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Author's Response to Reviewers

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du point de vue de l'enracinement géographique des penseurs que Francis recense, mais elle doit être nuancée en ce qui concerne une orientation spécifiquement canadienne de leurs idées.

L'ouvrage a pour mérite d'illuminer des travaux reflétant des problématiques canadiennes, dont le positionnement du Canada entre la Grande-Bretagne et les États-Unis, les avantages de la vie en marge et le rôle des techniques de communication. Francis tente d'intégrer l'histoire des techniques à l'historiographie canadienne en l'arrimant au débat sur le déclin de l'impératif moral. C'est ce qui justifie sans doute l'inclusion d'écrits, tels ceux de Frye, qui sont loin d'avoir fait de la technique leur sujet principal. Le rapport à la technique se dissout dans un rapport plus vaste au progrès, à la civilisation industrielle, à l'instrumentalisation cybernétique des êtres humains ou au désir d'efficience.

Néanmoins, cette démarche historiographique confère à l'ouvrage un intérêt réel, car elle inscrit les penseurs canadiens dans un cadre plus large et souligne la cohérence de leurs discours. Au fil des pages, l'auteur a soin de pointer l'influence de penseurs comme Veblen, Mumford et Heidegger sur leurs contemporains canadiens. Une double continuité apparaît, celle qui relie ces auteurs entre eux et celle qui les relie aux autres auteurs occidentaux. Francis reconstitue des généalogies intellectuelles et la force de son essai, c'est de révéler les points communs d'un ensemble d'intellectuels canadiens-anglais qui n'ont pas toujours été groupés ou traités dans cette perspective, mettant au jour une histoire en réduction de la pensée occidentale sur les techniques.

Author's Response to Reviewers

R. Douglas Francis

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Let me begin by thanking the two reviewers for their thoughtful and informative reviews of my book, *The Technological Imperative in Canada: An Intellectual History*. While both reviewers make a number of positive comments on my study, I will focus on their criticisms since this is where they differ from me on the contents and approach of my book. I will first briefly summarize the nature of my book as context for understanding

points made by the two reviewers, then deal with individual concerns of each reviewer, and finally, deal with concerns common to both reviewers.

My book examines the ideas of Canadian theorists of technology from the mid-19th century to the end of the 20th century. I have chapters on the obvious Canadian theorists of technology—Harold Innis, Marshall McLuhan, and George Grant—but also include individuals not considered to be theorists of technology—William Lyon Mackenzie King, Adelaide Hoodless, Stephen Leacock, George Sidney Brett, and Northrop Frye. As well, I include some major Canadian poets and novelists who deal with the issue of technology in their writings: T.C. Haliburton, Frederick Philip Grove, Archibald Lampman, E.J. Pratt, and Dennis Lee. These literary figures I pair with the major thinkers based upon a similar perspective of technology. In my Introduction, I explain the criteria I used in selecting individual thinkers. I also set out the dominant theme in the book: the tension between the rising technological imperative in the mid-19th century that became the dominant imperative in the 20th century, and a moral imperative that dominated Canadian thought up until the mid-19th century and continued to be a dominant force as it vied with the technological imperative for supremacy. All of these Canadian thinkers whose ideas I examine saw technology as a moral issue. As well, I show how technology, as a force in Western civilization, played a critical role in shaping a Canadian identity. In the late 19th and early 20th centuries, technology was seen as a way of bringing Canada closer to Britain, the centre of Western Civilization, both physically and, more importantly, intellectually, thus offsetting the threat of American dominance. After World War I, American technological dominance posed a threat to Canadian independence and a Canadian identity and was thus seen as a negative force.

James Hull notes another theme among these thinkers that he claims I have overlooked: an eschatological view of technology. What I do note is that for all of these Canadian thinkers, technology is the new emerging force in society, for better or worse; they see technology as redemptive or apocalyptic. In that sense, their views can be seen as eschatological. Hull also admonishes me for not defining the term “technological imperative,” and claims that the term has so many meanings ascribed to it that “it is robbed of any common meaning.” As well, he points out that it is not “always clear that people are really talking about technology but instead science, modernity, capitalism, industrialization or something else.” His latter criticism answers his former concern. The fact that technology becomes associated with issues of modernity, capitalism and industrialization speaks to its pervasive and extensive nature, which is captured by the term “imperative,” and makes it impossible to have one all-encompassing definition.

