

Ontario Iroquoian Sweat Lodges

Rob MacDonald

The sweat lodge is an element of prehistoric and historic Iroquoian culture which has not yet been adequately studied. Historical literature provides information which, in combination with archaeological data and ethnological studies of sweat-bathing, can contribute to a more thorough understanding of this important aspect of culture. While the archaeological identification of both above-ground and semisubterranean sweat lodges is improving, much remains to be learned about them.

Introduction

The use of sweat lodges by the seventeenth-century Huron is amply documented and structures identified as sweat lodges have been reported from Huron archaeological sites. Similar structures have been identified at other historic and prehistoric Iroquoian sites. These finds, together with the pan-American distribution of the use of sweat lodges, suggest a considerable antiquity and cultural significance of this practice. Nevertheless, a thorough discussion of Iroquoian sweat lodges and their use has never been published. This article provides a summary of information concerning the sweat lodge and its use among the Ontario Iroquoians.

Functions of the sweat lodge

The practice of **sweat-bathing** was **virtually** universal among North American Indian groups, and in fact is found throughout the northern circumpolar region, as well as in South America (Hodge 1960:661; Lopatin 1960:978). Both above-ground and semisubterranean sweat lodges were common in both the Old and New World (Lopatin 1960; Hodge 1960:661; cf. Levy 1978:398-413; Spier 1928:335-337; Drucker 1955:72). In addition to their common forms, sweat lodges appear to have served similar functions in the societies that used them: hygiene, social integration, and above all, religious or spiritual fulfillment (Lopatin 1960:983; Hodge 1960:661). All of these functions have been historically documented for Huron sweat lodges (e.g. Tooker 1964:85-86, 93, 96, 104). The hygienic properties of the sweat bath, which was often fol-

lowed by an immersion bath or washing with water (Lopatin 1960:985; cf. Wrong 1939:198), may be self evident. The social and religious aspects of sweat bathing require more explanation.

Huron sweat-bathing was practised for its curative and prophylactic properties and was used in conjunction with rites of contact with the spirit world. The time spent in the sweat lodge was sometimes two or three hours, although during communal sweat baths, there were periodic breaks during which the sweat lodge was vented and cold water was shared amongst the participants. Singing or chanting appears to have been a necessary component of sweat-bathing, and shamans undertaking individual sweats were sometimes accompanied by people chanting and dancing outside the sweat lodge (Wrong 1939:198; Thwaites 13:203, 14:65). Essential links between sweat-bathing and shamanism undoubtedly account for the common occurrence of many of these attributes in traditional sweat-bathing everywhere.

Reports of seventeenth-century missionaries clearly indicate that Huron shamans used the sweat lodge as one means of contacting their familiar spirits (Thwaites 26:175-177; see below). Recent studies of altered states of consciousness (ASCs), such as those sought by shamans during healing and divination rites, show that a number of the effects of sweat-bathing can contribute to or initiate trance states. Ludwig (1969:10-13) observes that hypostimulation or hyperstimulation of the senses is conducive to ASC production. In the first case, reduction of stimulation and/or motor activity, or the input of constant, repetitive, monotonous stimulation, initiates the ASC. Confinement in a darkened, cramped sweat lodge and repetitious singing and drumming would certainly expose a person to these kinds of sensory stimuli. In the second case, sensory overload, increased motor activity, and profound emotional arousal contribute, individually or in combination, to the trance. The intense heat of the sweat lodge, perhaps combined with vigorous singing and the emotional stress associated with ritual behaviour,

would contribute to the production of an ASC. Alterations of body chemistry or neurophysiology are also known to contribute to ASCs. Among these are hypoglycemia caused by fasting, dehydration, or hyperventilation (Jilek 1982:38-39), and the use of psychoactive drugs such as tobacco (Von Gernet and Timmins 1987:38-39). Most, if not all, of these sources of neurophysiological change can be linked to American Indian sweat-bathing.

