THE TECHNOLOGY OF RIVERS AND COMMUNITY TRANSFORMATION[1]: AN ALTERNATIVE HISTORY OF THE ST. FRANCIS

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Abstract

This paper sets out to explore the interaction between technology and society. It will focus on two elements—the canoe and the pulp and paper mill. These two elements represented and shaped the construction of communities within the St. Francis watershed. This paper will demonstrate that these water-based technologies placed the St. Francis River in a pivotal position within early Canadian economic development. They are fundamental to understanding the interactions of the Abenaki, Francophone and Anglophone communities in the Eastern Townships.

Résumé

Par l'observation du canoë et des usines de pâtes et papiers, l'auteure se propose d'analyser les liens entre la technologie et la société. Ces deux éléments ont façonné le développement des communautés le long du bassin versant de la rivière Saint-François. Cet article démontrera que ces technologies riveraines ont amené la rivière Saint-François à jouer un rôle primordial dans le développement économique du Canada naissant. La connaissance de ces technologies est essentielle à la compréhension des interactions entre les communautés abénaquises, francophones et anglophones des Cantons de l'Est.

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History is more than just a recitation of dates and names; it is nowadays even more than a description of dead white men and their accomplishments. History is constructed through a variety of means and viewpoints for a variety of purposes and goals. While some historians continue to offer analyses of traditional themes such as political and economic development, others critique the underlying assumptions of those analyses and still others

eschew them altogether. One group of historians who critique the approaches of the traditionalists are historians of technology, who for the most part define technology as systems or networks that are organized in order to accomplish a specified goal. Their focus in studying these systems is to place technologies within their social setting believing, therefore, that technology exists in relation to and as a condition of society, not as an externality to it. Consequently, their analysis adds new components to the study of political and economic development, and sometimes challenges the conclusions drawn about that development. If technology is fundamental to the formation of societies, it would therefore be appropriate to examine the history of the St. Francis River by studying the technologies on it. This study will add to or challenge our understanding of its communities' political, economic and social development. It will also highlight the importance of the St. Francis River to the history of the Eastern Townships.

This paper investigates how water-based technologies in the St. Francis watershed supported community transformation within the Eastern Townships. To assist in this investigation, I relied on the works of two notable scholars who have developed some theoretical perspectives on technology. They are Harold Adams Innis, a political economist writing in the 1920s through to the 1950s, and Ursula Franklin, a physicist and former engineering professor at the University of Toronto. Innis, in his efforts to explain Canadian economic and political development, posits the theory, first, that technologies arise from "civilization" and hence reflect the concerns and thought patterns of a given society. Second, technologies have an impact upon "civilizations" and are thus key to their evolution. Finally, technologies are the means whereby "civilizations" spread and contact one another.[2] Consequently, Innis' interpretation of Canadian political and economic development puts technology at the front and centre of that development.

Ursula Franklin has focused much of her thinking on the idea of technology as practice, specifically in the organization of work and the concomitant organization of people. She argues that there are two types of technologies—holistic and prescriptive. Holistic technologies are technologies that allow specialization by product; thus, the worker controls his or her work. Craft work, for example, is often considered holistic. Prescriptive technologies are technologies that encourage specialization by process; they remove control of the work process from the worker and are designed to obtain compliance of the worker to that process. Assembly line production is an

example of prescriptive technology. Prescriptive technologies move technological practice from ordering at work and ordering of work to ordering of people in a wide variety of social situations. This ordering of work and then of people carries with it the idea that there is only one set way of doing something, a set way that becomes the right way vs. the wrong one. Even though Franklin focuses on work, she also argues that social situations such as education and housework will also be shaped by holistic and prescriptive technologies.[3] Consequently, Franklin's interpretation of the shaping of Canadian social relations puts technology in a pivotal role.

