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Article abstract

In General Haldimand's little-studied administration of Quebec during the American Revolutionary War, military strategy depended upon gathering information about the natural environment. Haldimand preserved Quebec for the British not by force, but by applying continental modes of territorial domination. Rather than secure the St. Lawrence Valley in an intimidating show of military force, Haldimand sought to secure the vitality of the fur trade along the Great Lakes corridor. This endeavor required Haldimand to look for the natural laws that created unity out of the social and geographic territory he had to defend, and to protect the most vital links: the economic currents and the transportation system. Thus, the Royal Engineers took precedence over other military officers as they collected a large body of information about the natural environment of the Great Lakes region. They drew maps, sounded bodies of water, and made meteorological observations, turning pleasant bays into safe harbors. The knowledge gathered replaced Mississaugan perspectives of the land, revised French information and set the agenda for Loyalist settlement in the region. This paper however, focuses upon Haldimand's role in applying continental attitudes towards the landscape that helped solidify the link between natural history and imperialism of late-18th century Britain.

# The Science of Territorial Domination in General Haldimand's Defence of Quebec, 1778-1783

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**Abstract:** In General Haldimand's little-studied administration of Quebec during the American Revolutionary War, military strategy depended upon gathering information about the natural environment. Haldimand preserved Quebec for the British not by force, but by applying continental modes of territorial domination. Rather than secure the St. Lawrence Valley in an intimidating show of military force, Haldimand sought to secure the vitality of the fur trade along the Great Lakes corridor. This endeavor required Haldimand to look for the natural laws that created unity out of the social and geographic territory he had to defend, and to protect the most vital links: the economic currents and the transportation system. Thus, the Royal Engineers took precedence over other military officers as they collected a large body of information about the natural environment of the Great Lakes region. They drew maps, sounded bodies of water, and made meteorological observations, turning pleasant bays into safe harbors. The knowledge gathered replaced Mississaugan perspectives of the land, revised French information and set the agenda for Loyalist settlement in the region. This paper however, focuses upon Haldimand's role in applying continental attitudes towards the landscape that helped solidify the link between natural history and imperialism of late-18th century Britain.

**Résumé :** Sous l'administration peu étudiée du Général Haldimand qui dirige les destinées de la province de Québec au cours de la Guerre d'Indépendance américaine, la stratégie militaire dépend de la collecte d'informations sur l'environnement naturel. Haldimand préserve la province pour les Britanniques non par la force, mais par l'application de modes continentaux de domination territoriale. Plutôt que de sécuriser la vallée du Saint-Laurent par une démonstration intimidante de force militaire, Haldimand cherche à assurer la vitalité du commerce des fourrures le long du corridor des Grands Lacs. Cette entreprise nécessite qu'Haldimand cherche les lois naturelles pouvant créer l'unité à partir du territoire social et géographique qu'il a à défendre, et également qu'il protège le lien le plus vital: les circuits économiques et le système de transport. À cet égard, les Royal Engineers obtiennent préséance sur les autres officiers de l'armée comme ils ont à

recueillir une grande quantité d'informations sur l'environnement naturel de la région des Grands Lacs. Ils dessinent des cartes, sondent les plans d'eau, et font des observations météorologiques, transformant des baies agréables en ports sécuritaires. Les connaissances assemblées remplacent éventuellement les perspectives « Mississaugan » du terroir, corrigent les informations de l'ère française, et établissent le programme des Loyalistes dans la région. Cet article se concentre toutefois sur le rôle d'Haldimand dans l'application d'attitudes continentales à l'égard du territoire qui contribuent à renforcer le lien entre l'histoire naturelle et l'impérialisme de la Grande-Bretagne de la fin du 18<sup>ème</sup> siècle.

Exhortations to cultivate pumpkins and potatoes run like garden tendrils through General Haldimand's defensive plans for British Quebec during the American Revolutionary War (1775-1783).<sup>1</sup> Though a Swiss-born mercenary, Haldimand's orders to post commanders reflected the dominant culture of the mid-eighteenth century British military that treated British soldiers as an investment. The fiscal-military state, having expended sums to send armies abroad, attempted to protect that investment by tending to the health and welfare of its soldiers.<sup>2</sup> So, Haldimand reminded commanders that vegetables had "good effects [...] on scurvy" and encouraged sometime reluctant soldiers, to continue gardening. But the gardens were also good and enlightened military planning. Theoretically, they could feed the garrisons at the western posts in case British food supplies failed to arrive and they relieved the burden on the civilian population. This integrated, broader perspective that Haldimand brought to resource management while active as the civilian and military governor of Quebec between 1778 and 1784 suggests that he had a broader perspective than the pragmatics of the caring fiscal-military state.<sup>3</sup>

Rather, an analysis of Haldimand's practices of resource management throughout his military career in North America reflected his personal engagement with enlightenment models of government. In particular,

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1. Library and Archives of Canada (LAC), British Library, Haldimand Papers, Additional Manuscripts, 21 788, Haldimand to Captain Alexander Fraser, 6 October 1779, microfilm, hereafter: (LAC, HP, and volume number, and date of correspondence); LAC, HP, 21 788, Captain Matthews to Captain Alexander Fraser, 13 July 1780, and 21 788, General Haldimand to Major Ross, 6 January 1781.