Many of the techniques responsible for ASC production can be found in the Huron sweat lodge ritual. Not only does the Huron practice of chanting (Wrong 1939:197-198; see below), constitute bombardment with a repetitive stimulus, but chanting of aspirated syllables like "*het, het, het*" can produce hyperventilation (Lex 1976:287), al-though in an oxygen-poor sweat lodge, hypoxia may have resulted. Both of these conditions affect the body's biochemical environment and con-tribute to stimulus bombardment (Lex 1979:124, 134; Jilek 1982:39). That a number of techniques were used in sweat-bathing ritual is not unusual; this guarantees the effectiveness of the ritual and accommodates individual physiological and experiential differences (Lex 1979:145).

In his unpublished paper on Huron sweat lodges, Tyyska (1972) notes that sweat-bathing likely served a socially integrative purpose. He further suggests that the practice of communal sweat-bathing developed from that of the individual Iroquoian shaman at about the same time as ossuary burials, another socially integrative practice. While it may be premature to suggest any parallel development between these two practices, the integrative function of sweat-bathing is unquestionable. Lex (1979:144) states that rituals of this nature are associated with a "...shift to the mode of consciousness characteristic of the right cerebral hemisphere, associated... with perceptions of unity and holism. Hence, individuals, eager or reluctant, are integrated into a group, not only by the sharing of pleasurable emotions through participation in formalized, repetitive, precisely performed interaction forms, but also by a mode of thought that reinforces feelings of solidarity."

Historical evidence

The practice of sweat-bathing is mentioned repeatedly in the early historical accounts of the Huron (e.g. Tooker 1964:85-86, 93, 96, 104). It is clear from these reports that the sweat lodge was

more than simply a kind of steam bath, although this was one of its functions. First, the sweat lodge appears to have been used by Huron shamans as an instrument for contacting the spirit world. These one-man sweat lodges were apparently built *ad hoc* as in the following case related by the Jesuit missionary Jerome Lalemant:

They (an army of Hurons) consulted a famous magician, for the purpose of receiving his orders. That instrument of Satan caused a dark tabernacle to be erected for him, two or three feet in height, and as many in width; filled it with stones heated in the fire; and, throwing himself into the middle of this furnace, he commanded that he be kept shut up in it until his Demon had given him an answer. He sang, or rather he yelled, therein like a damned soul; while the whole Huron army danced around him, and re-echoed his voice so that it might be heard in the lowest pit of Hell (Thwaites 26:175-177).

Second, the sweat lodge was often used by groups of men for curing ceremonies, religious convocation, ritual purification, maintenance of physical/spiritual health, recreation, and social interaction (Biggar 1929:153; Wrong 1939:197-198; Thwaites 13:203, 14:65, 26:175-177, 245). The Recollet missionary Gabriel Sagard provides a detailed description of one such communal sweating episode:

When anyone wishes to have a sweat, which is the best and most ordinary remedy they use to keep in health and to prevent and forestall diseases, he summons several of his friends to sweat with him, for by himself he could not easily manage it. So they heat a number of stones red-hot in a great fire, then take them out and put them in a pile in the middle of the lodge, or wherever they wish to set up their sweat-bath (for when on a journey in the wilds they sometimes take it), then all around a pile they arrange sticks planted in the ground, as high as the waist or higher, and bent over at the top, in the shape of a circular table, with a space left between the stones and the sticks sufficient to accommodate the naked men who are to sweat, and who sit on the ground side by side squeezed closely together all round the pile of stones with their knees raised in front of their stomachs. When they are in position the whole sweat-bath is covered above and at the sides with large pieces of bark and a number of skins, so that

no warmth nor air can get out of the bath. Then, to heat themselves still more and stimulate sweating, one of them sings, and the rest shout and repeat continually, strongly and violently (just as in their dances), "*Het, het, het*"; and when they can stand no more heat they let in a little air, taking off a skin from the top, and sometimes also drinking large potfuls of cold water, and then they have the covering put on again. When they have sweated enough they go out, and if they are near a river throw themselves into the water; if not, they wash themselves in cold water and then have a feast, for while they are sweating the kettle is on the fire. In order to have a good sweat they sometimes burn tobacco at it, as it were by way of sacrifice and offering (Wrong 1939:197-198).

