Book Review

Human Rights and Politically Incorrect Thinking versus *Technically Speaking*

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Pearson, G. and Young, T. (Eds.). (2002). *Technically speaking: Why all Americans need to know more about technology*. Washington, DC. National Academy Press. $19.95 (paperback), 156 pp. (ISBN 0-309-08262-5).

Published in 1963, *Technically Speaking* is a portrayal of technological literacy as engineers and technologists are wont to provide. Whoops! Wrong book, but the same can be said about the new *Technically Speaking*. There was a problem with the type of literacy that engineers and technologists were prone to advocate for themselves and others in 1963 and there is a problem now. Inherently conservative, both books exhibit the fence-sitting literacy and "happy consciousness" that Herbert Marcuse wrote about in 1964 (pp. 79, 84). Of course, the world has changed since Weiss and McGrath (1963) published their text of technological literacy and since Marcuse published *One-Dimensional Man*. Since the tragedies of September 11, there is one word to describe the type of technological literacy that engineers, technologists and the rest of us need: Rights. Constitutional rights, civil rights, and human rights, tenuous as they always are for the disenfranchised of the world, are being seriously undermined in the war on terrorism and the Bush doctrine of pre-emptive violence that accompany globalization and expansion of empire. The more the United States (USA) assumes the role of empire (Ignatieff, 2003), the more difficult the USA's Bill of Rights and international charters of human rights will be to sustain. Confrontations with fear and terror, police and military intimidation, propaganda, global expansionism, oil, and empire are dependent on the new convergences of communication, information, and medical technologies. Technological literacy in a post-September 11 context cannot be described nor understood outside of these dependencies and convergences. If it is to have any meaning at all, technological literacy must be about the value of rights, first and foremost— historically won human rights, the rights of women, worker's rights, civil rights, the rights of the downtrodden of the world, gay and

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lesbian rights, animal rights, and today, general environmental rights. This is the backdrop against which *Technically Speaking* ought to be read.

Channeled through editors Pearson and Young and the National Academy of Engineering (NAE), *Technically Speaking* is the product of nearly three years' worth of input from the Committee on Technological Literacy (TechSpeak), a group appointed through the NAE and National Research Council. The twenty members of the committee were handpicked from a range of fields including technology education (Paul DeVore and Rodney Custer). Judging by their publications, many with which I am quite familiar, the group represents right and moderate positions on the political spectrum. The few exceptions, such as Taft Broome, Jonathan Cole, Mae Jemison, and Thomas Hughes, have leaned left in their analyses of race (Broome), stratification in science (Cole), adult literacy and development (Jemison), and social history (Hughes). Of course, technological literacy is not an abstract, neutral concept; its various manifestations derive from the politics of its creators. It is this basic sociological concept that the authors of *Technically Speaking*, be it the 1963 or the 2002 version, fail to grasp. Neither literacy nor knowledge is neutral, trans-cultural, or trans-historical (Petrina, 2000a, 2000b, 2000c).

I demonstrated how derivations of technological literacy from the right of the technological literati mark commonplace manifestations in "The Politics of Technological Literacy" analysis published in 2000. In an ethical breach, this article, which TechSpeak requested for their deliberations, was not cited in *Technically Speaking*. In our current global crisis of war and rights, and as an expatriate living in Canada, there are bigger issues to take up with the committee and their version of literacy.

Chapter two of *Technically Speaking* concludes with the juxtaposition of the USA's unmatched economic and military power against the relative technological illiteracy of its citizens (pp. 70-71). The authors conclude that this is a "paradox." However, there is nothing paradoxical about it. The power of empire, the type of economic and military power currently exercised by the USA, is derived from indoctrination in the ways of capitalism, erosions and violations of basic rights, and illiteracy in the ways of political participation in science and technology. This power is derived from precisely the type of literacy that the authors of *Technically Speaking* advocate. The type of literacy TechSpeak advocates for citizens would shore up economic and military might in the USA even further (pp. 40-42). It would shore up the xenophobia necessary for empire and competitive supremacy. Hence, TechSpeak bemoans the fact that empire depends "on workers brought in from other countries." "A campaign for technological literacy could lessen our dependence on foreign workers to fill jobs in many sectors," TechSpeak asserts (pp. 5, 42). "Technologically literate citizens would be less likely to support policies that would undermine" the economy, such as regulation and curbs on free enterprise (p. 40). On the one hand, TechSpeak wants unfettered capitalism for the USA and on the other wants to increase participation, equity, and enhance the social well-being (pp. 25, 43-44). This is the double-speak of TechSpeak. These

contradictory views, which I documented in my analyses of technological literacy and the Technology for All Americans project, were commonplace in the pre-September 11 era as well (2000a). "More power over foreigners without foreign dependence" is the only disposition toward economic and military might in *Technically Speaking*. Similar to the International Technology Association's *Standards for Technological Literacy*, there are no connections made between literacy and the disproportional volumes of consumption and waste in the USA, or between literacy and resignation to the dangerous arms build-up and intimidation tactics of the USA government and military across the world. A values-oriented literacy, such as that described by Michael Moore in *Stupid White Men*, would define literacy in terms of rights, sustainability, and opposition to excessive military and police surveillance.

