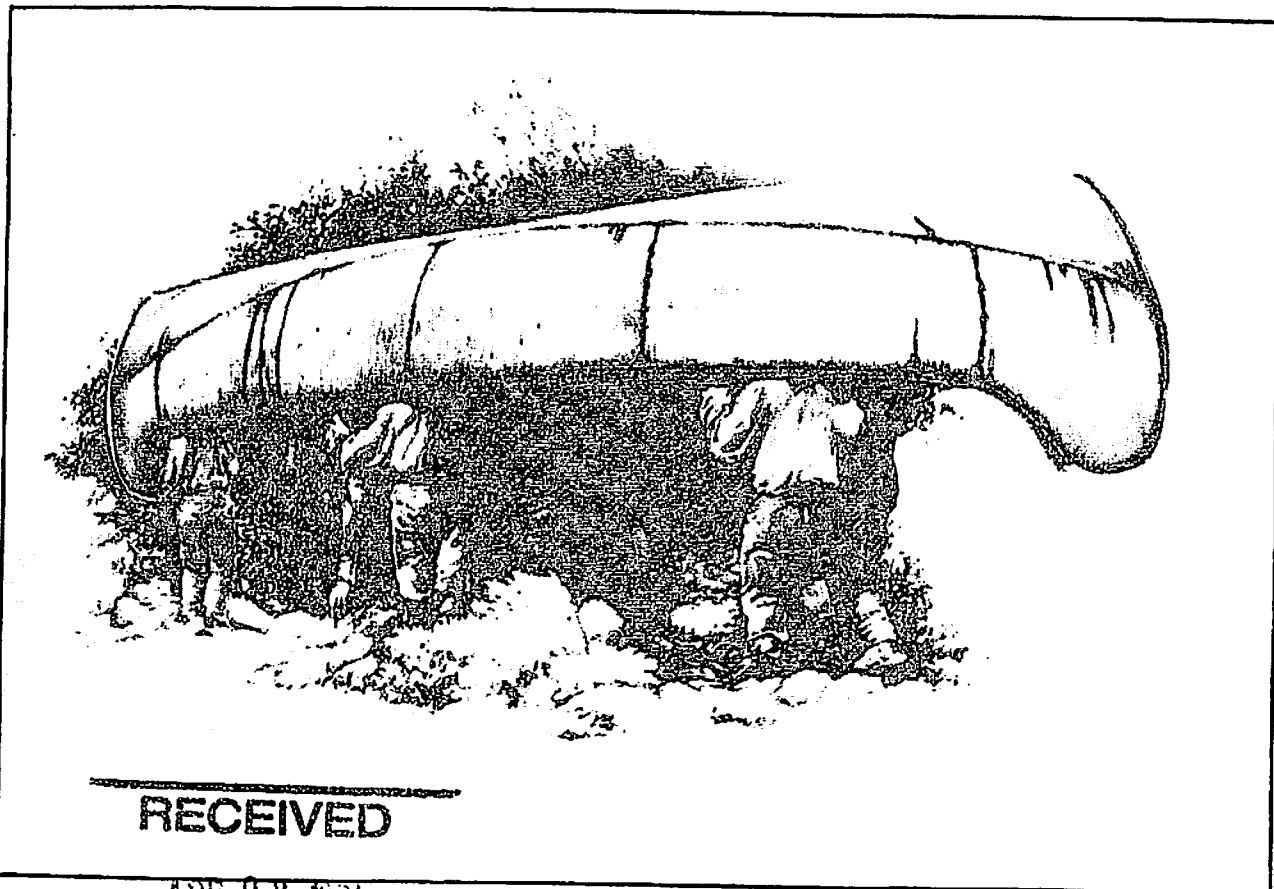


MANITOBA ARCHAEOLOGICAL JOURNAL



Archaeology Today

*Volume 3 Numbers 1 & 2
1993*

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ASPECTS OF FUR TRADE ETHNOBOTANY IN WESTERN CANADA

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Introduction

The history of the fur trade frontier in Canada is a story of Old World immigrants adjusting to New World conditions while retaining much of their respective cultures. Ethnobotany in two fur trade situations illustrates such change and cultural continuity. Among the fur traders the use of native and imported plants was governed by environmental, economic and social forces.