Hull notes on a couple of occasions my alleged failure to acknowledge Carl Berger's important works. The one occasion is my discussion of the ideas of Thomas Keefer, Thomas Haliburton, and Sandford Fleming on railroads and, in the case of Fleming, the laying of the Pacific cable, as means to unify the British Empire. Berger's *The Sense of Power* deals with the ideas of English-Canadian imperialists who wanted to cultivate Canadian nationalism through imperial federation or imperial unity. But Berger does not mention the three intellectuals I deal with in his study nor does he address the issue of technology as an important topic in English-Canadian imperialist thought; thus I did not see the need to note Berger's study. The other occasion is in my chapter on Harold Innis. Hull takes exception to my comment that "the focus of his [Innis's] communication studies still remained on Canada, even when the articles deal with ancient civilization or never mentioned Canada specifically." He claims that such an observation is "nothing more than a statement of why we do historiography. It has, for Innis, already been drawn out more effectively by Berger in *The Writing of Canadian History*." Berger does a superb job of highlighting and summarizing the themes in Innis's communication studies and suggests ways in which these latter studies can be seen as linked to his earlier "staple studies." But he does not specifically show how Innis always had Canada in mind even when dealing with ancient civilizations. And there has been debate among analysts of Innis's ideas as to whether he left Canada behind as he pursued larger issues of the rise and fall of civilizations from ancient times to the 20th century.

I have two criticisms of James Hull's critique of my book. One is his desire to attribute comments made by my Canadian theorists to myself or to criticize my work for ideas put forward by my intellectuals that he disagrees with. For example, Hull takes exception to Nathaniel Fellowes Dupuis's accusation that the Roman Catholic Church and conservation were hindrances to the acceptance of the practical sciences in universities. Dupuis might have been right or wrong, but either way these were his views, and my interest is in analyzing those views not assessing whether they were accurate or not. Hull also clearly does not think much of some of Northrop Frye's theories. He berates Frye for emphasizing "the importance of a supposedly Canadian special circumstance of a large country most of it empty or with a population strung out along a narrow belt." To my knowledge, Frye never claimed this settlement pattern to be a "Canadian special circumstance" beyond the fact that he believed it was one way that settlement in Canada differed from that of the United States. Frye was also associating this perspective with those of Innis's Laurentian theory. Hull also accuses Frye of "outrageous slander" on American letters by suggesting "Americans have put their imaginative energy into engineering not literature." This is not exactly what Frye said. Frye notes

in the quotation on page 220 of my book that “a pioneering country is interested in material rather than spiritual or cultural values,” and then immediately notes that this “cliché” is not correct in the case of 17th century Massachusetts. What he does claim is that “the imaginative energy of an expanding economy is likely to be mainly technological,” and that this manifests itself in the United States more in advertising than in fiction. Hull also dismisses Frye’s argument that a Canadian attitude to quantification can be seen in fur traders keeping account books and missionaries tallying conversions as “just silly.” Hull certainly has the right to judge Frye’s views, but again my interest is to present Frye’s ideas in terms of what they tell us about his views of technology not to evaluate the validity of his views.

My second criticism of Hull’s critique is his desire for my book to be something it clearly is not. He rightly notes that my book is “intellectual history not [a] history of technology.” He then proceeds to point out ways in which it is not a history of technology. He claims that Alexander Graham Bell’s invention of the telephone was “a piece of crap,” that radio did not make telegraph cables obsolete, that the mechanical view of the world was not a 19th century invention, and that “imagining that technology could overcome constraints of nature” was not a uniquely Canadian perspective. Unfortunately, Hull does not provide page numbers where he attributes these views to me. If such comments were made they were likely in the context of the views of a Canadian thinker who expressed such a perspective. In the case of Bell’s invention of the telephone, Hull’s observation is interesting but does not detract from Bell’s reflections on the importance of the telephone as a new technological invention.

Jean-Louis Trudel notes that with two exceptions all the authors whose ideas I discuss were born between 1816 and 1918, and over two thirds of them on farms or in hamlets or small villages. He points out that these Canadian intellectuals lived through the dramatic technological changes of the 19th century. Their concerns were less with the past than with existential issues arising from their present experiences. These experiences include rural isolation, and the end of a close relationship with the mother country, Britain. They lived through the horrors of the Great War, the most technologically dominated war to that point in time; it turned their world upside down. All of these are valid points. I have attempted to capture the rapidity and uncertainty of the age, particularly as articulated in the interwar years. I also think that their past did impinge because it was so different from what they were experiencing in their present circumstances. Trudel also notes that the vast majority of the individuals I study were professors. As well, he points out that the second part of my study is less a history of ideas and instead a history of