From the historical descriptions, the communal sweat lodges also seem to have been structures built when the occasion demand it, constructed to accommodate from one to over a dozen men. Also significant is Sagard's reference to sweat lodges being constructed both inside the longhouse and at camps away from the village. Hearths to heat the rocks would have been necessary auxiliary features of all sweat lodges. Although these could have been located outside of the sweat lodge itself, nearby cooking fires were likely often used.

Archaeological evidence

That sweat lodges might be identified on Ontario Iroquoian archaeological sites was suggested some sixteen years ago (Tyyska 1972). Tyyska's hypothesis stated that many of the clusters of small post-moulds often found along the central corridors of Iroquoian longhouses were not the remains of cooking racks, drying racks, fur robe "de-lousers", or animal pens, but were evidence of sweat lodges (Figures 1A, 2A). He noted that there was no consistent patterning of these post clusters around hearths as would be expected if they were adjuncts to the hearths. Nor was mention made of racks or spits involving upright posts in the detailed historical descriptions of Huron cooking practices. In contrast, there was ample historical evidence that sweat lodges were constructed within the longhouse. By closely examining clusters of such posts from the site of Cahiaugué, and by comparing these clusters to groupings from other Iroquoian sites, Tyyska felt he was able to identify six "locational" patterns

falling into two size ranges. These patterns were attributed to the repeated construction and removal of sweat lodges within prescribed areas of the longhouse corridor. It seems more likely that stochastic processes were responsible for the "locational" patterns observed by Tyyska than any cultural convention, although his suggestion of two size ranges corresponding to individual and communal sweat lodges might be correct.

Since their initial discussion by Tyyska (1972), these archaeological features have been mentioned in a number of reports (e.g. Johnston and Jackson 1980:197; Finlayson 1985:105-106; MacDonald 1986:40-41), although some re-searchers continue to attribute these archaeological features to cooking and drying racks (e.g. Stopp 1985:6). While some groupings of post-moulds may be the remains of racks, the evidence now strongly supports the identification of many circular clusters of interior post-moulds as sweat lodges. The significance of sweat lodges may be best illustrated by the Draper site, where 121 such post-mould clusters were documented in thirty-seven of the forty-seven longhouses (Finlayson 1985). Most were discrete and clearly observable circular clusters, roughly two metres in diameter, although a few were only about one metre in diameter. Only three out of thirty-seven houses in the main village at Draper did not have sweat lodges, and the rest contained anywhere from one to nine. Finlayson (1985:409-410) makes the following observations about the Draper sweat lodges: (1) the density of sweat lodge post-moulds is quite variable; this may be a function of the **age** of the house and/or the degree to which the house or family area was used for sweat-bathing events, (2) the sweat lodges tend+ to be located within the central corridor between the hearths, and (3) no sweat lodges were located out-side of longhouses.

Also found on Iroquoian sites are semisubterranean sweat lodges (Smith 1976; MacDonald 1986:41 ff.). Although there is some geographical and chronological variation, these structures all conform to a basic design. In plan they are large round or subrectangular features with an attached lobate extension (Figures 1B, 2B, 3), a shape which prompted some to describe them as "keyhole structures" (Smith 1976) and "turtle pits" (Dragoo 1976:79). Encircling the bottom of the excavation are post-moulds.