Both Innis and Franklin have provided interesting but sweeping theories as to how technology affects and is affected by Canadian political, economic and social relations, but will these theories stand up to a more narrowly focused scrutiny? A focus that emphasizes the relation between technologies and the shaping of communities rather than countries or classes? That is the question that is pertinent to a study of the St. Francis River and the communities within its watershed because I believe that these communities have been fundamentally shaped by the use and development of water-based technologies. To demonstrate this, I examined two technologies that were widely used on the St. Francis: the canoe and the pulp and paper mill. Then, I investigated their relationship with the Abenaki, Francophone and Anglophone communities.[4] From pre-
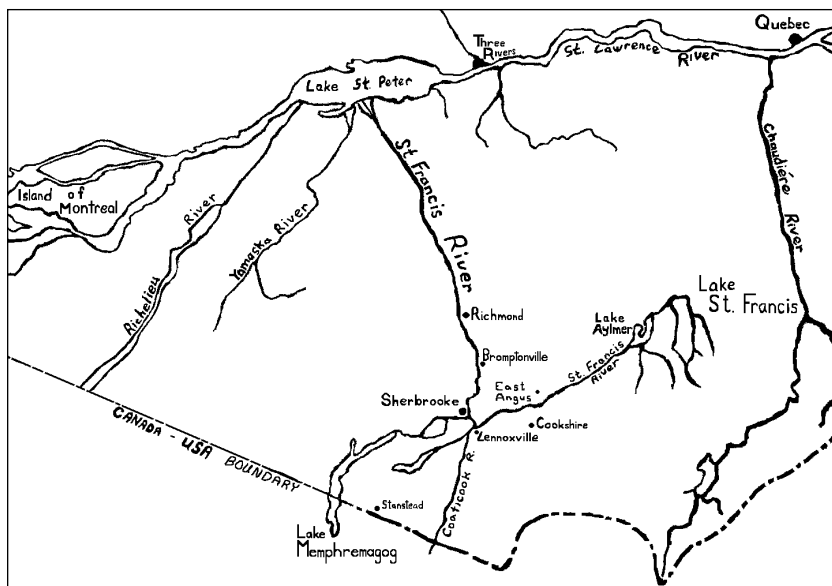
The St. Francis River. Source: Miner & Manore Research and Consulting.

contact to settlement, the canoe was the principal form of water transport along the river and from the late nineteenth century until the 1930s. The pulp and paper mills in the Eastern Townships used the St. Francis and its tributaries to power their industrial processes, to dispose of their effluent waste and to transport their logs to the mills. These two technologies represent two distinct time periods of community existence as each technology was dominant for a given period. With the loss of dominance of the one (the canoe), a corresponding social paradigm shift occurred resulting in profound community transformation along the St. Francis River.

The canoe

In the Innisian interpretation of Canada's early political and economic development, the canoe is front and centre. It is the canoe that allowed Innis to argue, in opposition to many of his colleagues, that Canada existed because of its geography, not in spite of it. The canoe was the technology that allowed French and English fur traders to penetrate the interior of the northern half of North America, thus setting up east/west economic relations that later supported political ones. The canoe was also a medium of communication through which First Nations and then Europeans contacted each other, (as opposed to the Other).[5] Given the plethora of fur trade routes out of the St. Lawrence and Hudson Bay river systems, it is possible to imagine the utility of the canoe in Innis' theory about the rise and spread of civilizations through technology but note that the canoe is an indigenous technology, not a European one. How did it foster the spread of the First Nations' civilizations with respect to the development of Canada? Research on that question remains to be done. Evidence that exists suggests that the technology was usurped by Europeans to accomplish their own goals of gaining empire. Consider the Abenaki canoe.

A representation of the Abenaki transportation system. Source: Lafitau, Joseph-François, 1681–1746. Customs of the American Indians compared with the customs of primitive times, vol. 2 / Toronto: Champlain Society, 1974–1977, plate X.

The Abenakis used both the birch bark and dug-out canoe. It was part of a transportation system that covered "well-worn paths" connecting principal First Nations communities, major waterways such as the Connecticut, Merrimack, Hudson and St. Lawrence rivers and lakes Champlain, George, Memphremagog and Winnipesaukee.[6] The St. Francis River, which the Abenaki called Alsigôntegw, was included in this transportation system, along with its many tributaries including the Felton, Noire, the Salmon north and south, the Key Brook, Eaton, Coaticook, Massawippi, Magog, Wotopeka and the Brompton rivers. In addition, because of the numerous rapids and falls on these rivers, portages were part of the system as well, making light-weight boats a necessity. In traveling over these rivers and lakes, the canoe also provided the means by which the Abenaki could access their fishing, hunting and camping grounds and by which they could visit other communities for purposes of social, diplomatic and political gatherings and trade. Finally, the canoe was also used in warfare as the Abenaki fought territorial wars with the Mohawks and others within the St. Francis and other river valleys. When Europeans arrived, they often penetrated Abenaki territory by way of the canoe, often for the purposes of trade. This led to imperial rivalries, first between the British and the French and then between the British and the Americans. The result was warfare along the river routes and the flight of many Abenakis from their settlements in the United States into southern Quebec. Today, the Abenaki community in Canada is largely limited to one reserve at Odanak, near the mouth of the St. Francis River. The canoe, although still a prominent technology on Canada's riverscapes, is largely a vessel for recreational pursuits and is made not of birchbark but aluminum, fibreglass and kevlar.