2. LAC, HP, 21 788, Haldimand to Major Ross, 4 August 1781; HP, 21 788, General Haldimand to Captain Alexander Fraser, 18 June 1780; Erica Charters, "Disease, Wilderness Warfare, and Imperial Relations: The Battle for Quebec, 1759-1760," *War in History* 16, 1 (2009): 2, 8-10, 22; Erica Charters, "The Caring Fiscal-Military State During the Seven Years War, 1756-1763," *The Historical Journal* 52, 4 (2009): 922-3.

3. Stuart Sutherland, Pierre Tousignant and Madeleine Dionne-Tousignant, "Haldimand, Sir Frederick," in *Dictionary of Canadian Biography* (DCB), ed. Frances Halpenny, vol. 4 (Toronto: Toronto University Press, 1779), 895-900 [Hereafter the references will be to the DCB online version].

Haldimand's defensive plans and military administration reflected the scientific management of land and nature that had become a founding interest of the British state by the end of the Seven Years War (1756-1763). As belief in "divine or oligarchical election" waned in the early eighteenth-century, European rulers increasingly sought to justify their rule by service to the state in helping to promote a country's agricultural and economic outlook. In Britain, a "King, statesman [or] colonial governor," acquired the aspect of a "divinely appointed gardener" who regarded the "the state [...], as the royal estate." This intellectual and moral position embraced the idea that, as historian Richard Drayton explains, the human conscience, the landscape and the natural world came to be conceptualized as metaphorical estates which an enlightened ruler had "both a duty and a right to improve."<sup>4</sup> Haldimand applied principles of estate management to his responsibilities throughout his career in North America that began during the Seven Years War. A fuller contextualization of Haldimand's practices within those of the British military is beyond the scope of this paper. However, his successful reliance upon ideas of scientific estate-management to advance his career in an institution that regarded him as an outsider, reflects a military hierarchy at least receptive to improving ideas in North America.

Haldimand acquired his military experience in the 1740s in the service of Frederick II of Prussia, the archetypal enlightened despot of the eighteenth-century. In 1748, Haldimand became a captain commandant in the Swiss Guards at The Hague attached to the Dutch Army where he met and befriended Henry Bouquet. Together they agreed to serve in the British military at the outset of the Seven Years War when Britain passed a special act of Parliament to allow foreign officers to serve the British Crown in North America in the Royal Americans (62<sup>nd</sup>, later 60<sup>th</sup> Regiment of Foot). Haldimand served with distinction throughout the Seven Year's War, he earned the honour of accepting the flag of surrender from the French in 1760 and in 1762, the command of the military district of Three Rivers, Quebec. In 1766, he became brigadier general of the Southern Department and commanded in the Floridas. In the spring of 1773 Colonel Bradstreet appointed him acting commander-in-chief of the British military in North America at New York in his absence. By 1778 he had returned to Britain to seek preferment and been commissioned as civilian and military governor of Quebec in 1778. He served there for the duration of the American Revolutionary War, leaving in 1784.<sup>5</sup>

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4. Richard H. Drayton, *Nature's Government: Science, Imperial Britain, and the 'Improvement' of the World* (New Haven: Yale University Press, 2000), 44, 65, 68, 70, 88-9, 129.

5. Matthew Hatvany, "Overcoming Ethnic and Social Barriers in Colonial British America: The 'Meritorious' Career of Frederick Haldimand," *Historian* 58, 3 (1996): 2-4; Sutherland et al., "Frederick Haldimand," *DCB online*.

Both Haldimand and Bouquet, however, felt distinctly marginalized in the British service, not having the wealth or the personal connections to patronage to secure their advancement through the ranks. Only by merit—by the objectively verifiable success and felicity of their command—could they expect to advance.<sup>6</sup> To their credit, they achieved a measure of recognition from the dominant British military culture that eschewed book learning.<sup>7</sup> Another foreign observer of British officers in North America noted that they “did not study the art of war whilst in camp—their portmanteaux were filled with bags of hair powder, boxes of sweet smelling pomatum, cards instead of maps, even stage plays.” Bouquet by contrast, acquired a reputation as a keen student of military science, recommending Count Turpin de Crisse’s *Essai sur L’art de guerre* (1754) “long before it was translated into English in 1761.” Haldimand’s application of accepted standards of disease control, also earned positive recognition. As historian Matthew Hatvany has demonstrated, Haldimand made the best he could from his marginal post in Florida saying “His Majesty certainly didn’t send me here with the rank of Brigadier General just to preside at the funeral of his brave troops.” So, he rebuilt unhealthy barracks and drained swamps. His military commanders noticed and Lord Barrington, the Secretary at War wrote to Haldimand, telling him that he had done “ample justice with the King respecting the care of troops in Florida.” Barrington said he was a “meritorious sufferer [stuck in Florida] for the public benefit.”<sup>8</sup> Yet Haldimand’s care of his troops health extended beyond the military’s practices. Haldimand’s vision was far more encompassing and systematic, as became clear after being appointed governor of Quebec.

Haldimand’s strategy of defence for Quebec in 1778 appears to have united his personal interest in scientific-estate management with an understanding of physiocratic and cameralist economic theories, to bring enlightenment sensibilities to his decisions.

In 1778, Haldimand faced an unenviable task. In 1777, the unexpected British defeat at Saratoga led the British to demote Quebec to a defensive theatre of war in order to focus on quelling rebellion in the southern colonies and to defend against French naval attacks, now that France—sensing weakness—was supporting the rebels. The Quebec Act of 1774

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6. Hatvany, “The ‘Meritorious’ Career of Frederick Haldimand,” 1-4.

