentieth century, to be able to discuss contemporary art without resorting to mockery or dismissive hand-waving gestures was considered an essential sign of good upbringing, of “class,” of *taste*. The nouveau riche, upon arriving on their cities’ social scenes often are compelled to embark on a crash course in taste – learning what to say and not to say, and more importantly what to buy when it came to art. Oil sheiks, tech wizards, hedge fund traders build their collections, paying astounding sums for works from the canon to prove to other, older money that they are worthy of belonging to the club. This class dimension to “knowing” art still persists, and it resonates, although less forcefully over time, with college boards of trustees. This used to be sufficient for trustees and donors to be persuaded to donate to colleges’ permanent art collections or to build art buildings and galleries. The Carnegies and robber barons of the 19th century built art museums; the dot-com moguls now build technology centers.

The class value of acquiring “taste” in art and music is waning in the US. Attention is moving elsewhere. Learning how to be rich together is surely not a good reason to support arts education – particularly at a community college.

So What About Art and STEM?

According to a recent Bud Light radio ad (the series is called “Real Men of Genius”): “So what do you do with a Master’s degree in Art History? You get a nose ring and pour lattes in a fancy coffee shop...” The joke is obvious: the art history degree is worthless, qualifying you only for a near-minimum wage job at Starbucks. We understand the truth in it, which is what makes it funny.

At first glance, art wouldn’t seem to have any demonstrable use value in the STEM scheme. However, perusing the current discussions in articles and online forums, I’ve found that the dominant mode of defending arts programs from

budget cuts is to argue that training in the arts makes students *better* at Science, Technology, Engineering and Mathematics. In this literature one will find many references to Leonardo Da Vinci and Steve Jobs – often within the same paragraph.³

“...What made the Macintosh great was that the people working on it were musicians and poets and artists and zoologists and historians who also happened to be the best computer scientists in the world.” - Steve Jobs⁴

One theme found in the pro-arts education literature is that early and ongoing training in the arts is what distinguishes the true innovators and creative geniuses in the sciences from average researchers. One such article by Robert and Michele Root-Bernstein examined the connection between Einstein’s musical training (he was an accomplished violinist and pianist) and his discoveries in physics. They cited his biography, where Einstein elaborated on his thought processes and asserted that he worked intuitively, thinking not in equations but in “... images, feelings, and even musical architectures.”

In other interviews, [Einstein] attributed his scientific insight and intuition mainly to music. "If I were not a physicist," he once said, "I would probably be a musician. I often think in music. I live my daydreams in music. I see my life in terms of music.... I get most joy in life out of music." (Calaprice, 2000, 155) His son, Hans, amplified what Einstein meant by recounting that "[w]henver he felt that he had come to the end of the road or into a difficult situation in his work, he would take refuge in music, and that would usually resolve all

³ "Why Teach Art?" Michelle Marder Kamhi. This article was reprinted, with source notes, as "Why Teach Art?--Reflections on Efland's Art and Cognition" in the March/April 2007 issue of Arts Education Policy Review, pp. 33-39. <http://www.aristos.org/aris-06/efland.htm>

⁴ "Triumph of the Nerds: The Rise of Accidental Empires" PBS. (1996)

his difficulties." (Clark, 1971, 106) After playing piano, his sister Maja said, he would get up saying, "There, now I've got it." (quoted in Sayen, 1985, 26) Something in the music would guide his thoughts in new and creative directions...These speculations about music, space and time in Einstein's imaginative thinking certainly fit with something the physicist told the great pioneer of musical education, Shinichi Suzuki: "The theory of relativity occurred to me by intuition, and music is the driving force behind this intuition. My parents had me study the violin from the time I was six. My new discovery is the result of musical perception." (Suzuki, 1969, 90) They also fit with the manner in which Einstein expressed his greatest praise for a fellow scientist. Neils Bohr's work on the structure of the atom, Einstein said, was "the highest form of musicality in the realm of thought." (Schilpp, 1979)

