Impacts of Technology on the Meaning of Wilderness

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Abstract—Of the many societal threats to wilderness, the impact of technology is one of the most troublesome. Certainly, technological innovation has enabled many people to enjoy the values of wilderness. There is, however, a hidden cost associated with those technologies. Technology not only changes the wilderness experience, but it has the potential to change the very meaning of wilderness. Technology can manipulate our wants, needs, and expectations. It raises a particular view of wilderness to greater prevalence, and it may mask our ability to distinguish and determine what is lost in so doing. The adoption and endorsement of technology is largely irreversible. There is a need to carefully shape policies that can keep pace with technological advancements. Once crafted, those policies and the technological intrusions they endorse will continue to mold wilderness as we know it.

Technology has the potential to act both within and outside of wilderness. It has the ability to not only shape what wilderness is experienced to be, but also our expectations of what wilderness can and should be. Technology changes not just the wilderness experience, but it also changes us. As Mander (1995, p. 103) suggests, "the important point about a technology is not what it delivers in its apparent content (for example, the TV program), but what the technology causes to change in society: how it alters knowledge, thought, experience, participation, power." Any wilderness policy that deals with technological issues, such as the prohibition on mechanized transport, needs to examine the impact on the content of the wilderness experience as well as the impact on the knowledge, meaning, and participation in wilderness. Without such balanced consideration, it could be difficult to counter any such demands for safer, more universally accessible, and more comfortable wilderness experiences.

Change of Expectations _____

Technology manipulates our wants and needs of wilderness. Just as Rothenburg (1993, p. xiv) explains, "technology never simply does what we tell it to, but modifies our notions of what is possible and desirable." For example, as lightweight clothing and equipment enable greater mobility, there is greater expectation to travel further, to see more

"highlights," and to experience a greater portion of the wilderness area. Technological advances, such as waterproof jackets, have provided greater ability to cope with severe environmental conditions and, therefore, more people are expecting to visit locations previously perceived as too dangerous.

Technology can serve as a buffer between the visitor and the realities of the wilderness environment. We may be too insulated and protected from nature to identify the severity of a situation before it is too late. Wilderness visitors may become less dependent on their own ability and awareness as they become more dependent on technology. For example, as reliance on fuel stoves increases, the ability to build campfires declines. Or as another example, as reliance on Global Positioning System units rises, confidence in the ability to go anywhere is likely to increase, and the willingness to turn back declines. Similarly, the predominance of cellular or mobile telephones raises the expectation that emergency assistance is only a phone call away. Technology can provide a false sense of security and ability to cope. Technology may help people feel that wilderness is smaller, safer, and easier, but is that perception worthwhile? As a result, are wilderness visitors losing the desire and ability to deal with the uncertainties of wilderness on its own terms? Is technology waving in a loss of humility among wilderness visitors? Certainly it is changing our expectations of what we can and perhaps should be able to experience in wilderness.

Loss of the Unknown _____

One distinct effect of technology is an increase in the knowability of wilderness. Database and memory technology, combined with greater levels of public access, have taken away much of the sense of wilderness as a blank space on the map. It will not be long before characteristics of a wilderness campsite such as predominant wind direction, amount of bare ground, and numbers of fish become available for every campsite in wilderness. Although aiding trip-planning, selection, and reservation of designated campsites, this comes at the cost of a loss of the unknown. The sense of discovery and mystery that can be so much a part of wilderness is lost. Instead of developing local knowledge from direct interaction with the wilderness environment, more decisions and expectations are being based on a mediated or controlled image of wilderness.

The impact of technology in determining which image of wilderness predominates is largely hidden. Technology covers its tracks as Mitcham (1994) suggests: "Modern technology not only covers over or obscures the thinghood in things, it also covers over or obscures the Being of beings, and ultimately itself." People influenced by technologically mediated views of wilderness not only receive a skewed image

but also have limited ability to distinguish the real from the imaginary. As technology improves, the more influential the image becomes. Wilderness managers and policymakers should be explicit about the images they endorse or allow. Mumford (1950, p. 2) puts this well when he says: "what we know of the world comes to us mainly by interpretation, not by direct experience, and the very vehicle of interpretation itself is a product of that which must be explained."

Regarding wilderness, there could be a call to elevate the role of direct experience, a call for a close examination or deconstruction of the manipulated image of wilderness that technology increasingly allows. Viewing wilderness through technology changes the view of wilderness we receive. In addition, the motivation for providing that image of wilderness may not be consistent with the intents of wilderness and wilderness legislation. As Katz (1997, p. 176) describes, "any organism that is modified through human technology has been subjected to the process of design. It may appear to be natural, it may still be an organism—yet the meaning of its existence, its essence, has changed. It is now an artifact for the fulfillment of human satisfaction."

The loss of direct experience is concerning. Wilderness used to be its own certifier, but now more and more information is available out of context. There is, therefore, a loss of the original referrer, and it is much easier for human views of wilderness to dominate at the expense of learning the truths of wilderness through a humble process of discovery. Strong (1995, p. 162) points out that technological "devices prevent us from crossing the threshold into the wilderness of things. They diminish the extent to which a sense of wilderness reality is established in us."

Technology also has the potential to change our perceptual system. We get attuned to a faster rate of input and, perhaps, a more precise, defined style of presentation. We become less able to understand wilderness in an unmediated mode and more willing to demand that wilderness conform with standards set by the mediated image. In effect, the image is so powerfully attractive that the reality may not fairly compete. Technology is seductive, and as Rothenburg (1993, p. 86) warns, "if we surrender ourselves to blind faith in the transformative power of new technology, we will forget what nature might mean beyond ourselves."

The Upshot _____

Technology threatens to fundamentally change the way we view wilderness. The question that must follow is an evaluation of to what extent these changes are beneficial, and at what costs are those benefits achieved. It appears that technology is both an enabler and a filter—by making wilderness easier, more comfortable, and more convenient. But what is lost in the process, what wilderness values have been downgraded? We must ask to whom the benefits accrue, since as Postman (1992, p. 9) suggests: "those who cultivate competence in the use of a new technology become an elite group that are granted undeserved authority and prestige by those who have no such competence...another

way of saying this is that the benefits and deficits of a new technology are not distributed equally." Technology is not benign. We must ask what is motivating our adoption of technology for wilderness, and whether it is consistent and facilitative of the values of wilderness. There are those who would argue that technology runs counter to the ideas of wilderness, as Katz (1997, p. 174) argues, "the raison d'etre of technology is to increase human power, control and comfort.... Technology ignores the natural world, except as an object to be manipulated, controlled, processed or otherwise used." Wilderness preservation runs counter to this level of human domination and provides a haven from which to critically examine the exigencies of the postmodern, technological world (Birch 1990). There needs to be caution that technology is not simply the irreversible wedge that unduly reintroduces society into wilderness. Once adopted and endorsed, it is unlikely that the influence of technology could be contained.

In developing policies to protect wilderness from the impacts of technology, two questions present themselves: how does technology irrevocably change us and our views of wilderness, and how do we weigh the advantages and disadvantages of technology? That is, how do we determine whether technology is good or bad for wilderness? Whatever policy is developed to tackle these issues will need to be adaptable to constantly changing technology (Freimund and Borrie 1998). Until such a policy mechanism is achieved, it would be wise to slow the adoption of technology for wilderness. Technology is largely an unthinking process with much of it happening by habit (Mitcham 1994). Such incremental changes in the accepted values, meanings, and knowledge of wilderness may prove to be an unwanted legacy of this technological age.

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