7. Azar Gat, *A History of Military Thought: From the Enlightenment to the Cold War* (Oxford: Oxford University Press, 2001), 27-55.

8. David Gates. “Bouquet, Henry (1719–1765),” in *Oxford Dictionary of National Biography*, ed. H.C.G. Matthew and Brian Harrison (Oxford: OUP, 2004), online ed., edited by Lawrence Goldman, January 2008, <http://www.oxforddnb.com.proxy.library.carleton.ca/view/article/2985>; Hatvany, “The ‘Meritorious’ Career of Frederick Haldimand,” 5.

had extended the province's boundaries again into the west so that the whole province extended over one thousand miles by water into Illinois country, secured only by a string of posts. In the settled regions of the east, 90,000 French-speaking, Catholic inhabitants farmed the St. Lawrence Valley, the strength of their attachment to the British who had conquered them only fifteen-years previously, was uncertain. They had shown little inclination to support the American rebel invasion of Montreal in 1775, but the then governor, Guy Carleton, had antagonized them by proclaiming martial law that included the detested *corvée*, or state-conscripted labour. The military rule also antagonized the province's few English-speaking protestant merchants and traders when Carleton prohibited travel by private means on the Great Lakes in order to forestall any illegal trade in arms. In this intense focus upon circumscribing freedom in the St. Lawrence Valley, Carleton let control of the western posts slip. When Haldimand arrived he saw a tense, brooding population in the east receptive to the seditious rebel propaganda and an Indian war brewing in the west. And he only had 6,700 troops to deploy; 600 of whom were ill, 900 already deployed in the west, and a further 1,000 garrisoned at Quebec, Montreal, Chambly, St. John and Ile aux Noix. In an emergency, Haldimand had only 4,200 troops at his disposal. His 1778 analysis of the situation for Whitehall concluded that "the fortifications of Quebec [were] entirely rotten" and that the western posts were "in a very defenceless state."<sup>9</sup>

Yet, Haldimand's analysis of the problem did not fall in line with the thinking of the French military engineer Vauban—one of the foremost thinkers of the "military-enlightenment"—to tame and dominate the land with imposing fortresses.<sup>10</sup> Rather, as his twin powers of military and civilian governorship allowed him, he addressed the province's defensive needs in one synoptic, economic vision. Haldimand did not choose to rebuild the Citadel at Quebec, which "might only serve to intimidate the

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9. Alfred LeRoy Burt, *The Old Province of Quebec*, vol. 2 (Toronto: McClelland and Stewart, [1933] 1968), 3; Faye V. Whitfield, *The Geography of the British Northern Interior Frontier of Defence during the Haldimand War Administration of Quebec 1778-1784* (PhD thesis, McMaster University, 1993), 156; Canada, Dept. of Militia and Defence, *A History of the Organization, Development and Services of the Military and Naval Forces of Canada From the Peace of Paris in 1763 to the Present Time*, vol. 3 (Ottawa: King's Printer, 1919?), 49; John O. Dendy, *Frederick Haldimand and the Defence of Canada, 1778-1784* (PhD thesis, Duke University, 1971), 31-4.

10. Chandra Mukerji, "Dominion, Demonstration and Domination: Religious Doctrine, Territorial Politics, and French Plant Collection," in *Colonial Botany: Science, Commerce, and Politics in the Early Modern World*, ed. Londa L Schiebinger and Claudia Swan (Philadelphia: University of Pennsylvania Press, 2005): 20-1 and her *Territorial Ambitions and the Gardens of Versailles* (Cambridge: Cambridge University Press, 1997), 52-65.

People, and no ways answer immediate Exigencies,” as he explained, indicating that he was loath to exacerbate their patience; this sensitivity to civilian populations marked the discourse of the “military enlightenment.” Haldimand’s problem was more complicated than that. The western posts were not secure and as he reasoned,

should the [western] Posts above be cut off what will become of the Fur Trade and how long may we expect to keep possession of the Lower and cultivated Part, if this goes America will most probably be lost to Great Britain for ever.<sup>11</sup>

Safe delivery of presents to the Indians in the west—which he believed “entirely upon the exertions of the Indians which ever have and ever will be governed by the presents they receive”—satisfied many of the province’s defensive needs according to Haldimand’s analysis: it would preserve their alliance and preserve the trade that fed the lower province. So, Haldimand focused his limited resources on the inglorious question of transportation security, a move that included fortifying a tiny island called Carleton Island at the head of Lake Ontario and establishing Fort Haldimand.<sup>12</sup>

Haldimand’s concept of a commercialized agrarian economy in Quebec by-passed some of the more stereotyped British conceptions of the French Canadians to consider the problem from the perspective of leading-edge economic theories. Since the Conquest, British discourse about how to win the consent of the French Canadian people to British rule framed it as a cultural issue—or an issue of history and knowledge to use the historical terms. French Canadians, they believed, lacked the general knowledge of the enlightenment and the specific knowledge of British history, commerce and constitution to be fully trusted as free subjects.<sup>13</sup> To be sure, Haldimand, sought to address ‘knowledge’ issues. He ordered books for the first bilingual and public library in Quebec and when the French books did not arrive with the English ones, he held them back, so as not to incite charges of preference.<sup>14</sup> Yet, Haldimand did what many British thinkers did not do, he conceived of the French Canadians as rational beings, integrated into modern commercial networks and he appealed to their self-interest. He believed that the commercial benefits

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11. LAC, HP, 21 682, General Haldimand to Lord George Germain, 28 July 1778.