What does this brief history of an indigenous technology tell us about the Abenaki community of the St. Francis River and its development? First, Innis' idea of technology supporting the rise and spread of civilizations holds some truth in the history of the Abenaki canoe. It appears that the canoe facilitated the rise and spread of the European civilizations at the expense of the First Nations.[7] Secondly, in the process of spreading European civilization, the Abenaki were displaced in a variety of ways, not only from their traditional lands but also from the history of the St. Francis (and Canada) that followed.

The canoe and the Abenaki that used them exist now only in limited ways, if at all, within the Eastern Townships' popular and scholarly metanarratives. Their "limited" existence is expressed

through the repeated assertions that the Abenaki today live only in Odanak, suggesting that they live nowhere else in the St. Francis watershed. Their presence elsewhere is limited to museum displays and legends which have been "immortalized" on historic plaques, placed on the St. Francis river banks, such as the one below and in promotional literature.[8]

The Mena sen commemorative plaque near Sherbrooke.
Source: Jeanne L. Manore (personal photograph).

There are even accounts which dismiss the Abenaki presence altogether. For example, *The Sherbrooke Daily Record*, in a historical overview of the St. Francis River, states bluntly that "the old French Seigneuries form the <u>first</u> chapter of history" along the St. Francis. [Emphasis added][9] In a publication describing the history of East Angus, the authors comment: « *Assurément, depuis près de 2000 ans déjà, les Algonquins vinrent fouler le sol de l'endroit, mais en réalité, il ne subsiste aucune preuve de leur implantation chez <u>nous</u>.* » [Emphasis added][10]

This quotation, while acknowledging an Algonquin presence in the Eastern Townships, does not acknowledge any permanent Native place in "our home." This idea of Native non-residence is an important theme in Canadian native/settler relations and is reflected by Canadian cultural values with respect to technology. The canoe and the "Indians" that used them were ephemeral to the landscape. It was a part of a transportation system that supported a nomadic way of life, a way of life considered inferior to that of the settled French and English. Despite the fact that the Aboriginal presence on the St. Francis goes back several centuries, it is their society which became ephemeral in the Canadian metanarrative and the settler society that denoted permanence. The settlers, even though having come from afar, established a permanence through agricultural and industrial undertakings along and on the St. Francis river that the Abenakis, through hunting and fishing, did not. Here is one account of the early days of the St. Francis communities that demonstrate the point:

> Même les Abénaquis, postés par Frontenac aux embouchures des rivières Saint-François et Bécancour vers 1680, n'habitèrent pas notre région en permanence: ils faisaient la chasse et la pêche sur tout le territoire drainé par ces rivières, mais à la fin de leurs excursions, ils revenaient toujours à leurs bourgades respective.... L'occupation véritable ne débuta donc qu'à la fin du XVIIIᵉ siècle....[11]

The occupation referred to here is that of French settlers who farmed and stayed on the land as opposed to fished or traveled through it.

First Nations and their technology were also ephemeral because they were "primitive" and thus unable to withstand the advances of the more modern society as represented by Europe and its transplanted civilizations. This was emphasized by governments, missionaries and anthropologists of the nineteenth and early twentieth centuries, and was repeated in local historical accounts found in the Eastern Townships newspapers and monographs. For example, in the 1975 celebratory publication of the history of Windsor, the authors comment that:

> Cependant, avec l'arrivée des Européens sur les bords du St-Laurent, les choses changèrent brusquement. Ces hommes de l'Âge de pierre qu'étaient les Amérindiens n'allaient pouvoir résister d'aucune façon aux noveaux arivants, [sic] beaucoup plus agressifs qu'eux et tellement en avance sur le plan technique.[12]

The portrayal of First Nations as ephemeral was one of the means used to justify the displacement of the Abenaki community from the St. Francis watershed area in favour of a European community, whether British or French.