As the authors of this article point out, "No wonder so many of our students don't like math and science: what is there to imagine and feel?" These insights into Einstein's creative process would seem to turn the Art vs. STEM argument on its head. It is not just that art education is important for its own sake. More importantly, our science education doesn't have enough art in it.⁵

MSU Honors Program study

The Root-Bernsteins also conducted a study at Michigan State University contacting scientists and engineers who graduated from MSU's Honors College between 1990 and 1995. They questioned them about their childhood, young adult, and mature adult participation in various arts and crafts and enquired

⁵ "The nitrogen in our DNA, the calcium in our teeth, the iron in our blood, the carbon in our apple pies were made in the interiors of collapsing stars. We are made of starstuff." – Carl Sagan, "Cosmos." Sagan implicitly understood the art in astrophysics.

about various measures of their innovativeness, including the number of patents they had obtained and the number of companies they had helped to found.

Their findings clearly showed that the more arts and crafts a person masters, the greater their probability of becoming an inventor or innovator. In the first place, Honors College graduates in the sciences, technology, engineering and math were ***three to eight times*** as likely to have had lessons in any particular art or craft as the average American. Those Honors College graduates who have founded companies or produced licensed patents have even higher exposures to arts and crafts than the average Honors College scientist or engineer.

“The most interesting finding was the importance of sustained participation in those activities,” said Rex LaMore, director of MSU’s Center for Community and Economic Development. “If you started as a young child and continued in your adult years, you’re more likely to be an inventor as measured by the number of patents generated, businesses formed or articles published. And that was something we were surprised to discover.”

Musical training seems to be important. The researchers found 93 percent of the STEM graduates reported musical training at some point in their lives, as compared to only 34 percent of average adults, as reported by the National Endowment for the Arts. The STEM graduates also reported higher-than-average involvement in the visual arts, acting, dance and creative writing.⁶

⁶ **A young Picasso or Beethoven could be the next Edison**

MSU Today. Kristen Parker , Eileen Roraback , Rex LaMore. October 23, 2013

<http://msutoday.msu.edu/news/2013/a-young-picasso-or-beethoven-could-be-the-next-edison/>

The message is that there could be something to arts training that propels the visionaries and geniuses beyond the merely competent. I'm enough of a scientist to know that these studies do not prove a causal relationship. Nor do they control for other factors of background that would likely coincide with childhood arts training, such as family income and the sociological/psychological benefits that come with that. But the evidence that shows that an *ongoing* pursuit of artistic endeavors correlates with innovation and scientific discovery is compelling.

A case can certainly be made that the arts are important corollary to a strong STEM curriculum, and that science and math curricula would be well served with a stronger foundation in the arts (the push for a "STEAM" curriculum). This could be grounds enough to argue for arts education and for the valuation of the arts in general. However, I think this is an impoverished paradigm that is still myopically focused on answering: "How will this help me get a job?" This is surely a much different question than, "How can I become a complete, integrated, ethical and compassionate human being?" This used to be considered the provenance of the university, but perhaps no longer. But it is also different from asking a more practical and relevant question for the community college, "How can I get a job, *and* leave college with a broad and deep skill kit, with the confidence, intellectual resources and creativity to make a living in an ever-changing environment?"

Why Art – and Not Just STEAM?

One of my dear friends, and one of the finest artists I know, teaches philosophy at NJIT. He advises me that to open my Art 101 classes, I must always remind my students, "You're going to need this." Each day in my classroom I am making a case for art. One of the books I teach is Lewis Hyde's "The Gift: Art and the Erotic Life of Property." This wonderful book explores the two-fold aspect of art – its life as a gift (first, in the form of inspiration to the artist, and secondly, as an object that is given to the world) and as a commodity. Art objects can surely be sold, traded and held as objects of investment, but without the gift, there is no

art. The other aspect of the gift nature of art is that as a gift, it must keep moving. When it ceases to move (from person to person) it dies. Art as a gift is not about STEAM. It is not a “core requirement.”