12. General Haldimand quoted in Norman Baker, *Government and Contractors: The British Treasury and War Supplies 1775-1783* (London: Athlone Press, 1971), 199; The economic, political and military dynamics of the fort’s function in Haldimand’s defence of Quebec is outlined in Sarah Katherine Gibson’s, *Carleton Island 1778-1783: Imperial Outpost During the American Revolutionary War* (M.A, Queen’s University, 1999).

13. E.A Heaman, “Constructing Ignorance: Epistemic and Military Failures in Britain and Canada during the Seven Years War,” *Essays in Honour of Michael Bliss: Figuring the Social*, ed. E.A. Heaman et al. (Toronto: University of Toronto Press, 2008), 101.

14. “Frederick Haldimand,” *DCB* online.

of the fur trade were important, to either French Canadian satisfaction, or economic stability such that its failure would push the province out of British control—presumably by the outright rebellion of exasperated subjects or by the strength of the new economic ties they would form with the Americans. In either case, Haldimand did not regard the “cultivated parts” of the St. Lawrence Valley as isolated from the modern world. Perhaps he looked at the issue more as a military commander used to making sure his troops were well fed and housed in order to keep them quiescent. In Florida the Quartermaster General, James Robertson praised Haldimand’s concern for his troops and their families saying “you are both a friend to the troops and a good manager of public money.”<sup>15</sup>

However, Haldimand’s vision also reflected the integrated conceptions of economic flows then being articulated by the French physiocrats and refined by German thinkers into cameralism. In the late 1750s (when French-speaking Haldimand was serving in the Swiss Guard in The Hague) French Enlightenment thinkers, Francois Quesnay and Victor Riqueti, the Marquis de Mirabeau, developed a new economic philosophy which posited that the only true source of wealth was agricultural and that wealth flowed through an economy (like blood circulating in the body) and was not a commodity to be hoarded as bullionists and mercantilists tended to do. Thus, they outlined an economic vision that “stressed the interrelationship between different parts of the industrial and agricultural economy” working together as a normally functioning “natural system.” This economic system, its theorizers postulated, was “a direct manifestation of the natural order” and, that as an “embodiment of natural law [it] thus should dictate the sociopolitical order.”<sup>16</sup> Quebec was very difficult to defend physically, it being “quite open to the Insults and Ravages of the [rebellious] Colonies,” so he focused on maintaining a stable population which, in his analysis, rested upon his ability to protect their material expectations from shock.

Haldimand had attempted to apply the same economic vision in Florida and St. Augustine in the late 1760s and early 1770s, expanding his improving activities to protect the soldier’s bodily health by promoting the health of the local economy. In Florida, he thought the economic system unhealthy because it was out of balance: the Floridians trusted only to commerce. With some exasperation, he castigated the Floridians

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15. Robert Rae, “Brigadier Frederick Haldimand—The Florida Years,” *Florida Historical Quarterly* 55, 4 (1976): 528.

16. Richard Grove, *Green Imperialism: Colonial Expansion, Tropical Island Edens and the Origins of Environmentalism 1600-1860* (Cambridge: Cambridge University Press, 1995), 190-1, 304; Elizabeth Fox-Genovese, *The Origins of Physiocracy: Economic Revolution and Social Order in 18<sup>th</sup> Century France* (Ithaca: Cornell University Press 1976), 9.



for not exploiting the economic opportunities offered by the cultivation of indigo. He thought the regions' lawyers and merchants were too proud to "salir les doight d'indigo" and that the community paid insufficient attention to cultivation. Haldimand had been experimenting with the crop, in the tradition of improving agricultural methods, and was certain that the cultivation of indigo would turn the province into "L'emporium 'of the western world'" for the production of Indigo and that the product would surely find a ready market in London. Regretfully, he ceded this undeveloped potential to "la posterité."<sup>17</sup> He was glad to leave, but at least in the company of the widowed Mrs. Fairchild who stayed with him "throughout his later career" as his recognized companion, although they did not marry. Also, he had a chance to rest in the backwater well supplied by the trade that passed between Pensacola and Jamaica so that "Haldimand received limes, yams, cigars, rope and old canvas, and the latest London pamphlets, magazines and newspapers."<sup>18</sup>

Many of which would have been full of exhortations and directions about improving agriculture and scientific estate management that appear to have underwritten his physiocratic practices of military management. Throughout his years in North America he attempted to improve his material status by acquiring property and becoming a landlord. While military governor at Three Rivers he acquired, in partnership with his friend Bouquet, "certain properties on the Gulf of Saint Lawrence and on Shepody Bay, Nova Scotia" including the "extensive seigniory of Pabôs" (managed in 1772 by his nephew Peter Haldimand). In Florida he "secured some temporary grants of land in the western parts of the colony. Five hundred acres on the Amite River he disposed of to an unsuccessful planter from the West Indies named Maubec." It seemed he intended to place some tenants on the land, but it does not appear that he did. "Another 500 acres on the Mississippi Haldimand gave to his friend Thomas Willing of Philadelphia." He also had property in Maryland and Pennsylvania that he managed like any improving landowner of the eighteenth century, issuing leases that stipulated agricultural improvements to a German and some Swiss settlers.<sup>19</sup>

Improvement—of estates, forts and provinces—required information and its collection formed the second part of Haldimand's enlightened estate management in Quebec. In the process, he moved away from

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17. Rae, "Haldimand—The Florida Years," 514-7, 526; LAC, HP, B4, 22 June 1770, Pensacola, General Haldimand.

