

A Primer on Technology, Time-Keeping, and Time-Telling

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Last updated: 5 January 2016

Purposes

How well do you understand your relationship with time? And your relationship with technology? Both have been part of your life ever since you were born. In fact, you might even think that you understand them better than any other generation still alive. As an NUS student, you have to know how to skillfully handle technology and your generation can use new devices in ways that amaze your elders. You also need to know how to manage your time effectively and have all sorts of gadgets for doing so. We can, however, sometimes be so close to something that it's difficult to see it properly and to appreciate how it connects with other parts of our lives.

This primer will explain two concepts that will help you on your way to understanding your relationship with time and technology. One is that technologies *embody scripts for action* and the second that technologies are *value-laden*. To simplify this discussion, we'll only talk about these concepts in connection with technical artefacts. Technical artefacts differ from other types of artefacts in that they have functions or purposes. For example, scissors, whose purpose is to cut things, are technical artefacts, while paintings, footprints, rubble, or an absent-mindedly assembled daisy chain are not. We will discuss the purposes of a few different time-keeping devices, how they could be broken or "re-purposed", how they embody scripts for action, and the values they exhibit.

Affordances

Our daily lives are thoroughly saturated with technology. Most of our encounters with technology are so commonplace that we rarely think much about our interactions with them. The alarm on your phone or clock wakes you up in the morning, your door locks itself behind you as you leave, and your ID card is scanned so you can get breakfast at the canteen. As long as the technology is working properly and fulfilling its purpose it is no longer noticed (Heidegger 1962, p. 69).

Because we see technical artefacts as means to ends, we don't tend to think very much about how they shape our lives and way of thinking about our world. You might think that when you first encounter an artefact, you do indeed conduct a quick assessment of its physical properties. However, the psychologist James Gibson would suggest that most of the time, you are, first and foremost, evaluating the *uses* with which that object might provide you, the "agent". Gibson

explained that an object has “affordances”, which it ‘provides or furnishes, either for good or ill.’ Each object *affords* (or offers) the agent some possible action. A chair, for example, affords sitting; a doorknob affords twisting; a cord affords pulling; a gun affords shooting; a watch affords time-telling (Gibson 1979, ch. 8). We more readily perceive objects as functional than as simply material items. For example, we quickly learn to see hourglasses as objects with which to tell the time instead of glass bulbs separated by a narrow neck and filled with sand.

Scripts

The sociologist Madeleine Akrich took this idea one step further, proposing the metaphor of a *script* to “de-scribe” the functions of artefacts (Akrich 1992, ch. 7). Artefacts, she argued, ‘embody scripts for action.’ In other words, written into the artefact, whether by design or by accident, is a set of instructions for how you are supposed to respond to the artefact. For example, as you approach a speed bump in your car, you slow down. Similarly, Whatsapp messages use coloured tick marks to let you know when your friend, or members of a chat group, have read your message. These “scripts” shape our actions in subtle ways and can have a profound impact on how long your friend takes to respond to your message and even what kind of things you discuss, for how long, and how frequently.



Figure 1. A watch made by the noted Genevan watchmakers Moulinié, Bautte, & Co. (ca. 1805) for the Chinese market. The watch includes a perfume sprayer (cock the hammer of the pistol and press the sear to activate), an intricate and ornate design, and small clock face.

Values

Some people say that technical artefacts are value-neutral. For them, artefacts are 'just tools' for doing a job. Expressions like "Guns don't kill people, people do" suggest that guns are just objects that can be used for good or for ill. However, scholars of the history, sociology, and philosophy of technology have pushed back against this idea arguing that, although most technologies do not themselves make *evaluative decisions* about what to do, they nonetheless express the values of their makers and users and coax us towards certain ways of looking at, and acting in, the world.

According to Langdon Winner, a founding figure in social studies of science and technology, technical artefacts embody social relations. In an influential article titled, 'Do artefacts have politics?', he argued that the process of design is critical in determining the politics or values of an artefact. When an artefact is designed, all sorts of decisions, choices, and hidden assumptions are involved in producing what is made. New developments and advances are often "heralded as wonderful breakthroughs by some social interests and crushing setbacks by others" (Winner 1986, p. 23). Others have extended this line of thinking to claim that some artefacts embody ethical values.

With this in mind, let's consider the concept of time again. You've probably been taught that being on time is important or that "punctuality is a virtue!" However, this present-day emphasis on timeliness is only made possible by recent technology. We have populated our environment with all kinds of time-telling machines – clocks, watches, phones, and computers -- so that, at any moment, you know what time it is and won't be late. Time and technology are linked together inextricably.

Further Reading

Madeline Akrich, *The de-description of technical objects*, in Weibe Bijker and John Law (eds.), *Shaping Technology / Building Society* (Cambridge, MA: MIT Press, 1992), pp. 205-224.

James J. Gibson, *The ecological approach to visual perception* (Boston, MA: Houghton Mifflin, 1979) §8, "The theory of affordances."

Martin Heidegger, *Being and time*, trans. John Macquarrie and Edward Robinson (Oxford: Blackwell Press, 1962) §15, "The Being of the entities encountered in the environment." Citation above refers to the original German pagination.

Langdon Winner, *Do artefacts have politics?*, in *The whale and the reactor: a search for limits in an age of high technology* (Chicago: University of Chicago Press, 1986), pp. 19-39.