

possible online). He then illustrates the stretching of such a traditional paradigm by drawing on hypertext theory and the works of poststructuralist literary theorists while thinking critically about the University Scholars Programme, which he created and directs for the University of Singapore. Landow discusses how this multidisciplinary program's curriculum emphasizes a high degree of participant (student) interactivity and multivocality (multiple voices from the "evidence" and the thoughts of others about that evidence) to develop critical thinking skills. The Programme also attempts to stress the links between the traditional disciplines found within the curriculum. Multiple voices, interactivity, linkages: it sounds like hypertext. His is an essay that successfully bridges the sometimes great divide between theory and practice. The other especially noteworthy essay is Eva Liestol's investigation into the potential cultural, sociological, and aesthetic understanding that might be made possible by the close reading and criticism of computer games, a scholarly interest like that shown to more traditional media such as art, music, film, and print literature. Liestol looks at the game, *Duke Nukem 3D Atomic Edition* (1996), and what evolves in her exegesis is a compelling mixture of the critical elements employed by the more traditional media.

Although some of the essays are more accessible than others, none are written for the general reader or casual thinker about things digital. A fairly thorough knowledge of various schools of thought and theoretical camps in a number of disciplines also would aid the reader in a full appreciation of the work as a whole. Although a simple listing of the subjects covered by this volume might suggest a jumble of disparate ideas only loosely connected by shared friendship and conference hobnobbing, this is not the case. In most instances, the subject of one essay logically follows from a discussion begun in a previous piece. Ideas shared in one chapter appear later in another's writing, and often works

cited by one author provide a bridge to the thoughts of another who cites the same work. It is a situation that might have been exploited by a digital edition of the text. Still, taken together, these essays—even on the printed page—show the broad range of scholarly attention that has been brought to bear on the bits and bytes that now inform, educate, entertain, and sometimes frustrate us.—Kevin Cherry, *East Carolina University*.

Wilhelm, Anthony G. *Digital Nation: Toward an Inclusive Information Society*. Cambridge, Mass.: MIT Pr., 2004. 161p. alk. paper, \$27.95 (ISBN 0262232383). LC 2004-42848.

It is commonplace for college and university admissions offices across the United States and Canada to strongly encourage electronic submission of applications to various undergraduate, graduate, and professional programs. Given the time it takes to complete applications screen by screen, prospective students with access to high-speed Internet connections clearly have an advantage in completing and transmitting their work and managing the web of application procedures, test scores, and financial aid forms. This is yet one bit in the world depicted in *Digital Nation*, an engaging new treatise on the prospects for inclusion in a technology-based information society.

As of this writing, author Anthony G. Wilhelm is Director of the Technology Opportunities Program in the National Telecommunications and Information Administration (NTIA) of the U.S. Department of Commerce. He has served as Benton Foundation Program Director for Communications Policy and Practice and as Director of Information Technology Research for the Tomas Rivera Policy Institute at Claremont University. Given his background and current position, his words are especially pertinent to higher education and, in particular, to libraries that are concerned with governmental and NGO policy analysis regarding both perception and resolution of the nation's

digital divide and the implications for information and communication technologies.

Wilhelm presents a case for a *digital nation* to “help decision makers and concerned citizens usher in a more productive and democratic society in the years to come” that is reflective of a post-Enlightenment society that emphasizes the relationship between information and knowledge as crucial to a society that melds inclusion and productivity. His case is predicated initially on what Sigmund Freud identified as three sources of discontent in humans: “our struggle with nature; the deterioration of the body; and social conflict.” Wilhelm continues, “Most scientific progress and technological innovation can be explained in relation to the alleviation of one of these three problems.” As such, Rousseau’s updated social contract between government and its citizens, and perhaps the leadership role of the NTIA, is to ensure citizen access to information and communication technology in a manner that empowers them in keeping with Freud’s concern for the human condition.

In the remainder of the text, Wilhelm expounds on this fundamental concern. Chapters 1 and 2 provide a basic argument concerning the commonly accepted notion of a digital divide between those who have access to the Internet and a full range of information and communication technologies and those who do not. In chapter 2, he discusses the practical consequences of broad-ranged information literacy as a critical skill, using illustra-

tions of how computers and communication technologies can support learning by eliminating the traditional boundaries of access to education. This discussion struggles between a digital nation in service to the public good and one that is primarily designed to contain costs. It is not until chapter 3 that we begin to see the author wrestle more directly with the impact of a digital nation on its citizens. He writes, “In the end we must find a better balance between efficiency considerations and social justice as described by the late John Rawls.... For Rawls, demands for social justice should not necessarily conflict with the push for efficiency.”