intellectuals. In both cases he is correct. It was social scientists and, to a lesser degree, humanists who were most concerned about the nature and especially the impact of technology on human nature, society, and Western civilization; these intellectuals in most cases resided in universities. As intellectuals, they articulated a full fledged discourse on technology. While it is debatable whether their ideas reflected the popular opinions of their time, nevertheless the depth and breadth of their thoughts on technology enabled me to examine their ideas in depth. In the case of earlier thinkers in the pre-World War I era, this was not the case. While technology was a concern or interest for them, it was not a subject of sustained analysis. This transition from ideas to intellects also reinforces a point I make that in the interwar years for the first time "technology was being discussed as a 'topic' of interest to people outside the field itself" (p.84).

Trudel questions the lack of defenders of technology in the first half of the twentieth century in my study. He notes a documentary entitled *Canada's New Main Street*, relating to the building of the Trans Canada Highway, as evidence to the building of a positive perspective on technology. My response is that my study focuses only on the ideas of Canadian intellectuals who have reflected on technology in depth; I was unable to look beyond key thinkers or at various studies done that concerned themselves with technology. Among the thinkers I do examine, only Marshall McLuhan had a positive outlook on the new age of electronic technologies of communication, and even he had pangs of doubt in realizing the upheaval involved in the transition to the new electronic age of technology. One of the arguments in my book is that the optimism towards technology in the pre-World War I gives way to an ambivalent perspective in the interwar years, and then to an awareness and deep concern for the pervasiveness of technology by post-World War II thinkers. This transition is reinforced by the fact that the majority of the Canadian thinkers who wrote on technology after World War II emphasized the problems more than the benefits.

Now let me deal with common concerns raised by both reviewers. Both Hull and Trudel point to individuals or groups overlooked or excluded from my study. This is fair enough, but on a subject as vast as technology, such exclusions are inevitable. The best way to respond to this criticism is to explain the evolution of my approach to this study. I began wanting to do a comprehensive study of Canadian perceptions of technology, including both English-Canadian and French-Canadian viewpoints, and also dealing comprehensively with Canadian poets, novelists and artists of technology. As I got into my research, I first realized that there existed a rich French-Canadian perspective on technology that differed in important ways from that of English Canadians, as Trudel notes himself in his review.

As I mention in my Introduction, I could not do justice to both traditions in one book and to attempt to do so would make French-Canadian thought appear to be an “appendage” or in addition to Anglo Canadian thought. So I abandoned that idea. I next realized that there were numerous passing references or brief reflections on technology by various Canadian thinkers that while interesting did not provide any depth of knowledge on the subject. I also found a great deal of repetition. So I decided to select key thinkers in the three periods of time—the late 19th and early 20th centuries (up to World War I), the interwar years, and the post-World War II period—as representative of the thinking of their time, and then analyze their ideas in greater depth. At this point in writing the manuscript, I still clung to the desire to do an extensive analysis of technology in the writings of poets and novelists and in Canadian art. I had two full chapters at the end of the original manuscript, one devoted to poets, novelists and artists prior to World War II, and one dealing with the period after the War. But these chapters were not integrated with the social scientists, humanists, and engineers of the rest of the study. As well, I was covering the same time periods twice. Here too repetition was evident. So I chose those poets and novelists who dealt extensively with technology in their poetry or novels and whose views were similar to social scientists writing at the same time and integrated the ideas of the social scientists and the literary figures. I left out the artists because technology does not become a subject of study in Canadian art to any great extent until at least the 1970s. James Hull points out the absence of the Group of Seven artists. While the Group did some paintings of urban ghettos or “the industrial landscape of the Toronto waterfront,” their paintings are noted more for the absence of technology or industrialization. Why this was the case and its significance is more a point of speculation than certainty since members of the Group only occasionally made passing reference to technology, industrialism or urbanization when reflecting on their art. So while I appreciate the concern of both reviewers of individuals or groups who have been left out of my book, I can only reply that—as both historians know—a historian has to be selective in what he or she can include and then justify those decisions for the reader. This, I believe, I have done.

In closing, both reviewers have provided insightful comments on my book, both as to its strengths and its weaknesses. They have also pointed out other avenues of pursuit on this broad topic of technology and Canadian thought. As mentioned in my Introduction, I hope my broad overview of the subject might encourage more in-depth or radically different approaches to a subject that has been pervasive but surprisingly little studied to date in Canadian intellectual history.