Innis would not have been surprised by the displacement of the Abenaki from the St. Francis metanarrative. When discussing the rise and spread of civilizations through technology, Innis noted that a staples economy, such as that of the fur trade, brought into contact individuals or civilizations previously isolated, setting up reciprocal relations of dominance and dependence, and giving rise thereby to the dual dialectic of continuity versus change and control over unbounded space versus local control. Once this dominance was obtained, then monopolies of knowledge inevitably served to support that dominance.

The history of Canada, as supported through the history of the St. Francis, has been a monopoly of knowledge that has served to support non-native dominance over native communities. The

dialectic between the two communities, however, remains with the Abenaki continuing to assert their cultural values and political rights. Recently, I learned that there is an historic community of Abenaki people centred around Sherbrooke which is currently seeking recognition from the federal government as a band, separate from the Abenaki community at Odanak. To date, this recognition is being refused because the government is arguing that they either belong to the Odanak community or belong to the United States; that is, if the Abenaki do not belong to Odanak, then they are foreigners here.[13]

The presence and persistence of the Sherbrooke Abenaki community raises an interesting point with respect to Innis' theory of the importance of technology to the rise and spread of civilizations. Technology can be a powerful tool for advancing hegemony but the loss of technology does not necessarily mean the loss of culture or identity. The Abenakis of Sherbrooke demonstrate that even though much of their technology has been displaced or usurped, the Abenaki themselves have not disappeared from the St. Francis River region. The Abenaki are more than their technology; something that is rarely acknowledged in the Eastern Townships and Canadian metanarratives.

Technologies along the St. Francis interacted with the Native, Francophone and Anglophone communities in other ways that led to yet more levels of displacement and to the fostering or support of linguistic community groupings divided along class-lines. This can be demonstrated by looking at the arrival of pulp and paper manufacturing in the St. Francis region within the context of Ursula Franklin's theory of holistic and prescriptive technologies.

Pulp and Paper

With the advent of industrialization in Canada, prescriptive technologies came to the fore and were largely installed by non-native industrialists. This was a gradual process that took place over the nineteenth and twentieth centuries (and it may not be coincidental that their arrival on the riverscape was almost as gradual as the displacement of the Abenakis from it). It was along the St. Francis that the first phase of industrial papermaking arrived in Canada. In 1852, using the power of the St. Francis River, William Brooks imported Canada's first industrial paper making Fourdrinier machine and installed it in his Sherbrooke mill. In 1865, Thomas Logan and William Angus built the first chemical pulp plant in Canada at Windsor and used the water power of the Wotopeka

The East Angus Paper Mill, 1896.
Source: Eastern Townships Research Centre, Eastern Townships. Heritage Foundation fonds.

River—a tributary of the St. Francis. Four Fourdrinier machines were added to the Windsor operations during the late 1860s and the 1870s, and in 1873 the Logan and Angus interests were integrated into a joint stock company, the Canada Paper Co. In 1901, this company opened Canada's largest pulp and paper mill at Windsor using the St. Francis river to power its production of newsprint and ground pulp. By this time, William Angus had disassociated himself from the Canada Power Co. and bought the rights to develop the St. Francis rapids at East Angus. There, he built a pulp mill and in 1891 formed an association with F.P. Buck and William B. Ives of Sherbrooke to form the Royal Pulp and Paper Co. In 1907, this company was taken over by the Brompton Pulp and Paper Co., a company that got its start in 1903 when it opened a mechanical pulp mill at Bromptonville, also on the St. Francis River.[14]

Following these developments, pulp and paper continued to be a major employer of the river region, but by the 1920s, the St. Francis mills were losing market share to the newer mills built north of the St. Lawrence; mills that were representative of the second phase of pulp and paper manufacturing with its heavy reliance on massive quantities and containment of water to produce hydro-electricity. Consequently, the Eastern Townships' share of Quebec paper production fell dramatically by the 1950s.[15] The changing technologies of pulp and paper manufacturing gave rise to a different relationship with the local waters and rivers and hence to another phase of community transformation. What that transformation was remains

the topic of another paper; for now, I will focus on the first phase of pulp and paper manufacturing which covers the time period from the 1850s to the 1920s.

