Neither cultural nor political history can be understood without considering the relationship of people to their environment, which includes soil, flora, fauna, climate, and the way they get their nourishment. Knowledge of these cycles of human activity is essential. As the Finnish people say, "Sita kuusta kuuleminen, jonka juurella asunto" (You should listen to the spruce tree, under which you are living).

For the Finns, burn-beating cultivation was an important part of life well into the twentieth century. Many scholars think that this ancient method of tillage is both a more primitive and a simpler farming method than the field cultivation system. This opinion is based more on classic European cultural tradition than on scientific research. Burn-beating culture is not well understood by scholars or the ordinary Finn, whether he or she is in Finland, Scandinavia, or in the United States.

Burn-beating has been of much greater historical importance than the more recent cultivation of cleared fields. In fact, most grains have been grown by burn-beating for as long as humans have practiced agriculture of any kind. Through time the Finns developed a sophisticated system of burn-beating variations to account for different kinds of forests, topography, and climatic fluctuations. The size of the burned area is the most important variable in this type of cultivation. When the climate is unfavorable, for example, farmers must increase the size of the burned area to obtain a crop of the same size. In A.D. 450–550, A.D. 750–850, and A.D. 1050–1150 poor growing weather was followed by corresponding burn-beating expansions. The century A.D. 1550–1650 was another such period. The severe climate starting about A.D. 1550 encouraged Finnish expansion in Finland and throughout Scandinavia and into Russia. It was based on the huuhta technology—the migratory cultivation of rye and turnips in the ashes of burned spruce forest (see fig. 1).
The Finns who expanded their culture across Scandinavia and Russia could support themselves as long as they had axes, sickles, rye seed, fire, and forests at their disposal. By about 1600 these forest Finns (also called burn-beating or rye Finns) had expanded throughout the virgin forests of the interior of Scandinavia to the mountains of Norway. Since the spruce forest stopped there, they could not adapt their cultivation technology any further. Swedish authorities encouraged their expansion, since forests were abundant but food was relatively scarce. Farmers in the province of Värmland were told in 1587 to burn about an acre each year to increase food production. The Finnish pioneers were aided both by the provincial authorities and by edicts of the Swedish Crown. But from the 1630s on the Swedes needed their forests for their growing mining and forging industries, so the Swedish government began attempting to regulate burn-beating closely. But even strict prohibitions and penalties

**THE HUUHTA TECHNOLOGY**

![Fig. 1. Burn-beating expansion in northern Europe, A.D. 450–1650.](image)

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against burn-beating did not stop it. A royal resolution of 1647 stated that Finns guilty of breaking a 1641 ordinance regulating the practice should be driven from their farms, have their property and crops destroyed, and be jailed or deported to New Sweden. An ordinance of 1664 provided the death penalty for the second offense.7

The characteristic Finnish settlement in both Sweden and Norway was in a forested area between already-populated valleys. The newcomers grew rye in burned clearings in virgin spruce forests. The crop was usually big—often yielding twelve thousand to one—but the burned land usually gave one harvest only.

Lumbermen cut or girdled the trees in early spring and let the wood dry until the midsummer of the second or third year after girdling. Then the clearing was burned by a group of men trained in the technique. “Polta kivet, polta kannst, heita mulle musta multa,” the Finns say: “Burn stones, burn stumps, give to me the black earth.” Immediately after the burning the farmers built a fence around the clearing and sowed rye in the ashes without plowing or hoeing. When rain and ashes had neutralized the acid soil the seed produced big clumps of rye. After two growing seasons the rye was ripe for harvesting. Grass usually started to grow on the abandoned clearing the following summer. On the best land a new generation of spruce made huuhta possible again after eighty to a hundred years. The abandoned field gave good hay production for some years before the forest took over again. Cultivation could continue as long as the fence remained around the clearing. The Finnish saying that expresses this is “Tanne sulle huuhan teen, tanne kartanon raken-nan” (“Up to here I make huuhta; up to here I build the fence”). Continuous rain could impede burning and delay cultivation or even make it impossible.

The harvest was always divided into three parts. One third was for the workers participating in the huuhta, one third was for the keeper of the land, and one third was for the organizer of the huuhta (usually the head of the family). The family or tribe often employed specialized itinerant workers in the busy seasons. These losfinnar had skills that were badly needed for the huuhta, especially when the members of a family or a tribe lacked the necessary skills themselves. The losfinnar formed their own social group, which the authorities did not like because as itinerants they paid no taxes, or paid them irregularly.

