



Review: [Untitled]

Reviewed Work(s):

The Closed World: Computers and the Politics of Discourse in Cold War America by Paul N. Edwards

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Isis, Vol. 87, No. 4. (Dec., 1996), p. 756.

Stable URL:

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Paul N. Edwards. *The Closed World: Computers and the Politics of Discourse in Cold War America.* (Inside Technology.) xxii + 440 pp., illus., figs., index. Cambridge, Mass./London: MIT Press, 1996. \$40.

The history of science and technology since World War II is usually told in a contextualist idiom. The Cold War is treated as a massive and abiding presence that is held to explain specific developments in the natural and social sciences, mathematics, and engineering. There is plenty to be learned from this literature, but Paul Edwards senses its limitations. Rather than attribute some kind of explanatory essence to the Cold War, Edwards sees it as an assemblage of heterogeneous parts, including science and technology as well as politics and the rest, in varying relations of partial and shifting alignment. And he wants especially to understand the computer as one of those parts—as helping to make the Cold War what it was.

The Closed World falls into three sections. Chapters 1–4 concentrate on connections between the military and computing from World War II up to the 1970s. Edwards discusses the importance of military sponsorship in this period, but, leaving contextualism behind, he also tries to show how the computer and computer scientists exerted a reciprocal influence on the nature of military enterprise. Thus he discusses how in the 1950s and 1960s the SAGE early warning system, based on the famous Whirlwind computer, helped constitute a defensive military



The Combat Information Center of the USS Lexington during World War II (reprinted from Edwards, Closed World).

posture, largely against the wishes of the U.S. Air Force. At the same time, it created the illusion of an impenetrable radar bubble over the continental United States—an icon, for Edwards, of the Cold War as “closed world.” The amazing Igloo White, the windowless computer-control center for operations in the Vietnam War, is another such icon. In general, Edwards’s idea is that computerized closure and control, real and imaginary, were defining aspects of the Cold War for the populace, politicians, and generals alike.

In Chapters 5–8 Edwards moves from the macro to the micro and discusses computers, the mind, and psychology. He demonstrates nicely the military origins of, and continuing military support for, work on cybernetics, cognitive science, and artificial intelligence. And again he seeks to show how this work folded back on its context in transformations of the military and popular imagination. The figure of the cyborg—the intimate combination of organism and computer, or the intelligent machine, or the human as intelligent machine—stalks these chapters. There is no shortage of information and insight here, though Edwards perhaps pushes the connections between the cyborg and the closed world too far. I read him as suggesting that the two were necessary counterparts; but that alleged necessity is historically undermined by the important role of the social sciences—a pursuit of humans, not cyborgs—in the Cold War.

In the concluding chapters, Edwards turns to “Cold War II” (with Star Wars substituting for SAGE), offers some thoughts on computers in George Bush’s New World Order, and considers computers on film, from *Dr. Strangelove* to *Blade Runner*. The film chapter, in fact, contains the only extended discussion of the open-ended and numinous “green world,” which Edwards takes to be the antithesis of the closed world.

This is an ambitious book, operating at many levels at once and seeking to explore their interrelations. Some chapters work better than others, but, overall, *The Closed World* might be a model for how to integrate the history of science and technology with history proper.

ANDY PICKERING

W. Richard Dukelow. *The Alpha Males: An Early History of the Regional Primate Research Centers.* x + 207 pp., illus., bibls., index. Lanham, Md.: University Press of America, 1995.

The Alpha Males is the story of the establishment in the 1960s of seven American centers for pri-