As detailed above, the first phase of pulp and paper production in Canada demonstrates that this water-based technology was massively applied to the St. Francis River at a relatively early period. We say this period was relatively early because the development of pulp and paper in the Canadian shield region (which is the more well-known historical event) could not take place until the later phase in technological development had occurred. Through this early and massive application, community transformation along the St. Francis occurred in a number of ways.

Pulp and paper technologies are prescriptive technologies. This means, according to Franklin, that they impose a homogenization or standardization in the work place. Through this process of standardization, a "right" way and a "wrong" way of doing work is fostered and the work process is compartmentalized with specific individuals having specific jobs, with all components, including individuals, working towards a specific goal. Pulp and paper technologies also have a geographic spread beyond the physical plant, evoking once again Innis' idea of the rise and spread of civilizations through technology. For example, by 1911, the Brompton Pulp and Paper Company, through its acquisition of the East Angus operations and others, became a major pulp and paper manufacturer in the St. Francis watershed area. This meant that it controlled not only the pulp and paper operations but the water-powers that fed the operations and the timber limits that provided the raw materials for the operations. Hence, the company's reach went far beyond the actual plants on the river's shores.

Consequently, the geographic spread of this technological system led to a certain conformity or standardization of the landscape. Compare the Brompton pulp and paper industrial system with the Abenaki canoe transportation system. In many ways, their geographic boundaries overlap but since the terrain is used differently in both systems for different purposes, they also conflict, leading to a displacement of one system by another. Pulp and paper mills on the St. Francis blocked or altered Abenaki transportation routes and damaged or destroyed Abenaki (and other) fishing spots and hunting grounds. The displacement of the Abenaki transportation system was accompanied by the contraction of the Abenaki traditional territory.

It should be noted that the Abenaki were not the only ones displaced by the pulp and paper technology. In 1900, René Hébert developed a tourist attraction on Coney Island in the St. Francis River. Visitors to the island could stay in a grand hotel, play croquet and rest beneath the shade of well established trees. The island was accessible by train or by boat. Though the island was a popular spot, the Canada Paper Company wanted to expand its power capabilities for its St. Francis mill. Doing so would raise the water level around the island to the extent that a good portion of it would be flooded. Canada Paper was allowed to proceed with the project after compensating M. Hébert for his losses.[16] Coney Island and tourism were non-conforming elements in the pulp and paper technological system and therefore could not continue to exist.

With respect to the idea that prescriptive technologies enforce a homogeneity on systems of work so that only one way, the right way, of doing things becomes acceptable, what does this mean for the Abenaki canoe which is a holistic technology, and for their makers who control the work process and have the skills necessary to make a complete product? When prescriptive technologies dominate, holistic technologies and the workers that adhere to them become marginalized or they may even be romanticized. Could it be that the racist idea that Indians supposedly do not know how to work because they are lazy is the result of the imposition of prescriptive technologies and their insistence on only one right way of doing things?

Finally, with respect to pulp and paper, it could be argued that prescriptive technologies, through their compartmentalization process, could have supported certain social relations among and between Anglophone and Francophone communities along the St. Francis. Histories of Quebec in general, and of the St. Francis region in particular, often refer to the presence of Anglophone "bosses" running the factories and financial institutions. The history of the Brompton Pulp and Paper mill up to the 1930s, is no exception. Anglophone names such as Bearce, Wilson and Munroe from the United States and Buck, Angus and McCrea from Quebec dominate the lists of the industrial and financial elites of this company during the time period under study.

Traditional histories point to the ability of English-speakers to acquire the necessary capital to develop these sorts of industrial enterprises and thus occupy more advanced positions. I would also add that given the geographic breadth of the pulp and paper system and given the tendency of prescriptive technologies to enforce homogeneity, these class relations based on Anglophone access to

capital is also supported by the prescriptive technologies financed by this capital. In other words, pulp and paper mills become population centres that are arranged along communities of work with English-speakers usually regarded as the managerial components of the technological system and French-speakers usually regarded as the labour component. Thus, a homogeneity in the social ordering of people is obtained. What is interesting here is that both Franklin and Innis, I suspect, would anticipate that the control of the work process by the English would translate into control of other aspects of French/English relations. The English would use their monopoly of knowledge in the economy to assert control over the political and social spheres and/or insist on homogeneity. Yet in many areas this has not been the case. The French have retained their own monopolies of knowledge and developed their own ideas of homogeneity through their support of cultural institutions such as the church and schools and access to political representation at the municipal, provincial and federal levels.