A family often had several huuhtas going at the same time, each in various stages of progress. Sometimes families specialized in different types of huuhta that they provided to other families or tribes. Such specializations included a type called ylipalo (“over-fire”), used in older forests on sloping ground, and tulimaa (“fire-land”), for mixed forests on flat ground.
INTERACTION

The Finnish colonists of the forests lived quite a different kind of life from the native farmers in the valleys. The tax lists from Grue, Norway, show that from 1640 on the Finns enjoyed a higher standard of living than the field farmers. The Finns were less affected than the farmers by the many wars at that time, and they moved and enlarged *huuhtas* to compensate for unsettled times and a poor climate. Rye also had a 50 percent higher caloric content than other cereals. Since rye lasted longer in storage than other cereals, the government purchased it to feed its army, providing a source of cash for the Finns.

But the forest Finns conflicted with the seventeenth-century Swedish mining, forging, and timbering industries simply by the way they used the forest. *Huuhta* destroyed areas of forest that could have been used for these industries and the forest took a long time to recover from *huuhta*, which was the source of conflict with the field farmers. While a plowed field might need to lie fallow to replenish itself only a few years in a decade, it took a forest a generation—several decades—before *huuhtas* on even the richest land could be reused. The Finns and the native farmers also had different economic relationships to the state. The Finns owned no part of the forest and paid their taxes in rye. Traditional farmers were tied to their land; since the tax collectors could always find them, they paid more in taxes. However, interaction between the forest Finns and the native farmers had many forms through the centuries and was of great economic importance. For example, abandoned *huuhtas* made good pastures, so the farmers often allowed the Finns to use their forests for *huuhta*. But timber production put an end to this by about 1850, and from then on *huuhta* was used only for clearing land for new homesteads. The single exception was in forest areas where timber transportation was very expensive. There *huuhta* continued until after 1900.

COMMUNICATION

The forest Finns communicated both with the outside world and among themselves more effectively than we usually think. Distances did not frighten them. They were accustomed to traveling widely and had accommodated their life-styles to the search for potential forests to support *huuhta*. Literacy and knowledge of foreign languages were not uncommon among tribal leaders in the sixteenth and seventeenth centuries simply because their enterprises required them. This was true in New Sweden as well. The pastors Anders Rudman and Erik Björck wrote in 1697 from America that the Finnish freemen in New Sweden knew several lan-
guages, including Swedish, Dutch, German, English, French, and even a Native American language. 9

The range of Finnish travels in Sweden even in the nineteenth century was impressive. Elias Lönrot wrote in 1828 that a Finn "without hesitation and long consideration" might make "journeys of forty, fifty and sixty miles, in the summertime in his boat and wintertime upon his sled.... From this enterprise which occupies a good deal of his winter, he returns with experience and knowledge about things, practices and customs from a wide area." This constant searching after new lands to farm is the characteristic feature of the huuhta farmer in contrast to the "stationary" farmer. 10 Migration is the normal life-style of a burn-beating population, in contrast to the farmers who cultivate the same land year after year.

**NEW SWEDEN**

Forest Finns from Värmland were among the first settlers in New Sweden. "These people do not take the land in proper use," the governor complained, "they do not take part in the work after clearing." 11 Their burn-beating cultivation was fully adaptable to the forests of North America, and they soon located good forest land for huuhta. The Finns also adapted Indian corn to their agricultural technique because it was more profitable on most of the available land than the forest-consuming European cereals. The news about the good forests in America reached the Finns in Sweden through the authorities and the colonists who wrote to relatives to encourage emigration. A few colonists also returned to Sweden and reported about the New World in person.

