Object Artifacts, Image Artifacts and Conceptual Artifacts: Beyond the Object Into the Event

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When asked to respond to the question "what is an artifact?" I initially had several divergent responses. Because of my varied background and current position, I responded to thisquestion in three related but different ways: as an anthropologist (the area of my initial graduate training), as an art historian (the area of my Ph.D.), and as a professor of new media (my current position).

To an anthropologist,what comes to mind is a general category of things that certain anthropologists study, specifically, any object that was created, modified, or used by a human being. Anthropologists also refer to artifacts as "material remains," and generally they are portable objects rather than structures or buildings.

To an art historian, artifacts are foundational on two contradictory levels. As George Dickey states, the status of artifactuality can be seen as a defining characteristic of all works of art. Nevertheless, artifactuality is not sufficient as a condition in and of itself to trigger art status. Put another way, artifacts are objects that are not works of art, and they are not the primary focus of art historical investigation. This is particularly the case when aesthetics is a primary concern.

To a new media professor, the word artifact has two primary associations. The first is at the core of a developing field of study centered on human-computer interaction (HCI). In this field, discussions of artifacts center on both the computer and the application, and their use in relation to concerns drawn from cognitive science. The second is much more common and seemingly mundane. An artifact is the result of a computational error. The most common of these is an image artifact, which is any feature that appears in an image that is not present in the original imaged object. An image artifact, such as a compression artifact, is a particular class of data error that is usually the consequence of quantization in loss-heavy data compression. Through the lens of my own background, then, we can see the glimmer of four definitions of the nature and/or function of an artifact:

1. An object produced or modified by human agency, especially a tool or ornament.

2. A creation of human conception or agency rather than an inherent element.

3. An erroneous effect, observation, or result, especially one generated from the technology used or from experimental error.

4. A structure or feature not normally present but visible because of an external agent or action.

More significant than any one of these definitional aspects of the term "artifact" are the oddly interconnected uses of this term as a means of demarcating a particular quality or presence. Artifactuality, in all forms, is central to determining the nature and significance of a given element, especially in relation to human cognition or agency. An artifact is both a residue of making, an object such as a dish, and the process by which humans make the world. Our artifacts and tools are more than just those objects that we use to perform certain tasks. In the end, theyare change agents. The interrelationship between the generating task and the resulting artifact or tool is one of cyclical change, rather than a simple need-response relationship. In the essay "The TaskArtifact Cycle" Carroll, Kellogg, and Rosson (1991) argue that:

> . . . a task implicitly sets requirements for the development of artifacts to support it; an artifact suggests possibilities and introduces constraints that often radically redefine the task for which theartifact was originally developed. (p. 79)

As the artifact suggests new possibilities and manifests its limitations, these relations generate new possibilities. Our artifacts in this way make us as much as we use them to make other things. This characteristic leads some to suggest that artifacts are "objectified, humanknowledge and practice."

Artifacts are more than things. In essence,they form a cognitive frame through which wegive meaning and functionality to what we experience or perceive. Anthropologists and historians have long held that we can tell much about a given culture and people by considering their artifacts. This is not simply becausethese materials are part of the historical record. More importantly, they form thephysical trace of a people's mindset, beliefs,attitudes, cultural structures, and values. Thisis in part possible because the physical properties of any given artifact are references to the people who made and used it.

Others have suggested, I believe rightly, that an artifact is a theory that can in turn be abstracted from the artifact itself. (Or possibly, they state theories through their physical being.) For this reason, although many definitions give primacy to the physicality of an artifact, the nature of "artifact" as an idea is the most rich and of the greatest interest to me.

In developing our understanding of HCI, cognitive psychology has been one of the most significant influences. This role, however, has primarily been limited to a consideration of the storage and processing of symbolic information, drawing an analogy between general human functions and how computers might perform similar functions. Under the influence of such assumptions, their users have largely construed HCI as the science of designing systems to support problem-solving activities. This is often referred to as cognitive ergonomics. The resulting systems are termed cognitive artifacts, and they supposedly improve the quality and function of human thinking.Although there has been a recent move away from this focus on cognitive artifacts, this view is still dominant.What all of this misses, however, is creativity.

Traditional views of cognitive artifacts cannot account for creativity. Neither can they address the role and function of the most human aspects of experience: emotion, imagination, and creativity. What I propose, however, is that the other form of digital artifactuality, the result of a computation error, accounts for aspects of creativity. Moreover, this is the process most closely aligned with creativity. How can this be?

What I propose is that creativity, defined simply as divergent thought for imagining what might be, is an artifact. In relation to the normal cause-and-effect operation of computational systems as reasoned thought, creative associations are flaws. The unexpected associations, relations, and possibilities that are at the heart of much creative output are neither logical nor predetermined. When we "think outside the box," we generate artifacts – things that are not to be found in the simple additive result of information input.