Ethnobotany, the study of the relationships between humans and plant resources, has social, economic and ideological dimensions (Ford 1979). Plants are selected and used according to both plant biology and cultural patterns. Those used in small quantities as religious or social symbols and medicines tend to be selected according to cultural values. Abundance and heat yield usually guide the choice of firewood, a resource consumed in quantity. Cultural and natural factors are about equally important in the choice of foods (Ford 1979), although some foods may take on a purely symbolic role (Lowenberg *et al.* 1974; de Garine 1976).

Change and continuity in plant use during the fur trade era in Canada is best appreciated against the background of the rise of European capitalism and its expansion around the world (Wallerstein 1980). European explorers returned to their homelands with thousands of exotic plant species that enriched their diets, medicines and ornamental gardens (Coats 1956; Hadfield 1960; Lemmon 1968). As early as 1596, the English herbalist Gerard grew more than 900 different plants, many of them exotic species (Coats 1956).

The colonization of North America became part of this European expansion. British agricultural settlers adopted new subsistence and/or settlement patterns in various parts of eastern North America (Mannion 1974; Cammisa 1984; Reitz and Honerkamp 1983). Those in New England adopted many New World species for food, medicine and other purposes (Hussey 1974). However, continuity was maintained by importing a variety of domesticated crops, medicines and ornamentals from the Old World (Leighton 1976).

The fur trade frontier was different from agricultural settlement. In such frontier areas where the economy is focused upon one or a few resources, there is usually a limited cultural adjustment to the new environment (Lewis 1984)¹. Immigrants maintain close ties with their distant, often overseas, headquarters. Cultural continuity is reinforced by economic ties, social bonds with families left behind, and the ongoing recruitment of personnel from the home country².

During the fur trade era, the nature of adjustments to the Canadian environment also varied with social class. While the lower class workers were obliged to accept new ways, members of the elite social stratum strove to emulate a European standard of living.

¹ Admittedly, this can be argued; in many ways there was extensive cultural adjustment, i.e., transportation, clothing, hunting styles, sexual relations within the context of the fur trade.

² This field is worthy of greater attention to explore the answers to such questions as: If such attachments persisted, why did so many fur trade personnel renew contracts for 20 to 30 years, and why did so many retire in North America as soon as settlements had become established?

In this paper, ethnobotany serves as a microcosm of cultural change and continuity. The paper examines the plants used for food, fuel and medicinal and ornamental purposes in two fur trade situations: early traders on Hudson Bay, ca. 1670-1774, and the fur trade elite at Upper Fort Garry, ca. 1846-1882. Historical and some archaeological data contribute to these ethnobotanical studies.

The Early Fur Traders

The following account of the early fur traders around Hudson Bay relies mainly upon historical records. Archaeological evidence is limited to the remains of a few imported fruits and local plants such as hazelnuts, blueberries and birch bark at York Factory (J. McAndrews, G. Adams, personal communication) and imported fruits at Fort Severn (Balcom 1981).

The Hudson's Bay Company dominated the early fur trade around the Bay. The company's quasi-military organization was maintained by a rigid hierarchy, strict discipline and a paternalistic London committee. Although most of the directives came from London, many of the Company's North American employees were recruited from Scotland, especially from the Orkney islands (Rich 1960). Company policy and the social background of the employees influenced their adjustment to the Hudson Bay environment.

The simple diet of the lower class in northern Scotland in the late 17th and early 18th centuries was barely adequate. It was composed mainly of barley, oats, dairy products, fish and occasionally salted meat (Fenton 1976; Drummond and Wilbraham 1959). This limited selection was the product of a cool climate and the people's reluctance to accept new crops (Shaw 1980). For example, the Scottish farmers had to be forced by law to plant such new vegetables as peas.