But the Finns did not always go willingly to New Sweden, at least not early in the colony's history. The governor of Nerike (modern Orebro) wrote to the government in 1640 that there were a great number of vagrant Finns in his district and he did not know what to do with them. 12 The government instructed him to endeavor to persuade such Finns "to migrate to New Sweden with [their] wives and children." He was instructed to explain to them the great advantages to be had in America; that there was an abundance of forest and wild animals, and that a large number of Swedes were already there. In September of the same year Måns Kling was sent about Sweden to "collect and hire a multitude of roving people ... who nowhere have a steady residence and dwelling," and was to look especially for Finns. In the spring of 1641 Kling was sent out once more, to permit all Finns who had committed illegal burn-beating to go to the colony on the fourth expedition (sailed 3 May 1641). Johan Printz and Johan Papegoja, successive governors of the colony in
the 1640s, asked for more colonists, and after 1648 there were more Finns willing to go than the government could accommodate.\textsuperscript{13}

By the late 1640s Sweden’s forest Finns increasingly sought to emigrate to New Sweden. In the spring of 1648 Mats Ericksson, a Finn from Värmland, wrote twice to Axel Oxenstierna, Sweden’s chancellor, on behalf of two hundred Finns who wanted to go to New Sweden.\textsuperscript{14} He wrote to inform the chancellor “about the poor Finnish people, who after the prohibition of the forest [regulation of burn-beating by the Swedish government], now are in lack of food. And for that reason want to go to their relatives, who some years ago came to New Sweden in the West Indies.” Ericksson continued with a threat of what the Finns would do if they were not permitted to go to the colony: “Many more of us will go to Norway under the Danish crown, if we do not get a positive reply soon.” In the Royal Council meeting of 12 June 1649 Sweden’s Queen Christina thought it strange that they should ask for such permission “as there was enough land to be had in Sweden” and they had not done anything to cause their deportation.\textsuperscript{15} Apparently neither the queen nor the council members knew very much about huuhta. Finns who had committed illegal burn-beating were often sentenced to serve the Crown, but mostly they were pardoned to go to New Sweden with their wives, children, and all that they owned. Burn-beating motivated an increasing number of Finns to go to New Sweden voluntarily, which coincided with Sweden’s desire to strengthen the colony.

In the autumn of 1653 colonists were to be collected for the tenth expedition to the colony, and Sven Skute was appointed to gather 250 settlers, “mostly good men, fewer women and fewest children.”\textsuperscript{16} He was also to look for farm boys who were willing to go without pay or with as little financial aid as possible. He went to Västerås, Värmland, and Dalsland, as it was reported that “a good many of those [Finns] who dwelt in the large forests” there were willing to go. The Crown requested the governors of those provinces to assist Skute in enlisting people. Skute returned to America on the same ship that carried Per Martensson Lindeström to New Sweden. Lindeström reported that more than a hundred Finnish families had to be left behind at Göteborg because there was no room for them on the ship.\textsuperscript{17}

Sometimes Finns initiated the journey themselves, especially after 1655, when Sweden no longer ruled the colony. In the winter of 1663 to 1664, 140 Finns—men, women, and children—intent on emigrating to America, had made their way from Sweden to Christiania (Oslo), where they hired a Dutch vessel to take them to Amsterdam.\textsuperscript{18} At Amsterdam they were unable to get another ship to carry them to America and were fed and housed by the city officials. Rumors that the emigrants had been enticed to migrate to America by Dutch agents were reported to Sweden.
The Swedish representative in Amsterdam, Peter Trotzig, demanded that the Finns be returned to Sweden. But New Sweden (a part of New Netherland since 1655) passed into the hands of the English in 1664 and the Finns were eventually permitted to continue on to America. Trotzig found that most of these people spoke Finnish, though some of the men also spoke Swedish. Friends and relatives in New Sweden had written to them about the "glories of the country." One of the emigrants carried a letter from his brother in New Sweden dated 1657.

After the Dutch took over New Sweden in 1655, they seem to have wanted their new Swedish and Finnish subjects to be settled in villages of sixteen or twenty persons or families. To regulate the size of individual holdings, the Dutch governor was to impose a tax of twelve stivers annually for each morgen (acre). Several times the Dutch attempted to settle the Finns in villages, but they never succeeded. The Finns spread out in the forests along the Delaware's tributary rivers and were able to maintain good relations with the Indians. They held "secret conferences" with the Indians, "who often came to the homes of the Swedes [and the Finns] and were, as usual, well received." The Finns gained the confidence of the Dutch authorities and performed many services for them as interpreters and guides.