The dating and distribution of semisubterranean sweat lodges is poorly understood. Outside of On-

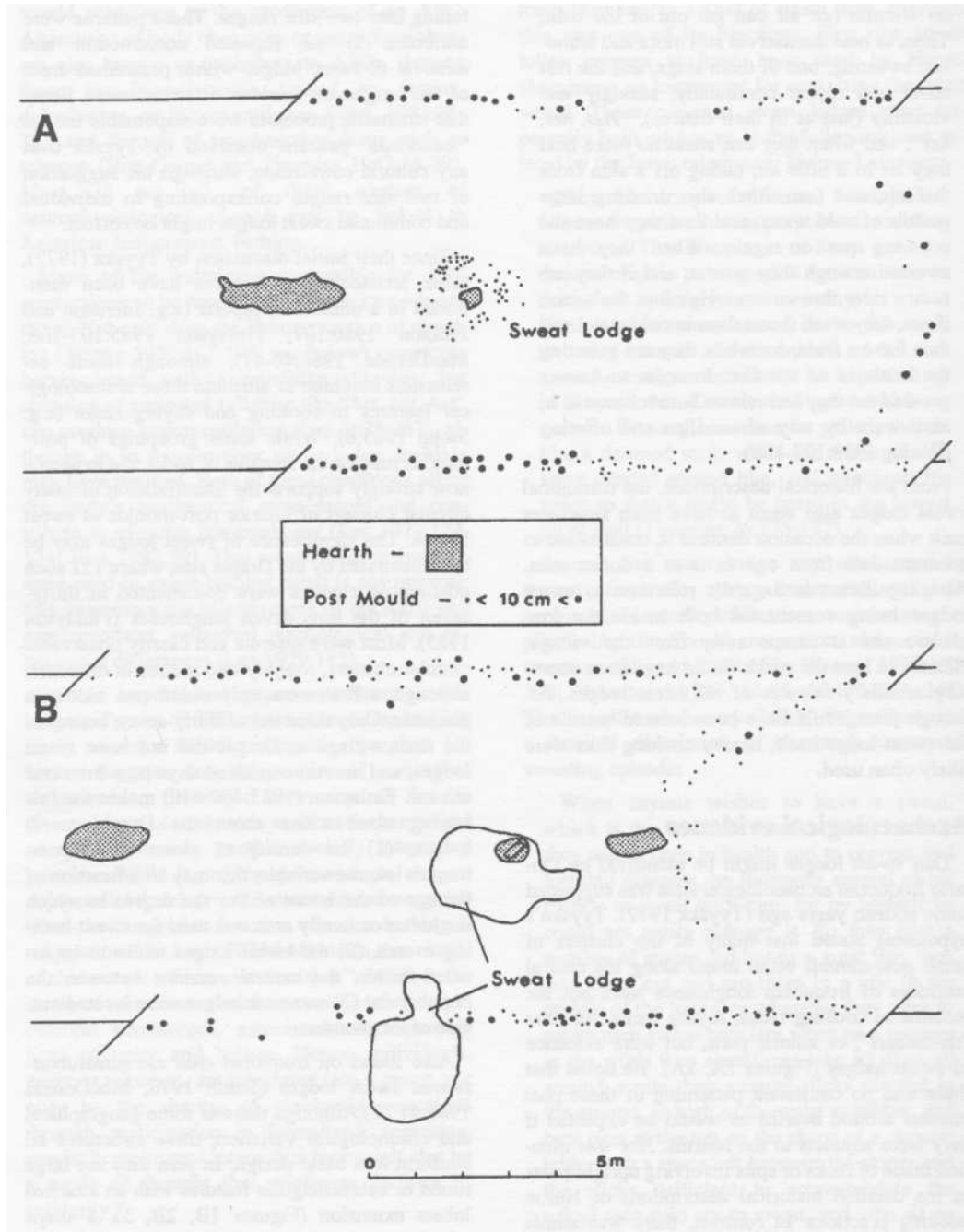


FIGURE 1
Sweat lodges, House 1, Coleman Site. A: Above-ground sweat lodge. B: Semisubterranean sweat lodges

tario, Smith (1976) has documented over 30 such structures on Late Woodland sites in eastern Pennsylvania. These sites, situated along the west and north branches of the Susquehanna River, are "...unquestionably associated with early Susquehannock sites (c. A. D. 1550) but not later ones, and with at least the later sites of the Wyoming Valley culture (c. A. D. 1300-1500)" (Smith 1976:6). The sweat lodge features range in maximum body size from 1.8 to 3.4 metres across and average 30 cm deep. In the Kinzua River Valley of northwestern Pennsylvania and south-western New York, semisubterranean features identical to those described above have been documented on Iroquoian sites dating from about A. D. 900 to 1400 (Dragoo and Lantz 1971; Dragoo 1976:79-80). Although Dragoo suggested that they may have been used as storage houses, he favoured a sweat lodge interpretation.