Such a limited diet was barely adequate because it lacked vitamin C, which led to scurvy (Fenton 1978). Scurvy, which affects blood formation and bone development, was not uncommon in those days. Kale was introduced and cultivated, presumably as a cure for scurvy (Symon 1959) in the early 17th century (Fenton 1978). Kale is rich in vitamin C, as are cabbage and related greens (Nieuwhof 1969). The cultivation of kale and other crops spread slowly, however, and it was not until the late 18th century that vegetable growing in the northern Scottish islands was widespread. By then vegetable growing had expanded to include cabbage, lettuce, spinach, turnips, carrots, parsnips and even artichokes (Cox 1935; Fenton 1978; Shaw 1980). In contrast, potatoes introduced into the northern islands in the 1750s became popular within several decades (Fenton 1978). This rapid increase in popularity is perhaps because they were suited to the climate and soils. Many years later a few medicinal herbs and ornamentals were grown in northern Scotland but fruits were still rare in the north at the end of the 18th century (Cox 1935).

When traders arrived in 1668 to establish fur trade posts on Hudson Bay, they found bogs, heaths and stunted forests reminiscent of northern Scotland (Fraser-Darling 1947; Ritchie 1959; Burnett 1967). Game animals around the bay were similar to those in Scotland but more limited in variety (Fraser-Darling 1947). As in Scotland, the summer days were long but the growing season of 60-80 days was short (Kerr 1966). However, Canadian winters were much longer and colder than those in Scotland.

The diet of the early traders changed through the addition of certain vegetables and fruits; nevertheless continuity was maintained. From the outset, the Company was concerned about the high cost of importing food, thus making local sources of food important. The early traders suffered from periodic shortages of certain foods (Rich 1976; Moodie 1978). This was particularly true during summer when fresh meat was in short supply. One means of making the

trading posts more self-sufficient was by the establishment of gardens. As early as 1669, gardens were planted at Fort Albany near the mouth of the Albany River on Hudson Bay.

For several centuries the Company in London shipped quantities of crop seeds, instruction booklets and garden tools (Leechman 1970) in the mistaken belief that because the bay posts were at about the same latitude as England and Scotland, they probably shared the same climate and agricultural potential. Unfortunately, the climate of Hudson Bay was too severe for grain, flax and hemp. Root crops and greens did better because the long summer days helped compensate for the short growing season. A variety of seed was shipped. As late as 1803 an order for Churchill Factory listed 25 types (Moodie 1978).

Agricultural self-sufficiency was not realized and the posts continued to import quantities of flour and other staples. For example, in 1706 more than 15 tons of foodstuffs were sent to Fort Albany to support 46 men (Williams 1975). Local garden produce at Albany and other forts served only to tide the men over in times of food shortages (Moodie 1978).

A second and perhaps more important reason for encouraging gardening was to prevent scurvy. It seems that as early as the 1680s the Company realized that fresh vegetables helped reduce the debilitating disease (Rich 1976). As in Scotland, such crops as kale came to be cultivated for their scurvy-curing powers. Dandelion greens and nettles, also rich in vitamin C (Arnason *et al.* 1981), could be gathered early in the growing season before the vegetables were ready. Local berries such as cranberries were also a good source of vitamin C. Dandelion flowers were used for wine (Leechman 1970), and spruce beer was made from the needles of spruce, another source of the vitamin (Chekin 1955)³.

Thus the early fur trade diet underwent an important change in this new environment. The diet became broader more by necessity than by choice. Many of the vegetable crops were grown around Hudson Bay before they became popular in Scotland. The potato, however, was introduced to the bay (Moodie 1978) and in northern Scotland at about the same time (Symon 1959; Fenton 1978).

Continuity was maintained by the importation of dried fruits such as prunes, raisins, currants and occasionally figs (Balcom 1981). This apparently was done in order to combat scurvy (Leechman 1970) although these fruits are low in vitamin C (Watt and Merrill 1963). In highland Scotland, fruits only became popular when the drop in the price of sugar in the early 19th century (Johnstone 1976) made it feasible for most households to prepare sweetened foods such as cakes, puddings and preserves (Fenton 1976). At the bay posts, dried and preserved fruits were used for special occasions and probably for making wine. In addition, about a half-dozen species of wild berries were collected (Glover 1958)⁴.

The early fur traders found a limited supply of stunted trees around Hudson Bay for

³ Rations of regular beer were issued as a scurvy preventative and spruce beer was substituted only when the malt ran out.

