

Cooper, Feenberg overlooks the "reconstructive potential of technology."⁴ Thus, there is a need to expand the way we understand the role of new emerging technologies in changing the conditions of cultural understanding. And, Cooper is pointing to the substantivist direction for this lack.

Trish Glazebrook's "An Ecofeminist Response" offers a sympathetic reading of Feenberg's view since it echoes feminist sentiments. Feenberg's critical theory and Ecofeminism meet eye to eye in rejecting essentialism, but they differ with regard to "democratic intervention" and "corporate intervention." The two agree on the body as a political site, and thus, ecofeminist position is welcome in a technocracy envisioned by Feenberg where "workers could claim back not just their bodies, but also their minds."⁵ In sum, Glazebrook sees Feenberg's position as "a promising answer to the ecofeminist hope for a 'general reconstruction of modernity in which technology gathers a world to itself rather than reducing its natural, human and social environment to mere resources.'"⁶

Iain Thomson's article argues that Feenberg's position is much more Heideggerian than he (Feenberg) would admit. For Thomson, Feenberg's critique of essentialism has not totally undermined Heidegger's "essentialism." Rather, Feenberg has only rejected certain forms of essentialism which, according to Thomson, Heidegger never claimed. Thomson takes on Feenberg's kinds of essentialism such as *ahistoricism*, *substantivism*, and *one-dimensionalism*. To Thomson, while it seems that Heidegger holds the technological essentialist sentiments, his essentialism is of a variety less objectionable to Feenberg than he deems it.

Larry Hickman's "From Critical Theory to Pragmatism: Feenberg's Progress" sees Feenberg's theoretical path as a progression towards pragmatism as it echoes the philosophical thoughts of John Dewey. For Hickman, Feenberg's position mirrors in many ways Dewey's analyses, though he (Hickman) is quick to admit that Dewey has gone beyond Feenberg's theory.⁷ Nevertheless, a "pragmatic turn" in philosophy of technology, Hickman claims, is the right path to take.

On the second part, Gerald Doppelt's "Democracy and Technology" criticizes the inadequacy of Feenberg's position to deal with task of democratizing technologies. To Doppelt, Feenberg does not address the ethical framework for integrating democratic ideals in the technical code, and more importantly, he (Feenberg) must have a "more substantive conception of democratic ideals..."⁸ Doppelt writes, "The democratization of technology awaits the development of an alternative ethical understanding of the ends of modern society."

Albert Borgmann's article tests the feasibility of Feenberg's model of democratizing technology. While the model is extremely viable,

Borgmann's cites two threats to the democratization of technology: (1) the "preference for affluence over autonomy" and (2) "the burden of engagement in technology that people are loath to shoulder even if there is financial gain."⁹ Though these appear to be a setback to the theory, Borgmann offers a possible direction in pursuing democratic reforms in technology.

In "Commodification and Secondary Rationalization," Paul B. Thompson offers his theory of commodification to advance Feenberg's view and bring it closer to other theories of technology of Langdon Winner, Albert Borgmann, Don Ihde, and Larry Hickman. To Thompson, commodification, which is the "transformation of goods and services" according to the criteria of "alienation, exclusion, rivalry, and standardization," is either structural or technological commodification. Thompson writes, "the theory of technological commodification allows us to characterize alienability, exclusion, rivalry, and standardization as material features of the technologies themselves, wholly apart from any intentions or aspirations that their developers or other social actors have for them. But legislation and policy themselves address alienability, exclusion, rivalry, or standards in social relations through mechanisms such as property rights, market structure, and regulation."¹⁰ To Thompson, his theory of structural commodification explains and addresses the Winner's call for democratization of technology, while the technological commodification makes it possible for Feenberg to take various positions in addressing the changes to the social relations.

Andrew Light's "Technology, Population, and Environmental Change" focuses on environmental issues as intimately related to the project of transforming technology. Light claims that it is more important to examine the technological practices that will encourage care for the ecology rather than viewing environmental issues as an impetus for improving technology. Light interprets Feenberg's notion of democracy as participation. In this respect, participatory practices are necessary for developing "democratic environmentalism that in turn will shape the direction of a democratic technology."¹¹

In "Technological Malleability and the Social Reconstruction of Technologies," Edward J. Woodhouse simplifies the herculean task of reforming technology. He points out that reforms in technology can be carried out, slowly but surely, in "piecemeal fashion." Using the "green chemistry" example, he claims that the reform can be realized in the design process itself as long as there is a corresponding institutional change through the cooperation, for example, of business executives. It is somehow easier said than done. But Woodhouse offers the lighter possibilities for reforms.

As one may have noticed the book, *Democratizing Technology* discusses on the first part Feenberg's theoretical anchors, while on the second part, the practical implications of his theory. Though theory is inseparable from practice, the organization of the book makes it more convenient for readers who are more inclined to look for alternative solutions. Woodhouse's article, for example, shows how it is possible to carry out reforms in technology without jeopardizing the pecuniary interests of corporations. On the other hand, the students of science and technology can turn a critical eye on Feenberg's position by examining helpful criticisms hurled against it.

Democratizing Technology is a good addition to Science and Technology Studies. The contributors have deep regard for the readers such that the book's language is easily understood, and before they criticize they amplify Feenberg's position. Although the contributions are often unsympathetic to Feenberg's theory and advance the authors' research interests, they cannot be entirely taken as a drawback since they open Feenberg's theory to other possibilities.

What can Feenberg say about the criticisms hurled at his theory? *Democratizing Technology* provided ample space in the last part of the book for Feenberg to respond. It is interesting to read Feenberg's eloquent response.

But what does the book offer for readers in the Philippines? Feenberg once mentioned that most developing countries like the Philippines are following the tragic mistakes of the advanced capitalist countries fifty years ago. In this light, the book can offer some insights on how to reform technology before Western technology fully takes—if it has not taken yet—its roots.

ENDNOTES

¹ David Stump, "Rethinking Modernity as the Construction of Technological Systems," in Tyler Veak, ed., *Democratizing Technology: Andrew Feenberg's Critical Theory of Technology* (Albany, New York: State University of New York Press, 2006), 6.

² *Ibid.*, 10.

³ *Ibid.*, 13.

⁴ Simon Cooper, "The Posthuman Challenge to Feenberg," in Veak, ed., *Democratizing Technology*, 22.

⁵ Trish Glazebrook, "An Ecofeminist Response," in Veak, ed., *Democratizing Technology*, 46.

⁶ *Ibid.*, 50.

⁷ Larry Hickman, "From Critical Theory to Pragmatism: Feenberg's Progress," in Veak, ed., *Democratizing Technology*, 80.

⁸ Gerald Doppelt, "Democracy and Technology," in Veak, ed., *Democratizing Technology*, 87.

