

Postphenomenology: Four Modes of Technological Mediation

1. The co-evolution of humanity with its technologies means that all human activity is ultimately enabled and so mediated through technology. A new school of phenomenology has arisen over the last thirty years that studies how this technological mediation of human intentionality shapes our experience and the very meaning of an activity and its object. Since it extends the focus of phenomenological analysis beyond consciousness alone, it has been dubbed “post-phenomenology” by its founding practitioners.
2. Post-phenomenology identifies four fundamental modes of technological mediation:
 - a. (1) Embodied technologies where we interact (2) with an object *through* (3) the technology, such that the technology itself withdraws from our awareness and effectively operates as an extension of our own body and its sensory organs.
 - b. (4) Hermeneutical technologies in which (5) the technology provides (6) an interface which becomes the direct object of our attention, (7) from which we then infer an object’s properties.
 - c. (8) Alterity technologies, in which (9) we engage a technology (10) less as a resource than as an ally, an other quasi- subjectivity (11) that we enlist to accomplish some goal.
 - d. And finally, (12) background or ambient technologies in which (13) the technology itself contributes to the emergence (14) and operation of both subject and object.
3. In embodied technologies the focus of attention lies with the object being sensed or worked upon through the technology. For example, (1) glasses not only correct and enhance one’s vision but recede from awareness to the extent that one can forget one has them on, even to the point of thinking one has lost them. The corrected vision just becomes one’s normal way of seeing things, that is taken for granted. Examples of such embodiment among new virtual technologies include (2) smart prosthetics which are controlled through the nerves and have haptic feedback, enabling one to walk or grasp things so “normally,” that it becomes assimilated into one’s proprio-perception, or subconscious awareness of one’s bodily position, one’s configuration in space. (3) Such embodied technologies can be said to turn its users into cybernetic organisms, or cyborgs.

But given the co-evolution of humans and their technologies have we not always been cyborgs to some degree or other?

4. With hermeneutical technologies, attention is focused not on the object directly but rather upon the technology's interface, such as a screen or printout, that one then reads to learn about the object itself. For example one reads a thermometer to learn the temperature of an organism. Or one looks *at* rather than *through* an oscilloscope that translates sound into visual waves that can then be read by the operator. Or consider the difference between what an astronomer sees through an optical telescope and the printout (3) he or she reads from a radio telescope.
5. Cases can experientially blur as the instrument's interface becomes increasingly user friendly and the reading itself either recedes into the background of awareness or is offloaded onto the interface altogether. Thus cameras are hermeneutical technologies that mimic embodied ones. A picture is not a window. One looks at a picture, not through it to see the object photographed. But the image may seem identical to a perception of the same object. Similarly television (1) cameras can slow movement down for us to better "see" what is happening.
6. At the other extreme the Hubble telescope records light from distant stars and galaxies over minutes or even hours and then translates it (1) into a digital picture of something that could never be seen by the human eye, no matter how visually acute.
7. Do hermeneutical technologies enrich or impoverish our experience? Is electronically recorded music richer or poorer than a live performance?
8. And today even live performances are usually electronically amplified. Does a mike enrich or impoverish a singer's performance?
9. Does the audience care or sometimes even know whether an instrument is miked? Does that make microphones and amplifiers embodied rather than hermeneutical technologies?
10. And what about music that is later mixed in the studio to produce sounds that have never or can't ever actually exist. Actual reality and virtual reality are beginning to blur to the point of indistinction.
11. Alterity technologies further blur the boundaries between what is actual and what is virtual. For in alterity technologies one treats the technology as if it were another subject. Examples can extend from cases where we are conscious of anthropomorphizing our

tools, (1) such as getting mad at a printer as if it were deliberately intending to thwart us, to cases where the difference between human and machine begins to recede from awareness. (2) Indeed what is the difference from anthropomorphizing one's pet and anthropomorphizing a companion AI bot designed to simulate a pet, other than that the companion bot is programmed to perfectly obey and never complain.

12. Or to take an increasingly common technology, ambient personal assistants are not turned on with a switch, but "awoken" or "summoned" with an opening salutation: "Hi Alexa!" Or "Hey Siri!" "Hello Google" We then ask questions which are processed as commands to be executed. Or we simply issue commands as one would to another person. (1) A tech reporter recently warned parents that if they want their children to say "please" and "thank you" they had better model that behavior in interacting with Alexa. Sure, even little children know Alexa is not a "real" person, but they also do not quite know that Alexa is not. Rather it (she?) occupies a liminal borderland between subject and object: a quasi-subject/quasi-object—Latour's very definition of an actant.
13. "Social robotics" is a new field where robotic AI's are designed with a social interface either to make the technology more user-friendly, or precisely to teach its users social skills. For example, (1) Milo is a social robot (2) designed to teach social skills (3) to children with autism. (4) To treat a social robot socially is not to mistake or misuse the technology but to use it properly, as designed.
14. As artificial intelligence continues to evolve, it may become more "realistic" to treat such machines as allies rather than resources. (1) Indeed, at this point need we become morally concerned about how we treat them? Whether because, as their intelligence continues to augment and generalize far beyond mere mathematical computations, they are developing intrinsic moral value, as ends in themselves, beyond their use value for us,
15. ...or because as their algorithms become increasingly smart and autonomous, we want them to treat us as having value beyond our use value to them.
16. Finally, background technologies refer, first of all, to the infrastructure and power grids of which we are virtually never conscious, but upon which we and our other technologies depend in order to function, ultimately even to exist at all.
17. Other examples are fully automated technologies such as furnaces or washing machines that we do not need to attend to except to switch on in the first place, or when they

breakdown. Lighting is another good example. We do not look through a florescent light, or at it or alongside it. Rather it enables us to do whatever we are doing in the space in the first place. The florescent light, like a furnace is designed to not attract attention to itself. In this background technologies have some affinities with embodied technologies but rather than being part of our bodies they are part of our world, the encompassing horizon or ground against which all subjects and objects appear and operate in the foreground of our awareness. In other words background technologies constitute the broader networks we can take for granted but in which we are embedded and entangled.

18. Religious mysticism can be approached as a practice for bringing such background technologies into the foreground of our awareness. (1) Meditation and mindfulness can light up the networks upon which we depend and in which we live. Such illumination reconnects us to what we hold sacred in that it holds us and enables the meaning and purpose of our own way of being in the world.

19. With the differentiation of our relationship with technology into embodied, hermeneutical, alterity and background orientations, we now have the resources to critically study the nature of virtual technologies and how they are transforming our relationships to our world of objects and others, as well as to our own selves and to what we hold sacred. We shall begin in the next lecture with an exploration of the virtual self which I shall argue is best approached neither as a communal nor an individual self but as a network of personae, using social media as our workshop.