The use of semisubterranean sweat lodges was not restricted to Iroquoian groups in the Northeast. Butler (1945) notes several seventeenth and eighteenth-century references to their use by Algonkian groups in New England.

In western Pennsylvania, Monongahela houses, dated between A. D. 1000 and 1500, have been discovered with lobate semisubterranean structures appended to them, a configuration reminiscent of semisubterranean sweat lodges found appended to Iroquoian longhouses in Ontario (see below). Although in his report on these features, Dragoo (1955) suggested they might be storage structures, their use as sweat lodges should also be considered.

One very early example of semisubterranean architecture is the early Late Woodland period keyhole-shaped pit house of the seventh to ninth century A. D. Patrick Phase communities of southeastern Illinois and western Indiana (Bareis and Porter 1984:124-125). This house type was first documented by Binford *et al.* (1970) at the Hatchery West site and may well represent the source of this construction technique among native groups in the Northeast.

In Ontario, semisubterranean sweat lodges documented at the late fifteenth century Coleman site (MacDonald 1986:40-55) were hypothesized to have been structurally similar to those of the above-ground style (Figure 2). Access was gained through short entranceways, some of which were ramped. At the Coleman site, two semisubterranean sweat lodges were situated outside of longhouses with their ramped entrances projecting

through the longhouse wall (Figure 1B). The area within these sweat lodges was about 3.5 square metres, which would have comfortably accommodated eight men sitting in the manner described by Sagard (Wrong 1939:197). Of course more could have been squeezed into the lodge if, as in the communal sweat described in Le Mercier's Relation of 1637, "They crowded within this (sweat lodge), twelve or thirteen of them, almost upon one another" (Thwaites 13:203). Like above-ground sweat lodges, semi-subterranean ones appear to have been heated by carrying in hot rocks. No hearths have been documented within the structures, although they were often situated nearby. All contained fire-cracked rocks in their main fill layer. On the interior floor of the excavations was found a thin *veneer* of medium to fine grained charcoal and ash (Figure 3). This deposit has been interpreted as a living floor resulting from the repeated dousing of heated rocks which had charcoal and ash adhering to them (MacDonald 1986:40-55).

Although the Coleman site structures are the first semisubterranean sweat lodges to be identified as such in Ontario, similar features have been previously recorded on Ontario Iroquoian sites and comparison with the Coleman examples may prompt re-examination of earlier interpretations. For example, at the Early Iroquoian Bennett site (Wright and Anderson 1969), six "pear-shaped" pits were found. Their mean size was 300 cm long by 185 cm wide by 85 cm deep. These features were either completely exterior, or attached to longhouses via their lobate extensions. A charcoal mottled veneer was found in the bottom of at least one pit at Bennett (Wright and Anderson 1969:13, 21 [Figure 4]), although no mention was made of post-moulds. Interestingly, burials were found in two of the pits (Wright and Anderson 1969:13).

At the Moyer site, a Middle Iroquoian village near Coleman, a feature interpreted by the author as a semisubterranean sweat lodge (MacDonald 1986:54) was excavated (Wagner *et al.* 1973). Examination of the original Moyer site field records revealed that the feature measure about 2.8 by 2.8 metres, excluding the ramped entrance, and was about 40 cm deep. While a charcoal and ash mottled layer was found in the bottom, no post-moulds were reported.

