
Chapter XIV

“Digital Orphans”: Technology’s Wayward Children

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ABSTRACT

This chapter examines rapid technological obsolescence, and the potential impact on retrieval of intellectual creations by future generations. The authors define “intellectual creations” as human expressions embodied in text, music or art. Increasingly, we encode these creations in digital formats that have extremely short life cycles. Eventually, backward compatibility is lost. Thus, after very little time, a digital encoding format becomes obsolete, and intellectual works encoded in the format may become irretrievable. In contrast, the cultural worth of an intellectual creation may not be realized for generations. Additionally, future generations must access artifacts, including intellectual creations, to understand a culture in historical context. The authors contend that technology—intensive storage and

manipulation of data may result in an inability to gain this access. Technology creators have some responsibility to facilitate future retrieval through careful documentation, and by selective maintenance of hardware that may be required to access archival media.

A SENSE OF HISTORY

Can progress exist without consciousness of the past? At first glance, such a question seems absurd. We like to think of ourselves as sophisticated enough to understand Ortega and Gasset’s injunction that those who forget history are condemned to repeat it. In the realm of technology, particularly information and communication systems, we cannot ignore the present’s debt to the past. However, as cultures represent themselves over time, cultural artifacts nearly always outlive the technologies that made them possible. How exactly were the Pyramids constructed? When no speakers of an ancient language exist, how do we know what it sounded like? If we consider software as an artifact of technological or digital culture, we encounter an analogous problem. Imagine the discovery, hundreds of years from now, of an eight-track tape or a floppy diskette containing a document written in WordStar. Once a code has been lost, have all texts written in that code been lost as well? This chapter explores some of the implications of technological evolution on the artifacts—texts, sounds, images—it leaves behind.

Marketing specialists have focused on Geoffrey Moore’s concept of “the chasm” to explain the gap between the early market for a given technology (“visionaries,” early adapters) and the mainstream market (pragmatists, conservatives) (Moore, 1991, 1999). Where most technology developers flounder is in this chasm between the early and mainstream markets. Financial success, and even viability, depends on reaching the mainstream market quickly enough to offset the costs of development.

At the other end of the cycle, we find the point at which a given technology is finally abandoned by a sufficient number of people that it is no longer supported or maintained. It ceases to exist except in archival form. The disappearance of eight-track tape technology is one example. As we reach the twentieth anniversary of the introduction of Compact Disc technology, we can already see it coming to be replaced by DVD (Digital Video Disc) technology, which will in time come to be replaced by another technology altogether. The editors of *Wired Magazine*, a publication devoted to presenting the cutting edge of technology, must face the reality that wireless technology is quickly overtaking the wired world.

Linguists stress the organic nature of language — that it is in constant evolution. What are grammars, after all, except codifications, constructed of

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