The Friendly Orange Glow: The Untold Story of the Rise of Cyberculture

By Brian Dear. New York: Vintage Books, 2018. 640 pp. Softcover and EPUB. Softcover $17.95, EPUB $11.99. Softcover ISBN 978-1-10197-363-9; EPUB ISBN 978-1-101-87156-0.

Though this book is intended for a general audience interested in computing history, archivists are perhaps ideal readers for Brian Dear's *The Friendly Orange Glow: The Untold Story of the Rise of Cyberculture*. A complete history from origin to obsolescence, *The Friendly Orange Glow* traffics in the successes and failures of an early networked computer system that evolved from an educational machine into a platform that fostered some of the earliest virtual communities and foreshadowed many of the innovations of personal computers and the Internet. Built on archival research and hundreds of oral history interviews collected over more than twenty years, Dear's book offers not just an excellent example of the end product of research into the social and user-centered aspects of early networked computing—an underdeveloped collecting area—it also provides archivists with a roadmap to the types of sources and voices that ought to be preserved.

The Friendly Orange Glow begins with behavioral psychologist B. F. Skinner and his idea for a teaching machine that could offer immediate feedback. Programmed Logic for Automatic Teaching Operations (PLATO) offered educational lessons that did just that, along with user-created, multiplayer games and text-based applications that allowed users to communicate in real time. Developed in the early 1960s by a team of scientists and engineers at the University of Illinois at Urbana-Champaign, PLATO was a mainframe-based computer system utilizing timesharing to support concurrent interaction of multiple terminals which were eventually networked at universities and colleges across the United States. Terminals, comprising a keyboard and monitor, went through several iterations, including flat-panel plasma screens and touch-screen interfaces, but early users would have encountered an orange glow from the monitor that produced an "eerie, ghostlike effect one saw in the black background of the screen" giving it "a faint glow [like] a campfire" (p. 111). The driving visions of improving educational outcomes and individualizing learning endured throughout the life of PLATO and cultivated the open collaboration that led to so many of its technological innovations. While Dear celebrates these visions throughout the book, he also credits them, whether fairly or not, with the system's ultimate demise.

Beyond the title's focus on PLATO's "untold story," Dear's main proposition is that PLATO's history is indeed lost, eclipsed by the myths surrounding other computing giants. But, it should not be. The generally recognized history of the

Internet can be traced back easily to ARPANET, the United States Department of Defense computer resource sharing project begun in the 1960s. The problem with this accepted common knowledge is that various direct forerunners to networked computers and the Internet existed across the globe, and their narratives are mainly only known to those who study the histories of computing. With this work, Dear remedies the case of one precursor system by underlining preservation and social connections. "This book is the result of an effort to capture the history of this lost culture of innovation before it vanishes completely" (p. xiii), he explains, continually emphasizing that no effort involved in developing or utilizing PLATO was achieved alone; this was a technology built on and enjoyed through collaboration and community.

The book is divided into three parts: the first provides an overview of how the system developed; the second details the various educational lessons, games, applications, and online communities created by user-developers; and the last explains how commercialization failed. This structure allows the author to dig deeply into the lives of those developers and user-enthusiasts who enhanced PLATO during each stage, many of whom were high school and college students. So rich are his portraits that each technical breakthrough starts with the person behind it who made that particular idea a reality. Dear, himself a PLATO user during his college days at the University of Delaware, was perhaps the only one who could tell PLATO's story. He has worked in the tech sector for years for companies such as eBay and MP3, writing for technology magazines, and founding Eventful and FlatWorks. But Dear admits that he never lost his fascination with discovering everything he could about the people who created PLATO, and, true to his first instincts, he has written a book equally about the people involved with PLATO and the machines themselves.

From an archival perspective, *The Friendly Orange Glow* represents the meeting of a preservation need and the chronicling of an overlooked community. Historians of computing have pointed out that primary sources pertaining to early innovations can be scarce and that they often rely on secondary materials such as trade magazines to construct historical evidence.[1] While it is true that the records and artifacts documenting PLATO and many of its component pieces are preserved in various museums, libraries, and archives,[2] in compiling hundreds of oral history interviews Dear has produced not only an immense and significant extension of the historical record, but also created archival sources that exist nowhere else. And, with the stories collected from these sources, voices of the average users of PLATO outshine those staid stories of innovation, chronicling how users interacted with the technology and giving PLATO's user-developer community a collective identity and a body of cultural memory.