At the Crawford Lake site, certain features have been excavated which are believed to be semisub-

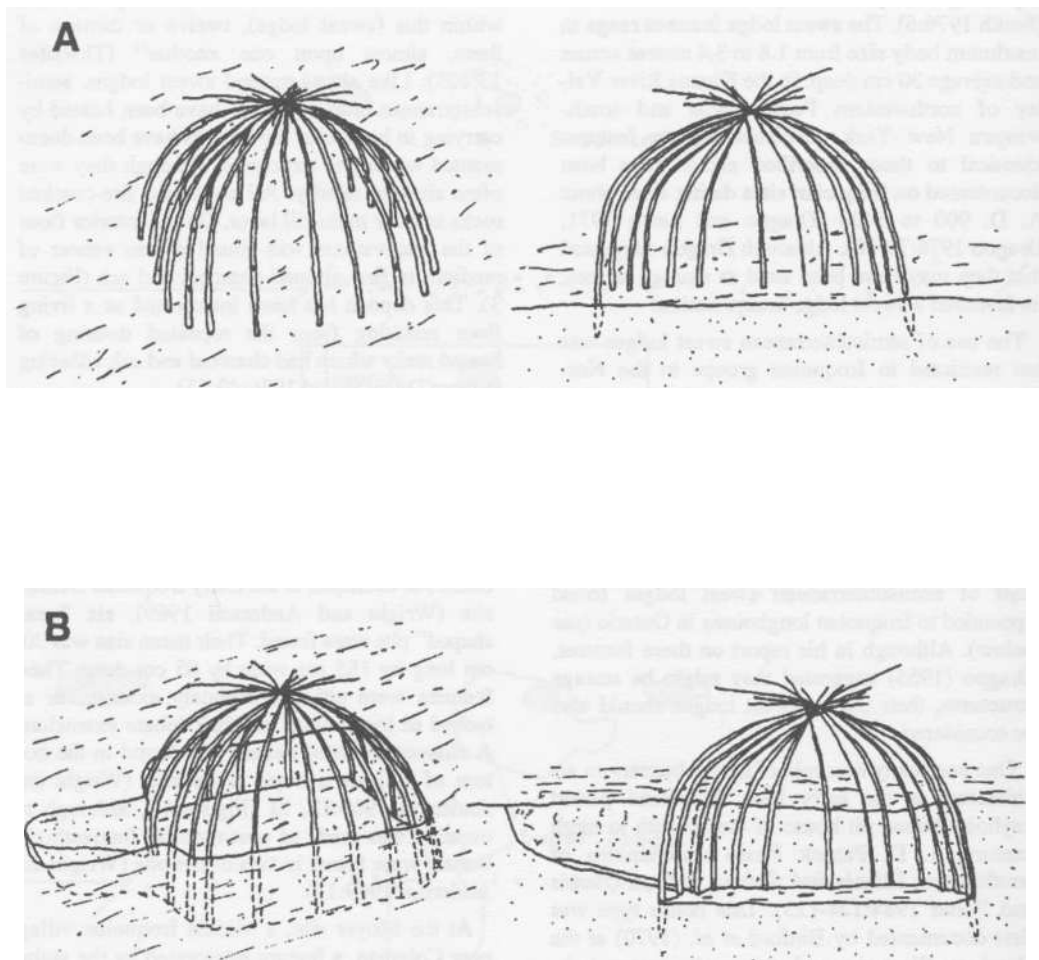


FIGURE 2

Artist's depiction of sweat lodges, top and cut-away view. A: Above-ground sweat lodge. B: Semisubterranean sweat lodge