⁴ The role of local berries may well be underestimated in the literature. G. Adams (personal communication) has reason to believe, as a consequence of his research on York Factory, that there may have been an extensive trade network. For example, in 1811 cranberries were imported from Fort Prince of Wales to York Factory to combat scurvy, and in 1850, 123 gallons of cranberries were picked at York Factory.

building, firewood, blacksmithing and making lime for mortar. At Fort Prince of Wales near Churchill, the piles of firewood for the following winter were said to have measured over 70 metres in circumference (Davies and Johnson 1965). York Factory needed between 2000 and 3000 cords of wood each year plus 6-7000 planks for building and maintenance (Ray 1982). Not surprisingly, local forests became depleted and wood had to be brought from more distant sources. By the late 19th century, wood cutters travelled as far as 225 km for wood.

The search for fuel was familiar to those traders who grew up in northern Scotland. Their ancestors had deforested the highlands (Fraser-Darling 1947), and peat cutting in the northern islands led to local depletion of even this source of fuel (Fenton 1978).

Cultural continuity can be illustrated by the use of flowers, spices⁵ and medicines. One would not expect such northern posts to grow ornamental flowers, yet an 1803 order for Churchill Factory lists 16 types of flower seeds and bulbs (Moodie 1978) although it is not clear whether these were intended for regular post employees or the elite at Churchill. Several of these were common in Scottish gardens at the time (Cox 1935). Spices sent to the posts around the bay included pepper, mustard, cinnamon, cloves, allspice, mace, nutmeg and occasionally ginger (Williams 1975; Balcom 1981). Spices such as pepper and mustard had long been used in Europe for masking the taste of tainted meat (Drummond and Wilbraham 1959). Nutmeg was mixed with rum, water and sugar to make a cordial (Newman 1985).

The early traders relied mostly on medicines from Britain. To service the early Hudson's Bay posts, the Company sent out medicine chests filled with remedies (Rich 1976). Few native plants were used for medicine save those intended to combat scurvy because the traders seem to have been suspicious about most Native cures (Rich 1976)⁶. One exception, Labrador tea, was used by the lower class employees as a sedative and for nervous disorders (Glover 1958; Rich 1976). On one occasion, eight barrels of Labrador tea leaves were sent to England (Leechman 1974).

This modest export of Labrador tea shows the Company's continued efforts to diversify its resources while maximizing use of its ships. The Company encouraged the collection of a variety of Canadian products, including turpentine and tar. Of special interest to the company were plants used for drugs and dyes (Rich 1957; Leechman 1974). This quest for new plants and plant products is illustrated by the explorations of the Scottish botanist David Douglas who traveled widely in western North America collecting plants to take back to England. In 1827, Douglas collected plants along a 4600-km trek across the Rockies and western Canada to York Factory (Lemmon 1968).

The Hudson's Bay Company Elite

The ethnobotany of the Hudson's Bay Company elite illustrates a resurgence of cultural continuity with Britain. Two developments in the early 19th century helped to link parts of English-speaking western Canada more closely with the mainstream of British culture. The first was the founding of the Selkirk colony at Red River by Scottish immigrants. The second was the merger of the North West and Hudson's Bay companies with the establishment of their regional

⁵ There are apparently few spices and flavourings among the plants of northern Manitoba. For a description of four useful flavour herbs of the north see Walker (1984:171).

⁶ Here again, our perceptions may be more reflective of the analysed documentation than of reality. Was it the traders, or the factors or doctors (i.e., the report writers) who were suspicious?

headquarters, also at Red River. After the merger of the two companies the distinction between ordinary employees and high-ranking factors and chief traders became marked (Goldring 1980-81; Brown 1980). A fur trade elite emerged at Upper and Lower Forts Garry that looked to Britain and Europe for its social and material standards (Livermore 1976). Cultural ties were strengthened by such practices as bringing wives from Britain and sending children to school there. Improved transportation and lower freight rates accelerated the entry of American and European goods and ideas (Innis 1956).

A glimpse into the exclusive and high-living elite at Upper Fort Garry can be gleaned from contemporary accounts (e.g., Cowan 1935; MacBeth in Livermore 1976). Written records of goods sent from England and archaeological plant remains from two privy/refuse pits at Upper Fort Garry (Monks 1984, 1985; Shay 1984, 1985a) help round out the picture of affluence. Order books and inventories refer to cereal grains, root crops, green vegetables, spices and flowers. A typical Red River inventory (HBCA PAM B235/d61) of 1834-36 lists 32 types of garden seeds. Many of these plants were absent or poorly represented in the seed remains. Nevertheless, the 12,000 seeds from Upper Fort Garry represent about 45 types and expand the variety of fruits, nuts and spices used.

