the fantasy of the public: access to information and inclusion in deliberation are the principal values mobilized here too. It is important to keep in mind that these projects are not only advertised as democratic projects, they are just as often promoted as models for economic production and cultural exchange. But insofar as they do propose alternative models for democracy, we may conclude, in line with Dean's claims, that these projects fail to take seriously the transformation of the public in the context of new media. Her argument can be read as a warning that if we are to prevent these types of projects from going down in history as ideological, an alternative democratic legitimation must be developed for them. In fact, we can see today that these projects combine a rhetoric of access and inclusion with all sorts of de facto arrangements of exclusion under the labels of security and quality control. For these additional arrangements, there exist at the moment only practical but no theoretical legitimations. In this context, Dean's argument to raise the stakes on what may or may not count as a democratic arrangement today is a very important contribution to the debate on new media and democracy. The conceptual outlines of the new public arrangements that are emerging in the context of the Internet are still to be articulated. Dean's book provides a very convincing argument why it is urgent that we do so.

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Prefiguring Cyberculture: An Intellectual History, by Darren Tofts, Annemarie Jonson, and Alessio Cavallaro (2002). Cambridge, MA: MIT Press.

Throughout the 1990s, as first the Internet and then the World Wide Web hove into public view, scholars and pundits alike stood transfixed by the techno-social transformations under way. Most of those concerned with the interaction of digital media and culture kept their eyes firmly on the present; when they looked up, they looked toward the near horizon, wondering what these emerging technologies heralded in the way of social change. There were important exceptions to this pattern, especially among historians of technology (e.g., see Abbate, 1999; Bowker, 1993; Galison, 1994; Winston, 1998). And the decade did produce two of the most important studies of the interaction of computing and culture to date: Paul Edwards's *The Closed World* (1996) and Katherine Hayles's *How We Became Posthuman* (1999). By and large, however, as historian Roy Rosenzweig (1998) has pointed out, scholars such as Edwards and Hayles were the exceptions: As the world went online, comparatively few sought to explore the intersections of digital media and culture in historical terms.

That has now begun to change. Over the past few years, scholars of new media have rediscovered the past (e.g., see Gitelman & Pingree, 2003; Manovich, 2001; Pinch & Trocco, 2002; Sterne, 2003; Wardrip-Fruin & Montfort, 2003). As a result, a collective struggle is under way to construct both a history of the interactions between digital media and culture and an analytical category with which to frame those interactions. New Media Studies, Cyberculture Studies, Internet Studies—each has lately been offered as a framing term. Despite their varied names, each raises a similar set of historical questions: Which interactions between digital media and culture need studying? Which interactions have a history? and What moments within that history substantially shaped the present?

Prefiguring Cyberculture: An Intellectual History offers an intriguing, if somewhat conservative, set of answers to these questions. Editors Darren Tofts, Annemarie Jonson, and Alessio Cavallaro have gathered up 28 essays by as many contributors. Several, such as MIT's Bruce Mazlish and Evelyn Fox Keller, are historians by training or practice; most are literary scholars, and a few, such as Erik Davis and Mark Dery, are journalists. The volume also includes samples of digital art by nine artists, including Stelarc, Char Davies, and the VNS Matrix. What holds the collection together, according to Tofts, is its focus on cyberculture, a concept that Tofts defines as "an instance of an ongoing tendency to alteration, a reconfiguration of what it means to be human in the context of technology" (p. 4). Elsewhere in the volume, Jonson and Cavallaro refine Tofts's definition, suggesting that digital media not only complicate what it means to be human but complicate contemporary practices of representing the human as well.

Representation serves as a key analytical category for most contributors. The volume's editors may have described cyberculture as a new moment in techno-human relations, but their contributors tend to approach that moment with tried-and-true methods of textual analysis. In a counterintuitive approach to Artificial Intelligence, for instance, Erik Davis examines the film *The Matrix* to show how Cartesian dualisms haunt discussions of the same digital technologies that many say have begun to blur such distinctions. In an especially inventive essay, McKenzie Wark explores Ray Bradbury's 1952 short story "The Veldt" (*The Illustrated Man*) to show how technologies of virtuality move beyond mimesis and help create a world in which a variety of new relations between people and their systems of signification might flower. Other contributors work to relocate much older texts in the tradition of techno-human transformation. Bruce Mazlish, for instance, draws 19th-century novelist Samuel Butler and his preoccupation with the steam engine into alignment with contemporary debates on machine intelligence. And Evelyn Fox Keller links post–World War II cybernetics to the history of biology and 200-year-old debates about the unique properties of organisms.

Despite the often powerful ways in which these essays take up the texts of the past, *Prefiguring Cyberculture* presents very little historical research per se. On the contrary, in his opening essay, Tofts argues that the book "is not concerned with identifying how we 'became posthuman,' but rather demonstrating how becoming informatic is an ongoing process of the continuing present tense" (p. 5). For that reason, he explains, the editors have sought out essays on texts that represent moments at which the boundary between the human and technological came into question. In this way, writes Tofts, the editors hoped to construct a history that was "by no means teleological" but instead "a less causal, elliptical trajectory of change" (p. 4).

Fair enough. The editors have certainly succeeded in identifying and illuminating powerful literary moments at which techno-social relations were under negotiation. Yet despite these successes, the editors have not established a "trajectory of change." In fact, they seem to have refused to. And in this respect, the book models an intriguing problem for historians of cyberculture. In the wake of cultural studies and the textual turn in the social sciences, few historians would want to undertake a teleological history, that is, a history in which the pattern of the present was read back onto the past in such a way as to prove the patterns of the past inevitable. At the same time, does avoiding the problems of teleology require us to avoid constructing clear trajectories of influence? Have some texts been more influential than others? If so, which ones?

Why? Does a text become historically important simply because the issues it raises became important later in time? What precisely does it mean for the past to "prefigure" the present?

The editors' methods also raise questions about the boundaries of cyberculture. Few would contest their assertion that digital media complicate practices of representation. But does cyberculture consist only of art and literature that depict techno-human relations? Are literary texts that address such processes of cybering our best window into processes of historical transformation?

In his lovely concluding essay, Mark Dery suggests that there may be other approaches. Dery's essay ostensibly has little to do with digital media. It is a lyrical meditation on the TWA terminal at New York's Kennedy Airport and the fantasies of the modern future it embodied. Yet by gently pointing readers in the direction of transportation, of industry, of big machines, Dery reminds us that virtually all of Western culture (and much of many other cultures as well) is being cybered as we speak. Writings on the shifting relations between humans and their digital machines are important windows into the informating of culture, but to trace that process in its fullness and to depict the trajectories along which it has been developing, we need to look not only to the traditional "high cultural" sites of literature and art but to transformations under way in industry, commerce, and geography.

In that sense, *Prefiguring Cyberculture* suggests the power of literary analysis and the importance of art and literature as sources and markers of historical transformation. It also reminds us of their limits.

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