Prescriptive technologies affected the two linguistic communities in another way as well. Jean-Pierre Kesteman argues that the second and third generation Anglophone elites increasingly moved away from their community of origin into the broader national or international world while the succeeding Francophone generations remained in situ and increasingly moved into the economic niches originally held by Anglophones.[17]

As the technological systems created in the pulp and paper industry grew larger and became interconnected with other industrial enterprises, the Anglophones who pursued this enlargement were "enlarged" themselves beyond the local St. Francis region. Could it be argued that the Anglophone elites, like the Abenaki, have become ephemeral entities in the history of the St. Francis? If so, it should be pointed out that their transitory position, in contrast to the Abenaki, is the result of pursuing technological expansion rather than being displaced by it.

In conclusion, in this brief, very brief, examination of the canoe and the pulp and paper mill, we see the application of technology on the riverscape acting as a powerful force in the shaping of various St. Francis communities. On the one hand, technology has contracted the Abenaki community in time and space—on the other, technology has expanded the Anglophone community beyond the local. As for the Francophone community, the effects of these two technologies are both that of contraction and expansion. As members of the non-native settler society, their community was not con-

tracted as a result of the displacement of technologies as was the case with the Abenaki but, since they did not own or control the industrial technologies to the extent that the Anglophone community did, it could be argued that their community did not expand beyond the local into the broader national and international world.

ENDNOTES

1. I would like to thank the Eastern Townships Research Centre for their funding support, and Jody Robinson and Karen Pellerin for their assistance in researching this paper. Finally, I would like to thank Peter Southam for his useful critique of an earlier draft of this paper.

2. Robert Babe, *Canadian Communications Thought*, (Toronto: University of Toronto Press, 2000), p.61.

3. Ursula Franklin, *The Real World of Technology*, revised edition, (Toronto: Anansi Press, 1999) p. 9f.

4. The author acknowledges that these three "communities" have permeable boundaries and only uses the term in a generalized way.

5. Harold A. Innis, *The Fur Trade in Canada*, (Toronto: University of Toronto Press, 1970).

6. Colin G. Calloway, *The Western Abenakis of Vermont, 1600–1800*, (Norman: University of Oklahoma Press, 1990), p. 19.

7. Jean-Pierre Kesteman, *Histoire de Sherbrooke*, Vol. 1, (Montréal: Les Éditions GGC, 2000) p. 14f.

8. See for example, Revue du Centenaire de Windsor, *Windsor: cent ans de progrès et d'efforts*, (Windsor: Revue du Centenaire de Windsor, 1975), Maurice O'Beardy, *De Ktiné à Sherbrooke*, (Sherbrooke: University of Sherbrooke, 1973), pp. 7–10, and Townshippers' Association, pp. 23–25.

9. Sherbrooke Historical Society, "River's Historic Past," in the *Sherbrooke Daily Record*, May 3, 1927.

10. *East Angus*, (Sherbrooke: Editions Louis Bilodeau et Fils, Ltée, 1987), p. 14.

11. Sherbrooke Historical Society, P21.5 I, Maurice O'Beardy, "Évolution et peuplement des Eastern Townships," draft essay.

12. *Windsor: cent ans de progrès...*, p. 13.

13. Conversation with Yannick Mercier, a member of the Sherbrooke Abenakis, November, 2002.

14. Jean-Pierre Kesteman et al., *Histoire des Cantons de l'Est*, (Sainte-Foy: Institut québécois de recherche sur la culture, 1998), pp. 316–18.

15. *Ibid.,* p. 537f.

16. *Windsor: cent ans de progrès...*, p. 66.

17. Jean-Pierre Kesteman, *Histoire de Sherbrooke*, Vol. 3, (Sherbrooke, University of Sherbrooke, 2002), p.122.