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JONATHAN ZITTRAIN'S IMPORTANT CONTRIBUTION to the field of cyberlaw and technology policy claims that we are at a crossroads in the history of technology. One policy approach embraces "generative" devices and services that allow users to modify, improve, and extend their functionality. The alternative approach is paved with "tethered appliances" that are built around an ongoing technical relationship with their vendors. Where generative technologies encourage user modification, only "trusted" parties can tinker with tethered appliances. Zittrain argues that abandoning generativity in favour of security or convenience afforded by the tethered appliances approach will carry significant social costs.

In Part I, Zittrain explains the rise of generativity, which he describes as "a system's capacity to produce unanticipated change through unfiltered contributions from broad and varied audiences."[2] This principle is most clearly expressed in the development of the internet and personal computer. Their openness has allowed individuals to improve upon and build services without having to seek *a priori* permission. Generativity, he argues, has made today's internet possible.

Elements of generativity are not new. For example, Lessig and others have discussed the "end-to-end" architecture of the internet—its tendency to treat all data the same, regardless of its source, destination, or contents—as vital to its success.[3] Zittrain, however, argues that generativity "more fundamentally expresses the values" that have animated these discussions.[4]

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1.   (New Haven: Yale University Press, 2008) 342 pages.

2.   *Ibid.* at 70.

3.   Lawrence Lessig, *Code and Other Laws of Cyberspace* (New York: Basic Books, 2000); Rishab Aiyer Ghosh, ed., *CODE: Collaborative Ownership and the Digital Economy* (Cambridge: The MIT Press,

In Part II, Zittrain explores how some of the pitfalls of generativity have led to a new technological paradigm. The openness of the internet and the personal computer has produced undeniable benefits, but has also made those platforms difficult to secure. Viruses, spam, and spyware are difficult to stop in a generative environment because anyone has the power to contribute, including malicious actors. One response to this reality has been the rise of tethered appliances. These devices and services depend on an ongoing relationship with their vendors, who may take responsibility for fixing security holes or storing a user's information off-site. As a consequence, vendors often have significant control over how the devices and services may be used and what features they offer.

Zittrain argues that in a world filled primarily with tethered appliances, innovation would be hampered and "perfect enforcement" could become the norm. This would be troubling because policies enforced by code do not share the flexibilities or safeguards of laws enforced by people. Under this paradigm, a user's actions can be preempted, enjoined, or surveilled at the whim of the device maker.[5]

In Part III, Zittrain identifies strategies for staving off—or at least minimizing the damage of—this shift. For example, in discussing the principle of "network neutrality," Zittrain suggests that we should focus more on demanding neutral interfaces between the open internet and the closed data repositories that comprise tethered information services. Such interfaces would allow disgruntled users to abandon overly restrictive service and would provide a market-based incentive to treat users fairly.

The Future of the Internet and How to Stop It is essential reading for people thinking about technology policy. Zittrain continues the tradition of Lessig in crafting an accessible, insightful argument about the intersection of law and technology, and which direction we should take.

2005); and Yochai Benkler, "Sharing Nicely: On Shareable Goods and the Emergence of Sharing as a Modality of Economic Production" (2004) 114 Yale L.J. 273.

4. Zittrain, *supra* note 1 at 164.

5. *Ibid.* at 107-23.