The Finns were very successful cultivators, and many of them prospered. The Dutch colonial government, always in search of immigrant farmers, was impressed with the Scandinavians and requested "not Hollanders, however, but other nations and especially Finns and Swedes, who are good farmers." The Dutch encouraged the settlers to write to relatives and friends in Sweden, praising the land and inviting them to come to America. And several settlers arrived from time to time, as in the summer of 1663 and in December of the same year.

Burn-beating continued wherever the Finns were in North America. They burned a new stretch of the best forest whenever the yield fell off after several harvests. The old clearing was abandoned and grass took it over. But this practice eventually caused the Finns to leave the colony; they were not prepared to permanently occupy a piece of land, as the colonial authorities wanted them to do. In 1654 Johan Rising (New Sweden's last governor), "to avoid much trouble out here," ordered that "no donations be given or any land assigned to anyone, unless he occupies it effectively or settles it himself, or in this either serves the Crown or the Company.... I intend now to buy [land] from them [the Indians] for the Company, the improvements only being compensated for." "Unused land" was valuable, but after ten years' use the "outworn grain fields" were free.

Emigration continued after England captured the colony in the autumn of 1664. Many Finns came to the area of what had been New Sweden
after that time, but increasing economic and political difficulties at home and the measures taken in Sweden against emigration finally stopped them. Many Finns moved from the Delaware River Valley into Pennsylvania, New Jersey, and Maryland, as for example Peter Myer, "a subject of Sweden," who came into Maryland from New Amstel (in modern Delaware) in 1661 with his wife and children. They were granted permission to live there as "free denizens."

The colonial administration quite often misunderstood the Finns' behavior. Some observers characterized them as unsocial, lazy, stupid, and destructive, and complained that they disappeared into the forests "to avoid work for the colony." Burn-beating was also misunderstood. Johan Rising's inventory of September 1667 described Finnish farming practices as essentially ruinous of the land. "The people cleared land, used it as it was new and strong, but did not think of manuring or clearing until recent years. . . . Some miles up in the inland," he continued, "the stumps are still left in the fields [and] big trees are left behind . . . thereby are seen many fields full of dead trees and thick grain thereunder."23

Largely because of their common background in burn-beating cultivation, the Finns and the Indians got on well with each other. Their cultures had many corresponding elements, such as the use of the shamanic drum, the sauna, and rituals involving singing, and they often had a common opinion of the colonial administration. The Indian culture and the Finnish burn-beating culture shared certain traits that were foreign to the Swedish and other European cultures, including their attitudes on land use and the temporally extended cultivation cycles that their agricultural methods required.

THE FINNS AS AN ETHNIC GROUP

An ethnic group can be defined as a population that is largely biologically self-perpetuating. It shares fundamental cultural values that are realized in overt unity in cultural forms; makes up a field of communication and interaction; and has a membership that identifies itself, and is identified by others, as constituting a category distinguishable from other categories of the same order.

The boundaries of ethnic groups define the group, not the cultural stuff that the boundaries enclose. The analysis of interactional and organizational features of interethnic relations is important for the study of the problems of boundary maintenance.

It is clear that ethnic boundaries are maintained in each case by a limited set of cultural features. However, most of the cultural matter that at any time is associated with a human population is not constrained by this
Fig. 2. Finnish population density in 1686 (indicated by broken line) and recent areas of investigation (stars).
now are the Finns from Värmland who came to New Sweden. We think that research in the United States can help us to locate factors that further changed the cultivation technique and may help us to understand the extension of *huuhta*.

We have progressed enough to be hopeful of useful results. The technical methods and the experience we have gained in these investigations will be of great value in future work. And the same sort of technical research in the United States as we have done in Norway, Sweden, and Finland would be of great value for the project. These studies have made it possible to begin to understand some of the ways in which the Finns have interacted with their neighbors, both in northern Europe and in North America.

**Notes**


7. Royal resolution, 22 June 1641; its prohibitions were repeated in 1647, 1664, and 1734. See Axel Oxenstierna Skrifter och Brefvexling, 1898, branch 2, vol. 9, Riksarkivet, Stockholm, 684.


10. Matti Klinge, *Östersjövälten* (Borgå: Askelin & Hägglund, 1985), 185. Elias Lönrot (1802–84) was a twenty-six-year-old teacher when he went on his first journey to collect old *runa* (songs) in 1828. From his collection of these songs Lönrot published the *Kalevala* (1835, 1849), the Finnish national epic.


13. Ibid., 150.