18. Rae, "Haldimand—The Florida Years," 518, 530.

19. Rae, "Haldimand—The Florida Years," 514, 527; G.D. Skull, "General Sir Frederick Haldimand in Pennsylvania," *The Pennsylvania Magazine of History and Biography* 8, 3 (1884): 300, 302-5.

traditional conceptions of imperial imposition of culture, knowledge and ecologies. Rather, as Alix Cooper has argued regarding the pursuit of cameralist economic visions (related to those of physiocracy) in early modern Europe, one of the short-term effects was an appreciation and awareness of “local knowledge.” Cameralism provided an economic theory of improvement based upon the idea of “territorial self-sufficiency as a route to economic success” which encouraged states to take advantage of local resources. “Cameralism, as a set of economic and political proposals, concentrated attention on the territory as a unit, and on making the fullest use of that territory’s own resources, natural, human and otherwise.” Thus, its proponents experimented with resource extraction, the establishment of mines and with agricultural productivity.<sup>20</sup> By the early eighteenth-century the science of “Cameralism” began to have a genuine political influence, visible, for example in the decision of Frederick William I of Prussia in 1727 to establish a university chair in the subject.<sup>21</sup> A key part of its influence included the appreciation of local knowledge, local goods and local expertise: another distinguishing trait of Haldimand’s enlightened stewardship.

Haldimand viewed local knowledge as enlightened knowledge because it provided leverage over the natural elements. As the governor of Three Rivers Haldimand promoted improvements to the Saint Maurice Forges, investing his own funds in the project on the strength of the local intelligence of a certain half-mad Père Roban, who convinced Haldimand that profitable mines could be established close to the forges.<sup>22</sup> He also believed in the equality of expertise, thinking that English-speaking soldiers and French-Canadians organized into militia units could engage in equal and mutual exchanges of knowledge in a “mixture [that] will create emulation without exciting National Jealousy and bring about that Union and Harmony, the effectuating whereof is so desirable for the advantage of both.” In return for instruction in British self-discipline, the French Canadians would share “superior knowledge [...] as to getting through the Woods in Summer or Winter, or the management of the Oar or the Paddles in Bateaux or Canoes, as necessary for the Soldiers to be well versed in, in these extensive communications [distances], as the use of his Firelock.”<sup>23</sup> It was an exchange of equality. Haldimand also

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20. Alix Cooper, *Inventing the Indigenous: Local Knowledge and Natural History in Early Modern Europe* (Cambridge: Cambridge University Press, 2007), 96-7.

21. Drayton, *Nature’s Government*, 70.

22. LAC, HP, 21 661, General Haldimand to General Sir Jeffrey Amherst, 15 July 1762, 25 August 1762, 24 September 1762 and 23 October 1762.

23. General Haldimand to Lord George Germaine, 28 July 1778 reprinted in *A History of the Organization, Development and Services of the Military and Naval Forces of Canada*, vol. 3, p. 48.

recommended planting indigenous crops such as pumpkins at the post gardens and employed a far-seeing property manager who realized the potential value of having Acadians live on his Nova Scotia lands because of their agricultural expertise.<sup>24</sup>

In his defensive plans for Quebec, Haldimand relied upon the trained eyes of engineers to collect information that would allow him to see and exploit the “natural systems” of the province—especially the water systems upon which the economic basis of the province relied. The transshipment point he fortified at the head of Lake Ontario as part of his grand strategy, became a site, like his other western forts, for the “scientific corps” of the British military. Several talented officers were involved in the fort’s building and functioning, including Lieutenant William Twiss, a much-respected officer of the Royal Engineers in Quebec and product of the Department of Ordnance’s Drawing Room and Captain John Schank, trained by the British Navy. Both men were happy to entrust their orders to Lieutenant James Glennie, a Woolwich trained officer of the Royal Engineers, a brilliant mathematician, and a Fellow of the Royal Society as of 1779.<sup>25</sup> Schank and Twiss both went on to earn recognition in learned circles. Schank also became a fellow of the Royal Society and Twiss became the lieutenant governor of the Royal Military Academy at Woolwich.<sup>26</sup> Haldimand used the engineers to dominate the landscape in practical ways more in line with Crises’s exhortation to “kno[w] the landscape” and to not trust existing maps.

However, he appears to have been at the vanguard of a movement to incorporate the French practice of valuing scientific engineering in Britain. As Robert Fox outlines, by the mid-eighteenth century, Britain had side-stepped the general trend among western European states to promote scientific engineering as a means by which to create more

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24. LAC, HP, 21 728, J.F.W De Barre to General Haldimand, 7 February 1767.