By building the remainder of his thesis within a social justice paradigm, Wilhelm is able to focus his attention on public-sector issues. Perhaps the most relevant of these for higher education is a concern for equity and access to education at all of its levels. Here, Wilhelm sees a crucial leadership role for government, in both setting policy and reinvesting tax dollars in opportunities for citizen inclusion in the digital nation. Especially effective is his cross-country comparison, between the U.S., Finland, and Germany, for seeking models to sustain learning and to close achievement gaps as a function of federal policy. Wilhelm identifies four key policy implications for national information and communication technology: the importance of public- and private-sector leadership, focus on “holistic” approaches to technology development, funding, and development of people in support of raising “performance and productivity for civic and economic inclusion.” In the end, Wilhelm concludes that “a Digital Nation is much more than industrial policy; it drives the social agenda as information, skills, and knowledge become building blocks of a learning culture.”

The one real weakness in *Digital Nation* has to do with Wilhelm’s acceptance of a commonly understood definition of the digital divide as one of those who do and do not have access to information and communication technologies

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and, in particular, high-speed access to the Internet. Although it is hard to fault Wilhelm on this account, his argument would be well served by considering Oscar Gandy Jr.'s assertion that the digital divide is actually one between consumerism and citizenship.¹ With the exception of chapter 7, where he discusses Internet use among young people, the major focus of *Digital Nation* is built on a consumer model of accessing and utilizing what can be made available via the Web by public and private information providers. There is a missed opportunity here in the role of government in fostering access for citizen empowerment. For instance, *Digital Nation* does not anticipate the role of Web logs as a tool for political activity or the creation of virtual communities to increase social capital as described by Robert Putnam and Lewis Feldstein in *Better Together: Restoring the American Community* (2003). Nor is there meaningful discussion of file sharing among computer users or the power of wireless technology in creating culture shifts as described by Howard Rheingold in *The Virtual Community* (1994) and *Smart Mobs* (2003). Not only are these examples of important trends in the social use of information and communications technologies that connect well to both Freud's concern for the human condition and Rawls's theory on social justice, they are likely to be among the more contentious challenges to federal telecommunications and information policy.

Despite this shortcoming, the argument for the centrality of public debate over the relationship between technology and citizens' inclusion remains an issue of serious interest to higher education. As long as colleges and universities encourage prospective students toward online applications and libraries continue to direct a greater share of their resources toward information and communication technologies, the goals of universal access, training, and further development of resources to fit the multiplicity of learning needs will continue to require our attention. —*William C. Welburn, University of Arizona.*

1. Oscar H. Gandy Jr., "The Real Digital Divide: Citizens versus Consumers," in *The Handbook of New Media*, ed. Leah A. Lievrouw and Sonia Livingstone (Thousand Oaks, Calif.: Sage, 2002), 448.

Chasing Moore's Law: Information Technology Policy in the United States. Ed. William Asprey. Raleigh, N.C.: SciTech Publishing, 2004. 322p. \$27.95 (ISBN 1891121332).

Moore's Law is the name given to the historical trend that the number of switches that may be placed on a computer microchip doubles every eighteen months. This explosive increase in computing power spawns such rapid change in technological capabilities that government policies often cannot keep up with developments. As a result, federal legislation and legal precedents often fail to address contemporary concerns. This collection of essays describes information technology (IT) policy issues in the United States, highlighting the ways federal policy has responded to IT developments.

The book is divided into ten chapters, each organized around a particular topic, many of which will be familiar to librarians and others working in the information field. Chapters not written by the editor were contributed by his former graduate students in a course on information policy at Virginia Tech. The stage is set with a historical overview of government IT funding during and after the World War Two through the Sputnik era and beyond to the early development of what became the Internet. A key point is that the division of federal IT funding among such agencies as the National Science Foundation, the Department of Defense, and the National Institutes of Health led to present-day competition among federal agencies and the institutions they fund. A result of this funding strategy has been conflict and confusion concerning various policy issues.

Other essays cover Internet regulation and governance, computer security (including national security, viruses, and