Considering that history is captured more and more exclusively in digital formats, Dear's work should be of particular interest to digital and web

archivists. As evidenced by the large PLATO gaming and social communities that Dear drew from, collecting digital materials around specific populations creates a rich record. But this requires proactive and creative collecting approaches. An important insight gleaned from the book is that context in documenting digital environments is essential, so gathering input from donors and collecting secondary sources is just as vital as acquiring records and artifacts. The book also makes clear the importance of generating oral histories if the voices of a user-developer community are to be preserved; every chapter of *The Friendly Orange Glow* quotes or cites oral history interviews conducted by Dear himself. Additionally, for considerations regarding access to digital archival materials, the existence of a still functional and thriving PLATO emulation service,[3] long after PLATO became defunct, points to emulation as a preferred access method of users, at least those who might have used the original system.

The casual tone, plain language, and snippets of dialogue in the book make clear that the author intends it for a wide audience. Likewise, though it has plenty of technical description to go around, analogy, metaphor, and helpful images illustrate particularly complex concepts. With more than one chapter devoted to PLATO's multi-user games and primitive communication applications, gaming and computer enthusiasts have plenty to enjoy. Indeed, the narrative has broad implications for many academic spheres as well, including education, computer and information history, sociology, gaming scholars, and those who study digital rhetoric and cyberculture.

While Dear's exhaustive efforts to fully understand the people who created and contributed to PLATO are laudable,[4] the granularity with which he imparts his knowledge of them is both advantage and vice. Anecdotes that help form a unique image of each character are entertaining, but with a cast of hundreds, it can be difficult to keep them all straight. Laden with nostalgia and some repetition, the book is long at 640 pages, and the pacing suffers from halting the chronological story in the middle section to expound on the many interesting applications and games users created. That being said, the middle portion, entitled "The Fun We Had," is the heart of the book. As Trevor Owens contends, "the history of computing is best understood as a social and cultural phenomenon instead of a technical one,"[5] and the history of PLATO is in its users and the online communities and relationships they made. In addition, the book does a fine job in placing PLATO's history within a framework of historical events, though to grasp the full context, more background knowledge on how personal computers and the Internet developed is required than its pages offer.

It would be easy to reach the end of this book and see the story as a bittersweet ode to missed opportunities. After all, commercialization did not work out well for PLATO, one cause of its obscurity today. Nevertheless, the prevalence of Massive Open Online Courses (MOOCs), online degree programs, and

learning management systems all speak to the influence of PLATO on online learning systems. With *The Friendly Orange Glow*, Dear does not try to rewrite the history of networked computers and the Internet; he is simply ensuring that PLATO's inventive and passionate community members are among those whose stories are told. Perhaps more important, Dear offers archives professionals an insight into how best to preserve the context and the history surrounding the development of networked computer systems: not only collecting the records of those who designed and built them, but also gathering the stories of the ordinary people who gave them content, created communities, and found meaning through them.

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Kennesaw State University

Notes

[1] Martin Campbell-Kelly, *From Airline Reservations to Sonic the Hedgehog: A History of the Software Industry* (Cambridge. MA: MIT Press, 2003), 23–27.

[2] The Computer History Museum has a number of PLATO artifacts, including a PLATO V student terminal display, http://www.computerhistory.org/collections/catalog/102730891. The University of Illinois Archives holds archival records related to PLATO, including the PLATO user's memos and companion booklets, 1974–, https://archives.library.illinois.edu/archon/index.php?p=collections/controlcard&id=5156. The Internet Archive has archived and provides emulation playability of many of the lessons developed on PLATO, https://archive.org/details/softwarelibrary?and%5B%5D=%22control+data+corporation%22&sin=. See also the appendixes for archival sources consulted.

[3] PLATO terminal emulator (PTERM) and instructional documentation are available at www.cyber1.org.

[4] The "Acknowledgements, Interview and Oral History Sources," "Bibliography," and "Source Notes" appendixes are something to behold. See pages 525–80.

[5] Trevor Owens, *The Theory and Craft of Digital Preservation* (Baltimore: Johns Hopkins University Press, 2018), 72.

Archival Futures

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Predicting the future is a courageous, perhaps foolhardy, undertaking. A friend of mine once proposed to write a book called "Past Futures" highlighting some of the more ludicrous attempts to predict the future that were ridiculed by hindsight. Nevertheless, preparing for what the future might bring is prudent—even if it just takes the form of trying to comprehend the changing