25. Haldimand treated Lieutenant Twiss as his chief engineer, but it was not until the retirement of the incumbent, aged John Marr, that Twiss acquired the official title. John Schank was a lieutenant seconded from the Royal Navy, and head of Haldimand’s Great Lakes Naval Department. See the Haldimand Papers volumes 21 787, 21 788, 21 801, 21 802, 21 803, 21 804 *passim*. McLeod, “Tap of the Garrison Drum,” 121, 125, 129; W.A.B. Douglas, “The Anatomy of Naval Incompetence: The Provincial Marine in Defence of Upper Canada before 1813,” *Ontario History* 71, 1 (1979): 4-5; John C. Kendall, “William Twiss,” *DCB*, vol. 6, p. 789; Douglas W. Marshall, “Military Maps of the Eighteenth-Century and the Tower of London Drawing Room,” *Imago Mundi* 32 (1980): 38; W.A.B. Douglas “John Schank,” *DCB*, vol. 6, p. 695; W.G. Godfrey, “James Glenie,” *DCB*, vol. 6, p. 348. See also William Twiss, “Surveying Journal, 1779-1781,” MG 23B 54, *passim*. Although the *DCB* entry uses “Glennie” the record of his career in Canada preserved in the Haldimand Papers spells it “Glennie” and the latter is used in this paper.

26. John C. Kendall, “William Twiss,” *DCB*, vol. 6, p. 789; Douglas, “John Schank,” *DCB*, vol. 6, p. 695; Godfrey, “James Glenie,” *DCB*, vol. 6, p. 348.

wealth for the state. Britain, with the exception of two schools for the training of military engineers, continued to treat engineering as a craft rather than a science.<sup>27</sup> The Royal Military Academy at Woolwich had been training engineers since 1741 and by the mid-18<sup>th</sup> century, the Ordnance Department was offering increasingly formalized training in scientific engineering in their Drawing Room.<sup>28</sup> But the schools were slow to acquire acceptance. Aristocratic officers regarded the officers of the Royal Artillery and the Royal Engineers as social inferiors and looked askance upon their specialised training. John Montresor, an engineer serving in America voiced a typical complaint:

It's rather Extraordinary that in a country [Britain] where the Arts and Science are so much encouraged that a Scientific Body of so important a nature, that the very Defence of the Realm depends upon, should be so totally neglected.<sup>29</sup>

Whatever the overall trend, Haldimand consistently relied upon his engineers. He himself appears to have had some engineering skills to redesign barracks in Florida.<sup>30</sup>

Haldimand wanted both intelligence about the enemy's movements and scientific information about the terrain and waterways and he relied on the engineers to collect geographical and hydrographical information to improve navigation in the region and improve transportation—in general to increase British knowledge of the region so that military actions could be more effective.

Haldimand, having traveled down Lake Ontario and the St. Lawrence during the Seven Year's War, had an image in his mind about where he should build the fortified transshipment point. However, he acquiesced to the expertise of his two engineers who determined, after a detailed survey of the old French Fort Frontenac at Catarauqui, that it would not serve Haldimand's defensive plans. Twiss redirected his attention to small Deer Island, later renamed Carleton Island.<sup>31</sup> Schank enthused that the channels

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27. Robert Fox, "Science and Government," in *Eighteenth-Century Science*, ed. Roy Porter (Cambridge: Cambridge University Press, 2003), 121, 123.

28. Two years into the American Revolutionary War in 1776, the Master-General of Ordnance George Townshend formalized the school, indicating the fiscal-military state's increasing confidence in the benefits of a professional education and a perfection of the science of engineering. R.A. Buchanan, "The Rise of Scientific Engineering in Britain" *The British Society for the History of Science* 18, 2 (1985): 219 and n.3; Marshall, "Military Maps of the Eighteenth-Century," 23, 25.

29. Armstrong Starkey, "War and Culture, a Case Study: The Enlightenment and the Conduct of the British Army in America, 1755-1781," *War and Society* 8, 1 (1990): 12-3.

30. Rae, "Brigadier Frederick Haldimand—The Florida Years," 526.

31. Carleton Island lies twelve miles from the entrance to Lake Ontario, on the southern side of Grande Isle (Wolfe Island, Ontario). Carleton Island is small and "squat," one mile

around Carleton Island were “excellent roads for vessels of any Burden whatever” and they were uniformly deep so that any vessel could take shelter in the island’s lee in case of bad weather. Most importantly for the health-conscious Haldimand, a “free circulation, and Agitation of the Water all round [the] island [to] keep it pure, and wholesome.” There was enough land for the garrison to grow vitamin-filled vegetables, and there were plenty of trees to hand for construction. It presented the basis for a successful venture.<sup>32</sup>

The post served as a base for the mapping, surveying and sounding of the eastern-end of Lake Ontario. Lieutenant Twiss had noted when he led his retinue into the mouth of Lake Ontario, they were all “entire strangers” in those parts.<sup>33</sup> He also said, “Every General Plan I have yet seen of this Entrance of Lake Ontario, is so very erroneous, that a survey from the Island to the Lake, extending to the bottom of the deep Bay to the South, and down to the Cataraqui towards the North, with the Bearings and distance nearly of the several Islands within sight of these Posts is much to be wished for.”<sup>34</sup> Captain Schank concurred, stating more fully in his communication to General Haldimand, the vulnerable position in which their lack of knowledge placed them:

a survey is much wanted, [...] and [...] is necessary both the land and water service. The latter wants it much as no person here can give me the least Information with regard to any other part of the Lake than that confined road which they navigate every day. From this Ignorance, the Vessels can never sail but with a fair wind, which must always be a great hinderance [sic] to the Transport carried on by shipping. In the *strongest* manner, I beg leave to recommend to your Excellency that you would give orders that all the posts where the Enemy can come by water, more Especially upon Island, that Guard Boats be ordered, I am in hopes your Excellency will allow that one boat is of more real service rowing round an Island, than a Hundred centuries.<sup>35</sup>

What Schank had in mind was the regular deployment of small gun-boats that would allow the officers at the newly established island to collect

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wide by two miles long and “contains 1,274 acres of land.” C.C.J. Bond, “The British Base at Carleton Island,” *Ontario History* 52 (1960): 2.

