Interlude: Technology and Arts Education

Bertram C. Bruce

University of Illinois at Urbana-Champaign, U.S.A.

What you’ve got here, really, are two realities, one of immediate artistic appearance and one of underlying scientific explanation, and they don’t match and they don’t fit and they don’t really have much of anything to do with one another. That’s quite a situation. You might say there’s a little problem here. ([Zen and the Art of Motorcycle Maintenance: An Inquiry into Values], by Robert M. Pirsig, 1974/1999)

What is the relation of art to technology? And what does that tell us about the best role for technology in arts education? Is it a useful tool, a distraction, a competitor? In his book, Pirsig explores classical vs. romantic understandings of the world. Early in this exploration he points out that a technology, such as an electronic schematic, is of interest to the classical view while art is for the romantic. The “little problem here” is that the relationship of arts and technology is estranged. Here, technology and art are in parallel realities.

But at least since Socrates and Phaedrus went for their famous walk beside the Ilissus River, art and technology have also had a close, yet often stormy, relationship. At one time they present a model of wedded bliss, while at another, they fight, as if acceptance of one would spell the end of the other.

In order to understand this relationship better, it is worth turning to Plato, as both a great artist of words and one who has much to say about art and technology, learning and life. His mentor, and in a sense, alter-ego, Socrates, describes himself as “a lover of knowledge.” He seeks the best avenues for learning and deprecates, for example, the ability of nature to teach him, preferring instead direct dialogue with people. It is perhaps not so surprising then that he questions writing and painting as well:

I cannot help feeling, Phaedrus, that writing is unfortunately like painting; for the creations of the painter have the attitude of life, and yet if you ask them a question they preserve a solemn silence. And the same may be said of speeches. You would imagine that they had intelligence, but if you want to know anything and put a question to one of them, the speaker always gives one unvarying answer.

Socrates doesn’t see any intelligence in writing, or in painting, and by implication in any of the arts of his day. And yet, there are complexities. We would not know of Socrates today had Plato not turned his dialogues into great literature, and even Socrates himself says to Phaedrus:
For only hold up before me in like manner a book, and you may lead me all round Attica, and over the wide world.

What is Plato trying to teach us? Is the source of enlightenment limited to dialogue, even dialectic? What is the role, if there be one, of creations through writing and painting?

In the opening quote, Robert Pirsig, who is a modern-day Socrates, struggles with what appears to be a similar issue: Are there two distinct realities, one of appearance and one of explanation, which can never be reconciled? Must we choose between one pole representing imagination, creativity, synthesis, and understanding and another pole representing measurement, analysis, and explanation?

Art and Technology Tell Their Stories

These questions assume an added dimension when we ask where technology belongs. At first, we’re tempted to place it on the side of Pirsig’s “scientific explanation” in contrast to his “artistic appearance.” Doesn’t technology fit with the world of numbers, objects, and analytical thinking? And while we might quibble that art is more than just appearance, we might be comfortable saying that it stands apart from, and even provides a welcome counter to, an overly-technologized world.

But then, what do we do with Phaedrus? For Socrates, the activities that we might consider to be archetypal arts, are deemed examples of the inadequacy of technology. In his view, both writing and painting are technologies, not counters to it. What we see as “arts,” which afford creative, holistic, and critical perspectives on experience, are thus for him mere technologies, with a less-than-human essence. As such, they cannot support explanation or learning, but only appearance.

It is worth noting that Socrates’s complaint about writing is seen as so forthright, yet so obviously wrong, that it has become an emblem for those researchers and teachers invested in the computers and writing field. They see Socrates accomplishing three things: He articulates that writing is a technology, so that “computers and writing” is a sensible activity. He then identifies the limitations of traditional technologies for writing. Finally, in doing this he opens wide the field for new technologies, such as hyper-text, which foster more dialogical writing.

There seems to be a complete confounding of these relations. Technology is simultaneously seen as the antithesis of art and as that which defines it. On the one hand, technology bears some crucial relations to the reality of science, analysis, and explanation,

which seems not to “match” or “fit” with the reality of art. On the other hand, technology seems to be art. Under this latter view, one might, as Socrates does, relegate technology/art. to the “appearance” realm, or instead characterize Socrates as simply making the case for an older technology/art, namely oral discourse, over its new competitor, writing.
But the issue is more than just deciding in which of Pirsig’s realities we might place technology. There is a deeper connection, one which hinges on how art and technology each see the other. Let’s start with art, or rather, a story-teller, called Art.

Art tells us many stories. These may relate to life, nature, ideas, and often to art itself. One widely-accepted story says that whatever art may be, it must be “more than the technical.” For many people, this story is essential to the identity of the whole enterprise of art. It is what distinguishes art from business, science, or daily life. At the core of that story is that whereas many activities demand excellent craft (read as “technology”), art is more than mere craft. In this narrative, art exists to remind us that technology is not all. In fact, a consistent theme across media and genres has been the dysfunctional effects of overreliance on a technological reality (e.g., *The Matrix Trilogy*), and the need to engage with a reality that is more complex (even inconsistent), more subtle, more integrated, and essentially, more human.