What I try to impart to my students is my view that art is the *theory of everything*:

- *Art objects are the historical, objectified records of human consciousness.* They are the crystalized record of a moment in the evolution/development of the mind(s) of our species. We can begin some 30,000 years ago in the caves of Chauvet and examine ways in which human beings have manifested our social relations, how we imagine ourselves, our understanding of the cosmos and our place within it manifested in stone, earth, wood, paint, and metal. Art materially reaches back to our ancestors and connects us to our descendants. For this reason alone, the study of art deserves a *central* place in any college curriculum.
- Art is about celebrating cementing our connections and connectedness. In the languages of southern Africa, the word “ubuntu” is used to describe this connection. It means that I am a person *for* other persons, that my humanity is inextricably linked with the humanity of all other human beings – those who have come before me, those who exist now, and those who will live beyond me. My personhood, my humanity is intrinsically social: my self as a human being cannot be logically isolated from this greater web of social relations. Art is specifically a result of and a manifestation of ubuntu, of this nonlinear temporal and social connection. The study of art is part of learning to see oneself through the illusion of “individuality” but as a world citizen – with responsibilities to everyone – human and non-human, living and nonliving that are a part of this world. This is also a definition of beauty.
- The attack on art (from the right) or disinterest can be seen as a part of the economic/political momentum that seeks to atomize us into the greatest possible number of viable consumer units. Each of us should confront the market and the state as alienated individuals with illusions of

our “uniqueness,” our power based in “flexibility,” “entrepreneurial spirit,” or “agility in the marketplace.” These are illusions precisely because there is no real power located here. We are *all* adjuncts in this university. Free to come and go as we please; free to be exploited as we may.

- Art creates illusions in order to inoculate us from the truly dangerous illusions that rob us of our money, our self-esteem, our peace, our connections to others, to our unique selves.
- Art is messy and is at home in a messy world; it is fearless in confronting big questions – and is OK with not answering. Art is essentially about grappling with complexity - about being comfortable in confronting discomfort.
- Art (at its best) dares to imagine life without those who cannot imagine the world without them. When critical speech becomes criminalized, art steps in to fill the void, creating subtle coding for dissent. It interrogates pseudo-patriotic narratives everywhere. It is the keenest critic of Power. From Cairo to Beijing to Gaza to Ferguson to Paris it is the common language of the dispossessed.
- Art is the bulwark against anti-intellectualism that threatens to turn the US into a cultural backwater of vapid consumerism and narrow-minded fundamentalisms for which the Apocalypse has become an acceptable answer. What other field of academia or inquiry is as fearless when it comes to examining every aspect of human history and social relations? It is no coincidence that when authoritarian regimes seize power, artists are among the first to be herded into the prisons or disappeared. Witness the attack on Charlie Hebdo, and the destruction of statues and bas reliefs by ISIS in Syria and Iraq. Art is for those of us who would just as soon not return to the 7th century.
- Art reminds us of our origins and our “species being” through the simple act of creating objects with our own hands. It is astonishing to see how helpless our digitized students have become when faced with the task of making things. When technology fails us, when the big electromagnetic pulse fries all of our electronics, when Skynet becomes self-aware, or we

are extracted from the Matrix, it will be very useful to have an artist around.

I became an artist in prison. (I spent 13 years in US penitentiaries as a result of my political activism in the 1980s. My case was taken on by Amnesty International and Human Rights Watch Prison Project.) I produced hundreds of paintings and images; I wrote thousands of letters, numerous articles, and two books. Each was a message in a bottle to the world. I curated my first show from solitary confinement in my cell at USP Marion. This exhibition, *Art vs. Death* (art work by prisoners from around the world to protest the death penalty in the US) traveled to 9 different countries. I was interviewed by the German newspaper, *Die Tageszeitung*, about the show, and the reporter asked me about my own artwork. She suggested, "It gives you something to do." I responded, "No. It gives me someone to *be*." Ubuntu. The theory of everything.

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