TechSpeak advocates a values-free, fence-sitting literacy, illustrated in the three case studies of chapter two (pp. 26-36). The case studies are very well written, interesting, and if rethought, have great potential to be the types of exemplars necessary to convey a more critical technological literacy to large audiences. In these case studies and the characteristics of a technologically literate citizen that follow, TechSpeak situates literacy on the fence as a complacent, neutral practice. The case of California's energy crisis and rolling blackouts is a good example. TechSpeak's average citizen would understand a few things about electricity, evaluate a few proposals to stabilize energy markets, weigh the costs and benefits of efficiency, change a light bulb, flip a tripped circuit breaker, and turn the air conditioner down a bit at home or work (p. 36). This is already the level and activity of the average citizen and it underwrites the comfort and convenience demanded by the American dream of California. My technologically literate middle-class citizen would have the political disposition to immediately reduce personal consumption by 15%, to lobby the government for the regulation of energy production and use, and the courage to speak out against the norm when it came to energy and consumption (Petrina, 2000c; Petrina and Volk, 1993). Critical literacy would emphasize the difference between the have middle and upper classes and the have not migrant workers of California, and the activism necessary to champion citizenship and rights for the thousands of illegal immigrants at work in the Sacramento Valley. My average citizen would recognize that the wealth and massive rates of consumption of energy in the Silicon Valley and water in Los Angeles come at the poverty and thirst of millions of Mexicans to the south.

Chapters three and four are the most accurate and helpful in the book. Here, TechSpeak shifts from their troubling normative positions to descriptive analyses of surveys of technological literacy, participation rates in making technological decisions, and the institutional players in the teaching of technological literacy. While there is nothing new in these sections, the data provided will serve educators and researchers looking to embellish or support their advocacies for technological literacy. These chapters buttress the eleven recommendations that conclude the book. A top-heavy reliance is placed on the

National Science Foundation to insure the implementation of the altogether innocuous recommendations.

Technically Speaking will serve boardroom and office maneuvering for policy based on the recommendations, but at the grass roots technological literacy is about the rights of everyday people across the world. Rights for most in the USA were reduced over the last three decades to little more than property rights and the rights of consumer choice (Apple, 2002). Technological literacy has to be about more than informed consumer choice, contrary to the portrayal in *Technically Speaking*.

My recommendation is that the technological literati move themselves and literacy off the fence to attend to the interrelations between technology and rights. In the Bill of Rights of the US Constitution, the First Amendment secures the freedom for the expression of thought and opinion. It protects our most sensitive areas of personal expression: religion, ethics and political philosophy. Technological literacy would empower individuals to use the new technologies to express and inform themselves about the content and violations of rights throughout the world. This literacy would also enlighten citizens about technological threats to free speech and privacy. The Fourth Amendment protects rights to individual privacy and against the practice of arbitrary power and surveillance. The new technologies of surveillance threaten individual rights protected under the First and Fourth amendments. Satellite systems empower commercial owners and governments with the abilities to monitor and manipulate public and private activities. Data mining systems, extensively marshaled for surveillance in the post-September 11 era, provide the means to track and trail the quotidian cultural and financial activities of citizens. Remote surveillance violates common notions of privacy and one does not know anymore whether s/he is under observation. Complementary to remote sensing systems are the technologies for intimate sensing. Intimate sensing provides the government— the police, CIA, or FBI— or private companies, with the means to detect identity and monitor the use of drugs or sexual activities. Fingerprint, retinal and voice recognition, or semen, urine and DNA analysis, are just some of the new technologies that threaten Fourth Amendment rights. The power to intrude into the very core of personal autonomy and privacy is accessible to nearly anyone or any institution with the means. Invasive technologies also threaten rights protected under the Fifth, Sixth and Eighth Amendments. These amendments protect citizens accused, convicted, or suspected of crimes. The new forensic technologies offer governments incredible powers to try and predict who is and who is not a threat to national security or policing. Racial profiling, biochemical technologies, and genetics provide the incentive to identify determinants of criminal behavior and the temptation to intervene prior to the commitment of a crime (Office of Technology Assessment, 1988). Technological literacy would empower citizens to agitate for the regulation of intimate and remote surveillance and restrictions on government, police, and security.

Prior to September 11, it was easy to be complacent about mundane things like empire, literacy, security, technology and human rights. Now, we no longer have the time for complacency and we gambled away the luxury. We are all complicit in terrorism, war, the abuses of rights, and the technologies that support these activities. Literacy aside, it's time we got active and smart.

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