

THE CYBERNETIC AESTHETIC

INTRODUCTION

When most english speaking people think of the word *aesthetics* they probably call to mind some study of art inspiration and appreciation. The subject can conjure sublime visions of painters committing breathtaking sunsets to canvas plastic for some imagined audience after their deaths, playwrights and dedicated poets romantically wasting their lives in letters, composers honing their phrases into sweet and sour music. A more educated reader might note that the topic encompasses all the histories of philosophy and theories pertaining to the criticism of taste; that we must also cite the psychological, sociological, and political implications.

It may surprise the non-artistically inclined to discover that artists in general do not like the subject of aesthetics. It bores them! They would much rather get on with the work. Even most of today's academic philosophers dismiss aesthetics as having nothing relevant to say, finding as they do more value in the scientific disciplines.

Why then, one may well ask, would the author of this volume add injury to insult and position the poor denigrated word *aesthetics* next to such a soulless, loathsome term *cybernetics* to form his title? Cybernetics refers to the study of control processes in machines and organisms. This subject seems to many people the exact opposite of the free artists' concern for non-regulated expression and can evoke horrible technological terrors. We have already witnessed mindless rows of computerized factory robots replacing human workers, totalitarian industrial societies run by diabolical fascistic dictators, environmental degradations. Technological advancement has not only taken the civilized world to the brink of unthinkable destruction with our atomic and other weapons of mass destruction, many believe it threatens to unravel the very fabric of life with its insidious byproducts. Because of these things many thoughtful people feel terribly afraid of the machine. Science fiction authors can augment these fears with extreme scenarios. Imagine mutant control mechanisms escaping from their scientific test tubes and joining forces to form a giant computer monster mind cloning itself like a virus and reducing us all to slavery (or perhaps even extermination) resulting in the complete conquest and domination of the artificial over the natural. Scary stuff!

This author shares these concerns but in all candor must inform the reader that he does not see this demonization of scientific and technological progress as particularly helpful. As a matter of fact this author dares to defend the poor, misunderstood machine! He sees technology as a powerful angel, an angel with an admittedly dark side that we must learn to respect, but an angel none the less. This angelic ally has bountifully blessed our kind with innumerable gifts. . .

Please do not think that this view has emerged easily. Many people with whom I have shared these ideas have exhibited an almost visceral negative reaction and thinking about these notions can create a disturbing mental tension that this author has not found himself immune to. Remember however, that we have long taught our students that tension is an integral part of artistic endeavor. . .(tension created by juxtaposing aesthetics and cybernetics)

I suspect that our Western culture has tended to program us to distrust technology. Many of our most popular stories have our creations destroying us. Frankenstein, the image of the beast

Cybernetic aesthetics introduces one to a set of languages, esoteric languages that you can learn to decode. These languages and works executed in them inform relationships like determinism and free will...

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1. ORIGINS

Perhaps we have it backwards. Did we create technology, or did *it make us*? Could what we refer to as technology have existed before us and chosen¹ our ancestors to act as participants in some evolutionary process of artificial selection? Technology preceded us. Birds have used technology to build their nests and bees to make their hives for millions of years. Beavers use their particular techniques to construct their dams. We have observed sea otters floating belly up with rocks on their abdomens which they use to break shellfish open. Chimpanzees, the creatures whose genetic blueprint most closely resembles our own, make clubs from branches and bones. They also fashion precision tools by stripping leaves from twigs to dip into termite mounds, capturing a few tasty social insect morsels. The list could go on. Now, these creatures did not learn their skills from us did they? Although it will sound abrasively backward to many ears,

¹ I do not at this stage necessarily mean to infer that technology had a conscious choice about determining our evolution. I speak in the sense in which an evolutionary scientist might say that

we cannot escape the facts that technology came before we did and that we would not even exist as we do today if not for technology.

Imagine your world without technology. In your mind's eye remove all of it from your environment. You will find yourself naked to the elements. You and your relatives would have to eat what you could kill yourselves and fight for scarce food.² Scavenging would not revolt you. You would fight hand-to-hand and bite with no weapons other than your natural³ gifts available to you. You couldn't even throw rocks nor wield a club. Imagine hunting or defending yourself from predators with no weapons. Your clan would have few if any games to entertain you by day and no fire to warm you at night. What would your shelter consist of? Your habitable area would consist of only the temperate climates of course.

I imagine some may argue this sounds like paradise, a simple grounded primal life with the hardships balanced by close family ties, the night's cold tempered by huddling for each others' body heat. Yet, what else might we miss in this imagined world with no technology? Would we, for instance, have any music in this world? Any poetry? Any art?

² We need not imagine food as necessarily scarce in our non-technological scenario. The bonobo primate, a close relative of the chimpanzee, has what we could reliably describe as much more sexual activity than fighting. Researchers attribute this to plentiful food in their environment, with the females not having to compete with the males for it.

³ I use the word *natural* here in a provisional sense. I will define it more precisely later.

For the sake of precision, let us define music as the skill of combining sounds into patterns that express emotions. Now if one allows at least some of the animals that surround us the ability to perform this skill,⁴ one could then say that music would exist in our imagined world without technology. Your musical catalog would consist wholly of the likes of singing birds, croaking toads, chirping insects, and those sounds that you and your companions could vocalize and clap to. However, as soon as someone starts pounding a hollow log like a drum at a dance⁵ party we have a different situation. We would then have what we could call truly human music, our music, differentiated from animal music. The difference comes with our particular use of and relationship to technology.