32. British Museum, HP, 21 814, Lieutenant Twiss to General Haldimand, 17 August 1778; Lieutenant Schank and Lieutenant Twiss to General Haldimand, 17 August 1778; HP, 21 801, Lieutenant Schank to General Haldimand, 17 August 1778. All printed in Richard Arthur Preston, *Kingston Before the War of 1812* (Toronto: Champlain Society, 1959), 5-10.

33. Lieutenant Twiss to General Haldimand, 8 August 1778, printed in Preston, *Kingston before the War of 1812*, 4.

34. Great Britain, War Office, Judge Advocates General Office, WO 71, vol. 56, p. 39, 61, NAC, MG 13, transcript, “The Court Martial of James Glenie,” 24 July 1780 [hereafter: “The Court Martial of James Glennie”], p. 46.

35. LAC, HP, 21 801, 11, Captain Schank to General Haldimand, 17 August 1778.

necessary information, giving them greater mastery over the elements and ultimately a more secure and efficient transportation system, linking the western posts to the settled region of Quebec. Haldimand acquiesced in the matter of these gunboats for they, more than military might, were the key to Haldimand's defensive success. Lieutenant Twiss left standing orders for the island's engineers to take "correct and daily observations on the Ice, the rise of the Water, and the Effects of the different Winds" and the members of the Naval Department, in most intimate contact with the elements were also enlisted in this information gathering routine. James Glennie conducted an intensive survey of the island and the surrounding water. His maps, plans and readings were regularly sent back to Haldimand at Quebec.<sup>36</sup>

The new knowledge gave the vessels greater latitude to sail in adverse winds. Consequently, the Naval Department increased the frequency of voyages on the lake as fears of being blown into uncharted waters diminished and the opportunities to sail in more adverse conditions opened.<sup>37</sup> It also gave the British greater latitude to plan more effective assaults in rebel territory. The secure transportation links supported the activities of the Regular army posted on the Island and at posts further west. Information collected and disseminated at Carleton Island allowed Haldimand to envision a large-scale image of the province's strategic position. The British gradually moved away from their vulnerable position as "entire strangers" in the region with "erroneous" maps to a tentative mastery over the water with far reaching consequences.<sup>38</sup> For the duration of the war, Haldimand's system held.

The difficulty, perhaps, of Haldimand's reliance upon the members of the "Scientific Corps" rested on their marginal status within the British military; the "scientific corps" challenged the dominant culture of the British military that favoured an aristocratic ethos of heroism ahead of learning and science. The divide between these corps and the regular corps of the military were deep and cultural. Where the Engineers and Artillerymen expected to advance in the military, just as they had through their education at the Woolwich Military Academy based upon merit, officers of the regular corps could buy commissions and relied upon patronage networks for their advancement.<sup>39</sup>

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36. LAC, HP, 21 787, *passim*.

37. "The Court Martial of James Glennie," 44; LAC, HP, 21 801, Captain Schank to General Haldimand, 17 August 1778; HP, 21 801, Captain Laforce to General Haldimand, 20 September 1780.

38. Whitfield, *The Geography of the British Northern Interior Frontier of Defense*, 159.

39. Members of the British army entered the service for several reasons. The officer corps of the British Army during the American Revolution were "sons of the great nobility and

Haldimand's tendency to favour the "Scientific Corps" over the regular forces in his defensive plans are highlighted by the grave disputes between the engineering department and the post commander. It all started over a haystack when Lieutenant James Glennie refused to lend the army hospital hay. But it was not out of a mean spirit. The fort's commander, Captain Aubrey of the 47<sup>th</sup> Regiment of Foot, had mismanaged his supply of hay and Glennie had a responsibility to feed the Engineering Department's four horses; he could not send to market for more supplies. The incident over the haystack capped an escalating war over resources between the army commander and the engineer. Aubrey was upset to find his military desires overshadowed by the projects of junior officers of the "Scientific Corps." Aubrey could not lead his men in battle as he had expected, because he found them in the service of the Engineers and the Naval Department providing labour for their more pressing projects of fort-building, surveying, and ship-building. In order to shore up his power, he systematically gained control over the resources of those departments in order to reduce their sphere of influence and bolster his own. So, Aubrey co-opted the labour of Glennie's cooks, sawyers and artificers. He also gained control of the Engineering Department's rum ration and consequently the men's labour: the soldiers working for Glennie grew recalcitrant because "they did not care whether the Engineer checked them of their Rum, as their Captain [Aubrey] would give it to them himself." The consequences to the fort's general order were serious. Aubrey's meddling slowed the construction