This story, which Art tells us, is widely accepted. But Technology is also a way of making sense of the world; it also tells stories. When the Technology family gathers, its members tell their stories, and the narrative frame of the one told by the new information and communication technologies might well have been plagiarized from Art. In this Technology story, the “old” technologies are linear, verbal-based, static, and impersonal. In contrast, new media can engage all the senses, connect across time and space, as well as adapt to the experiences, interests, and abilities of the user. Art, at least the “old” art, is embodied in the old technologies, and thus suffers by comparison in the same way. Think of a dusty book, which a young person may read only on command, if then, vs. an immersive virtual reality, which adapts to the user. When asked a question, the former “preserve[s] a solemn silence,” whereas the latter engages in dialogue. According to this story then, it is Technology that provides a reality more complex (even inconsistent), more subtle, more integrated, and essentially, more human. The engagement of young people today with blogs, e-zines, web forums, digital photography, video games, cell phones, online music sharing, and other such technologies should at least alert us to the possibility that there is some truth to the story Technology tells.

What is most interesting here is not simply the existence of two differing accounts, but that in each story, the *self* defines its essence in the fact that it is different from, and *more than*, the *other*. Art (that which is not-technology) says it may have many forms and functions, but whatever it is cannot be reduced to technical devices. In contrast, Technology (that which is not the old technology/art) says that its new environments are irreducible, and thus essentially different from (better than) the old technology/art. Each story thus succeeds only by depreciating the reality of the other.

Now, we have three possible relations between art and technology. One is expressed in the problem Pirsig poses, that the two realities “don’t really have much of anything to do with one another.” A second is embodied in the view of Socrates that art is essentially technology. However one may value them, the two are inseparable. A third perspective shows us that technology and art are antitheses of each other, in fact, that the essence of each is to be not-the-other.
Technology in Arts Education

It might be useful at this point to ask how technology is positioned with respect to arts education. Is it the contrast to art or the essence, or something else entirely? And how should we think about that relationship?

There is a wide range of projects, technologies, and curricula, several presented in the chapters here. A very incomplete list of student activities might include: get to know the artist through internet research; explore new imaging technologies, such as digital cameras, scanners, imaging software, printers, and computers; create animation in the classroom; create and study visual music; produce digital video; integrate digital art with fantasy / sci-fi; or share poetry in online libraries.

The possibilities for arts education and technology go well beyond those just listed, and would make even Socrates take notice. For example, in the VR-Savvy project, three eighth-grade girls could be walking beside the same Ilissus River. One decides to make the river meander a bit more. She picks up a bend and moves it into the adjoining field. As she slowly sets it in place, another girl guides her, saying “not too far, we need to leave room to add a house.” Another girl says “Let’s put a moon in the sky!” They are building this world inside the CAVE, a multi-person, immersive, virtual reality theater.

Umesh Thakkar, a University of Illinois researcher, Urbana Middle School technology teacher Pam Van Walleghen, science teacher Kevin Erlinger, and art teacher Renee Cooper, initiated this project to help girls achieve comfort with and fluency in technology. A children’s story author and specialist in story-telling who is also involved with the project, Betsy Hearne, says,

Creating imaginative story worlds in the CAVE generates a natural and energetic response from preadolescent girls as they make a dynamic connection between their everyday lives and the complex technology that will shape our future.

The project is also emblematic of the relationship between art and technology we see in the world beyond schools. It becomes ever more difficult to say where computer design ends and artistic creation begins. It is also apparent from the diversity and amount of work along these lines that technology in arts education mirrors, if not exceeds, the extent of technology in the arts world in general.

Despite the many intriguing examples, there is a danger of a missed opportunity. This danger arises from the two prevailing stories told by Art and by Technology. From the Art side (often in an effort to demystify), technology is often seen as “only a technique.” Thus, it is a fixed, and limited tool, of interest only insofar as it addresses an artistic problem. Conversely, from the Technology side, art may be seen as that body of stuff which can be stored, organized, searched, and displayed, but is ultimately irrelevant to the lives of young people today, who find their excitement in new technologies, which are dynamic, individualized, and more alive.
The Arobase

It is time to move beyond the simple dichotomies. Art and technology are not competing, not antitheses, and not irrelevant to one another. Nor is their essence in being not-the-other. Whatever else they may be, they are ways that people make sense of experiences and create opportunities for enlarged experiences in the future.

A view of both art and technology that is not deprecating of either has much to recommend it. For one, it would facilitate our exploration of the interpenetration of technology and arts/culture/history, as exemplified by something like the @ sign used for email. I see it everywhere on the streets in Paris, where I am writing now. Slipped in between the lovely cafes, the art galleries, the clothing shops, and other places we associate with Paris are internet cafes, computer stores, and video game palaces. They typically use the @ as a way to say “computer stuff here.” That is a tangible manifestation of how new technologies are infusing our lives. At the same time, the @ is not a mere information symbol; it is presented with élan, and often looks like a mouse, a cat, or some other cultural representation. Many French call it “escargot” (in Czech it’s “roll-mop,” in German, “monkey’s tail,” etc.). Some call it “Ubu” after the title character in Alfred Jarry’s surrealist play, who wore it on his chest in 1896. One clothing store, which has no computer within it, nevertheless uses @ in its logo.

These examples (and there are many more) exhibit what Anthony Giddens calls structuration – mutual re-formation of the old and the new. The technology is not autonomous, but part of us, and we need to understand that interpenetration. One consequence of such an understanding is that we would no longer mystify someone like Leonardo Da Vinci, as existing in a time far away and long ago, when people could be interested in both art and technology. Our admiration might actually grow as we merged the two realities and understood more of what he actually did.

Moreover, a view of art and technology as different sides of the same process of human creativity would lead to a stronger critical stance, one that accepted neither canons of art nor technologies as given, beyond our power to create or understand. One might dare hope that it would lead to deeper understanding of other people as well.

Reference