What about poetry? We can probably agree that many other creatures have some form of simple communication. Some scientists even argue that a few animals might use language to communicate. Cetaceans have complex brains and perhaps whale song consists of stories. We continue to make the attempt at communicating with dolphins. We have taught chimpanzees to talk to us and each other with sign language, so the ability does appear at least innate in some other species. Of them all, however,

⁴ Substitute instinctual necessities for the animals rather than emotions, if you like.

⁵ This line of thinking would make dance the oldest “art form”.

we still see only ourselves as capable of relatively complex communication by vocal sounds and we seem definitely unique when it comes to the technique of written language. Once again, we may share an art form with other creatures but our exceptional relationship to technology sets us apart in important ways. The above non-technological scenario we called into being not only means subtracting all traces of machinery, tools, and technological weapons from our world, it also means drastically altering if not eliminating all forms of human art. If not for technology we would have neither our uniquely human songs nor our stories!

Scientists typically spin out the story of our technological origins around the making of our first stone tools which they say occurred about 1,900,000 years ago. They present as evidence objects that the English anthropologists Louis Leakey, his wife Mary, and their son Jonathan found with the remains of a creature they named *Homo habilis* in Tanzania's Olduvai Gorge. The Leakeys used the Latin for "able man" or "handy man" to indicate the importance they attached to the earliest of tools they found with the creatures' remains. *Homo habilis* apparently used hard cobblestones to work flint (black quartz) into cutting and chopping tools by chipping off flakes to form sharp edges. Subsequent discoveries have uncov-

ered whole industries of stone age axe making. Our ancestors figured out the best sources of stone and the best methods to work the stone and passed this knowledge onto their children. This passing on of the methods to skillfully work stone and other materials represents a great turning point in our evolution: the beginning of our Knowledge Age.

Let us define our term. Our word *technology* derived from the Greek word *tekhnē* which means skill, or art. The word *technique* came from a related Greek word *tekhnikos* meaning “of art.” In ancient Greece these words simply implied skill in any activity and we still invoke this kind of meaning when we speak of the “art” of conversation, or the “art” of war. This ability of ours, this *tekhnē* with which we exploit our environment truly sets us apart from most of the other creatures that we see surrounding us. Again, we did not create this *tekhnikos*. Many creatures practice the skillful manipulation of their environment but our peculiarly strong relationship to this artful adroitness separated us out from the rest of the animal kingdom and put us on our present path. Our remote ancestors scored big as the most skillful players around in the game of manipulating their world for their own gain. The suffix *ology* of our word in question (which came from the Greek word *logos* meaning word or speech) indicates “a branch of

learning.” With this in mind we can now complete our definition with “the body knowledge, the know how, on the skillful and useful manipulation of our environment.”

Scientists cannot go very far passed their evidence and so their imaginations are limited. Perhaps the first tools would be musical instruments rather than weaponry...

specialization compared to skill at skill

magic

One could say our kind suited the feedback of brain and tool

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2. LANGUAGES

Semiotics takes us into some very interesting territory. You now read this sentence but how do you know what it means? How do you understand it, relate to it? The semiotician would argue that we need to see our languages as systems of linguistic codes composed of arbitrary words, or signs, with each sign containing no inherently natural meaning on its' own. Words have histories (or etymologies) and these histories show that a word's meaning often changes over time. Take the widely recognized English word *silly* for instance. Today one would use the word *silly* to describe a person or thing unworthy of serious attention. Etymologically, *silly* came from the Old English word *gesælig* or blessed! It evolved through Middle English as *sely*, meaning fortunate and holy; to the form *syly* meaning defenseless and pitiable.

Let's look at another widely recognized English word *elephant* for our second example. Anyone who understands English knows *elephant* as the

big land animal with a trunk and big ears that came from the African and southern Asian continents. The semiotician would again stress that we should understand the word or signifier *elephant* and the signified animal species referred to as arbitrarily related, that no inherently natural *elephantliness* exists in the animal. We, as users of the particular language system English, literally as-sign “elephantliness” to the animal.⁶

How does all this relate to aesthetics? Think of literature. Each word-sign in any text would express only as-signed definitions but the skillful author or poet somehow ends up weaving these feckless signifiers into code strings of marvelous meaning, meaning that an audience can decode. In the plastic arts sculptors and painters move us with their spatial and visual languages. Composers, architects, photographers, filmmakers, all speak to their audiences via their particular language system, linguistic code systems containing no naturally occurring meaning, only audience as-signed meaning.

⁶ This reminds me of the old parable of the five blind observers checking out our friend the elephant. As each blind observer feels around the animal, each comes up with her own conclusion on what she observes. The first proclaims the animal a snake having felt the trunk. The next announces he feels an umbrella having studied the ear. A third thinks she feels a tree having sampled a leg. The next believes he could camp out in such a sturdy well-made tent. Prudence won't allow me to relate what the last observer thought she felt. Anyway, each observer, based on their limited observation, as-signed their own meaning to what they perceived.

We need not limit our examination of aesthetics to traditional ideas of art. People who like sports know the aesthetic experience. When an ice skating fan's favorite athlete accomplishes a flawless performance in the rink, a scene of beauty, harmony, balance, and skill elicit a genuine aesthetic experience of appreciation in the fan. Can we not say that the athlete, through her dedication and discipline, has learned and shows great fluency in the ice skating language? Philosophers and theoreticians go back and forth on the arguments that come out of the gritty details of these ideas, and I shall include them in this treatment, but we must include how artistic languages communicate to audiences in any discussion of aesthetics.