Based on literary and seed evidence, the diet of the elite at Upper Fort Garry displayed British, American and local influences. The range of local and imported plant foods consumed is astonishing: six types of nuts and about 15 kinds of fruits. Vegetables and fruits apparently derived from American sources included tomatoes and watermelons. Tomatoes, for example, a New World domesticate, were grown in adjacent Minnesota in the 1850s (Kreidberg 1975) but were rare in Britain until about 1880 (Drummond and Wilbraham 1959).

Spices and ornamental plants used at Upper Fort Garry showed great diversity as well as continuity. The spices included many not seen at the early bay posts such as caraway, a traditional ingredient in Scottish cooking (Fitzgibbon 1970), and more exotic spices such as coriander and cardamon, ingredients in curries (Purseglove *et al.* 1981). The use of ornamental plants displayed British influences. Forty-seven species of flowering shrubs and herbs were grown in gardens at Lower Fort Garry in the late 19th century (Thomas 1979). Many of these were also common in gardens in British Upper Canada (Minhinnick 1970).

The elite social status of the Upper Fort Garry occupants is also revealed by their choice of fuel and building wood. Archival records show that the main types of wood used at the fort were pine, oak, poplar, cedar, elm and larch (Shay 1986b). Of these, oak was rare but the preferred firewood, presumably because of its high heat yield (Mullins and McKnight 1981). Oak was almost twice the price of poplar and the use of quantities of oak reflects the greater wealth of fort inhabitants. Nearly one third of the pieces of charcoal from the fort excavations were of oak, while this species comprised less than 10% of the charcoal remains from two contemporary Métis farmsteads (Shay 1985b).

Judging from the wood remains and historical accounts, some of the building timber at Upper Fort Garry and the Red River Settlement was imported from the coniferous forests over 100 km to the south and east. In addition, shavings of black cherry wood were identified (Zwiazek, personal communication). This prized wood was used in making furniture (Watson 1957). The wood must have been imported because the tree's main distribution is more than 500 km to the south and east (Fowells 1965).

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Summary and Conclusions

Change and continuity in the ethnobotany of two fur trade groups reflect some of the European adjustments to western Canada. Dietary changes among the early fur traders at the forts around Hudson Bay can be understood in terms of periodic food shortages, vitamin C deficiency and Company policies aimed at reducing imports while ensuring a healthy work force. The Company's beliefs about the agricultural potential of the bay also help account for the continued efforts to establish gardens at the posts. Economic motives prompted the Company to seek products that could be exported such as new drugs and dyes.

Other innovations in plant use can be seen in the variety of dried fruits, spices and ornamental flowers used. Cultural conservatism and superior attitudes towards Native cultures can probably account for the early trader's reluctance to adopt Native medicines. The food, spices, ornamentals and wood used by the fur trade elite at Upper Fort Garry reflect cultural continuity with Europe but also plants as status symbols.

This study illustrates the dictum that history and archaeology are complementary routes to the past but it has barely scratched the surface of fur trade cultures. Another step would involve the study of ethnobotany of such groups as French fur traders, mixed-blood Métis and various Native tribes as a way of understanding different adjustments to the same environment.

More specifically, the ethnobotany of the Hudson Bay posts should be studied more fully through an examination of early accounts and archival records. Such sources may reveal greater use of local plants during the fur trade than has been implied in this paper. Birch, willow and spruce bark, cranberries, Labrador tea, mushrooms and blueberries were probably more important to the trader or employee than were allspice, figs or potatoes.

Gardening at the bayside posts would provide an interesting case study. This activity was carried on for centuries, but at no time does it appear to have been worth the effort -- the return was too small. It might therefore be speculated that gardening was a social or recreational enterprise, rather than an economic one.

Acknowledgements

Thanks to Jennifer Shay, Greg Monks and Barry Kaye for their comments on the paper. Special thanks goes to Gary Adams whose insightful comments were the basis of the footnotes.

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