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landed gentry (who dominated high command positions), offspring of poorer but good families for whom military service offered an attractive career, members of traditional service families, Scots, foreigners, and former non-commissioned officers." The members of the Royal Artillery and the Royal Engineers were "a group apart" within the structure of the British Army. Unlike officers of the regular army, the officers of these 'Scientific Corps' received a professional military education at the Royal Military Academy at Woolwich. Aristocratic officers regarded the officers of the Royal Artillery and the Royal Engineers as social inferiors and looked askance upon their specialised training. The common soldiers were recruited through voluntary enlistment in return for a bounty and by pardoning criminals in return for service. The term of their service was for life. Many of the men recruited during the American Revolution were Scottish clansmen dispossessed after "the military power of the chieftains had been broken in 1745." Scottish tradesmen also enlisted in great numbers. The government found it difficult to enlist men elsewhere in Great Britain. In England many people did not support the Government's colonial policy, and in Ireland, an agricultural boom precluded the need for men to enlist. Armstrong Starkey, "War and Culture, a Case Study: The Enlightenment and the Conduct of the British Army in America, 1755-1781," *War and Society* 8, 1 (1990): 12; H.C.B. Rogers, *The British Army of the Eighteenth Century* (London: Allen & Unwin, 1977), 34; Edward E. Curtis, *The Organisation of the British Army in the American Revolution* (Oxford: Oxford University Press, 1926), 53-55.

of the fort and cost the Crown an additional £500 in expenses.<sup>40</sup> Lieutenant Glennie organised a petition against Aubrey and publicly insulted him as “a Rogue, a Villain and Guilty of Everything that was bad.”<sup>41</sup> Captain Schank responded swiftly to news of a Naval Department in shambles. Though he was stationed at Sorel, Aubrey’s abuse of power on Carleton Island was a threat to his career. He complained to Haldimand that it would “never be in [his, Schank’s] Power to Execute [Haldimand’s] Orders,” if Aubrey interfered with the operation of his department.<sup>42</sup> Ensuring the proper functioning of the engineering department on the frontier required General Haldimand’s constant vigilance against the general culture in the military that disfavoured the “Scientific Corps.”

In the event, James Glennie was court marshalled and found to have behaved unbecoming a gentleman having falsified some returns. Yet, Haldimand, retained his deep respect and admiration for his brilliant officer, seeking to recommend him to a Colonel Roy in 1780. Haldimand “candidly” acknowledged that some of the fault had lain with Glennie and that he would not take it upon himself to “mitigate the sentence.” Haldimand’s opinion of Glennie was that he “possess[ed] a spirit of Contempt & Disobedience for his superiors whom he knows are less learned than himself” and that for this reason, Glennie would be “prevent[ed] from thriving in a military line.” And yet, Haldimand, could not but help to point out, Glennie was talented and had executed Haldimand’s orders to the letter. Haldimand thus entreated Roy to “place him where great abilities and great application are necessary, but where Subordination is not the first and most necessary qualification.” Haldimand concluded by stating that “I wish to save Lieut. Glennie from being ruined.”<sup>43</sup> Haldimand, as a soldier of fortune, dependent for advancement in the military upon the observable results of his actions, had a natural admiration for Glennie’s talents and probably for his force of character and appeal to reason.

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40. “The Court Martial of James Glennie,” *passim*, 26, 38.

41. John Clunes to Francis Goring, printed in Durham, *Carleton Island in the Revolution* (New York: Bardeen, 1889), 82. N.B. the date printed in Durham’s work is 25 March 1777. It is clear however from James Glennie’s court martial that event recorded in the letter took place in 1779. “The Court Martial of James Glennie,” 97.

42. Haldimand reproved Aubrey for not respecting the divisions between departments. But, in March 1779 Captain Aubrey arrested Glennie for “having signed a false return and likewise for having behaved unbecoming the character of an Officer and a Gentleman” and a year later, Glennie was found guilty of having failed to behave as a gentleman. In his zeal to expose Aubrey’s abuses Glennie misrepresented to General Haldimand a letter Aubrey had sent to him. LAC, HP, 21 788, 7, General Haldimand to Captain Aubrey, 21 April 1779; “The Court Martial of James Glennie,” 108.

43. LAC, HP, 21 726, General Haldimand to Colonel Roy, 25 October, 1780.



As a final tribute to Haldimand's enlightened resource management during his career in North America, King George III himself—known among his people as Farmer George for his own attempts to improve the state as though it were an estate—bestowed his personal favour upon Haldimand.<sup>44</sup> In addition, Haldimand's military management was cited in a late-18<sup>th</sup> century analysis of military finance.<sup>45</sup> His defence strategy then, reveals Haldimand as an enlightened governor, which portrait helps redress a historical perspective of him as a reactionary, *ancien regime* military commander who curtailed the freedom of the press in Quebec, even though he had acted within the constraints of the law.<sup>46</sup>

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44. By 1786 Haldimand had obtained “the ribbon, so essential a mark of the King’s satisfaction and the pay of the Lieutenant-General, I would be happier than if I have continued in the Government, that as a foreigner, and therefore without support in England, I would always be exposed to cabals, &c.” in *Journal Intime du Gen. Haldimand or the Private Diary of Gen. Haldimand* (s.l.: s.n., 1786?), 125, 135.

45. John Williamson, *A Treatise on Military Finance* (London: Printed for T. Egerton, 1795), 72.

46. Gilles Gallichan, “Political Censorship,” in *The History of the Book in Canada: Volume One Beginnings to 1840*, ed. Patricia Lockhart Fleming, Gilles Gallichan and Yvan Lamonde (Toronto: University of Toronto Press, 2004), 320.