The invitation to consider the nature of artifactuality has led me to an interesting insight into my own field of inquiry: contemporary instructional-based art works, sometimes referred to as scores. If we look at the particular form of instruction works known as event scores, historically associated with the group Fluxus, we find an interesting contradiction. They are at the same time specific and generalizing. They tell the reader or performer what to do, and they simultaneously escape the limitations of those same instructions. Let us consider a few examples of classic Fluxus event scores to get a general sense of their form and the broader possibilities they imply:

Eric Andersen
Opus 9
Let a person talk about his/her idea(s).
1961

George Brecht
Three Window Events
opening a closed window
closing an open window
1961

Ken Friedman
Webster's Dictionary
A series of dictionary definitions inscribed on sidewalks and walls in public places.
1965

Alison Knowles
Variation #1 on Proposition
Make a soup.
1964

Sometimes described as "neo-haiku theater" these forms of performance scores are minimal in their physical presence, but they possess a quality that enables them to break from both these minimal instructions as well as from our expectations. They do this much as the major grammatical break in traditional haiku (kire) events act to shift our understanding of both life and art.

But to return to our subject, that of the nature of an artifact, what I realized in thinking about the question "what is an artifact?" is that events are a form of artifact. I mean this not in their physical state as marks on paper or even as language, but as a conceptual frame, a tool and most importantly, as a mediating force. More directly, what I realized is that all instructional works, and events in particular, are artifacts. They are structures that act to control or "make" an action (or thing) into a cognitive frame. They change what we do from what might be described as an action (life), whether it is simple or complex, into a mediated act (art). Within the context of the human-with-artifact system, such instructional works expand the functional and cognitive capacity of both the performer and the audience. Soup is no longer just soup, or an idea just an idea, but they are all part of the view we hold and what we see and feel about the lives we are living. The simple act/instruction as an artifact acts to replace the original task (making art) with a different one (performing an action), one that has the potential to have a radically different cognitive frame and uses radically different cognitive capacities from the initiating instruction. In this way, instructional works change the way we think and act, much like those suggested by D. A. Norman in his essay "Cognitive Artifacts" (Norman 1991).

Norman's description of the manner in which artifacts change the ways tasks get done can be simplified as follows:

- Distribute actions across time (precomputation)

- Distribute actions across people (distributed cognition)

- Change the actions required of the individuals doing the activity.

Scores or instructions allow the text to contain action, or at least the potential for action, thus distributing it across time and people. Scores do not so much change the action required as they change – more significantly – our thinking about the action. They alter our perception. We see things in a new way and scores help us to question such distinctions as the dichotomies of "significant" and "insignificant" or "valuable" and "worthless."

Artifacts are the result of forces brought to bear on the mediated boundary between given reality and the imposition of human cognition on the material existence that the given reality establishes. (There is, of course, a debate concerning the nature of reality and whether reality exists. For now I will propose that reality does exist.)

Artifacts, in this case scores and instructions, are human thought made physical. They are mediating factors between actions and the resulting changes to the world. In execution and perception, the artifactuality of event works is brought to a head by the seemingly contradictory possibilities of the physical world and the score itself as awork of art or creative expression.

Some suggest that artifacts are like language. Humans create them, but they act independently nonetheless to mediate relations between humans and the world. Human beings mediate their activities by artifacts. When we are introduced to a certain activity, we come to know it through artifacts.

Artifacts are also a product of our activities. As such, we constantly change artifacts in the act of using them. This mediation is essential to the ways we can and should understand artifacts. We cannot study artifacts as things. Rather, we must consider how they mediate use. We must understand or look at the artifact in use to see properly what it is or what it suggests.

Artifacts have no significant value in isolation. They come to possess meaning in cultural terms and in relation to social praxis. Creatively speaking, artifacts are those ideas that change our perception of the world. We see this as creative, not as something else. By redefining our perspectives, artifacts enable humans to engage in activities, develop ideas, and develop cultural practices previously unknown to them. The results of such engagements are known through use and they are known as a kind of relational aesthetic.

Alison Knowles sums up the process of artifactual mediation in an elegant and disruptive way in her event score, *Performance Piece #8* (1965):

> Divide a variety of objects into two groups. Each group is labeled "everything." These groups may include several people. There is a third division of the stage, empty of objects, labeled "nothing." Each of the objects is "something." One performer combines and activates the objects as follows for any desired duration of time:
>
> 1. Something with everything
>
> 2. Something with nothing
>
> 3. Something with something
>
> 4. Everything with everything
>
> 5. Everything with nothing
>
> 6. Nothing with nothing

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