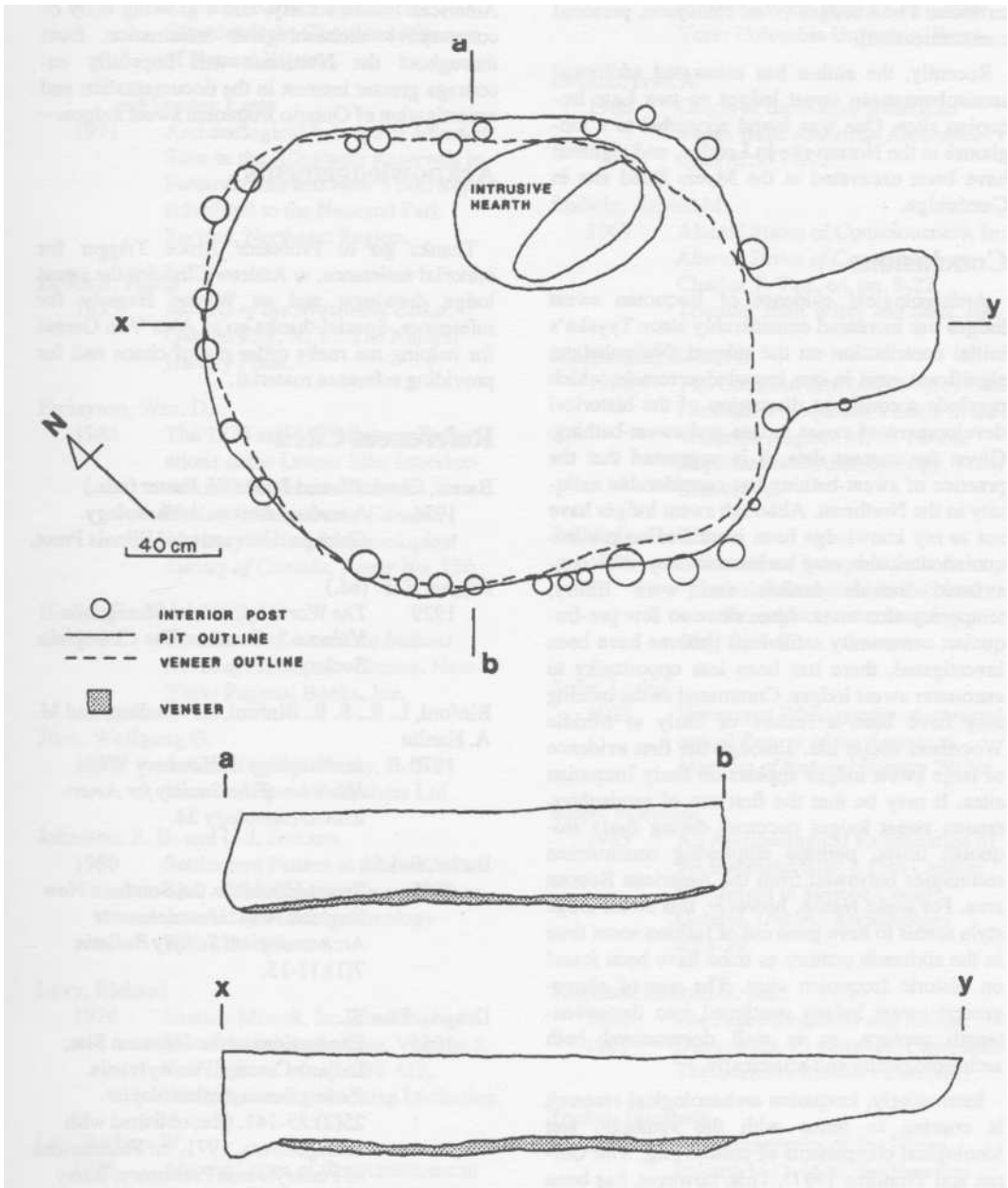


FIGURE 3
Plan and profiles of Coleman Site semisubterranean sweat lodge

terranean sweat lodges (Wm. Finlayson, personal communication).

Recently, the author has excavated additional semisubterranean sweat lodges on two Late Iroquoian sites. One was found appended to a longhouse at the Norton site in London, and eighteen have been excavated at the Myers Road site in Cambridge.

Conclusions

Archaeological evidence of Iroquoian sweat lodges has increased considerably since Tyyskas initial contribution on the subject. Nevertheless, significant gaps in our knowledge remain which preclude a confident discussion of the historical development of sweat lodges and sweat-bathing. Given the current data, it is suggested that the practice of sweat-bathing has considerable antiquity in the Northeast. Although sweat lodges have not to my knowledge been identified on pre-Iroquoian sites, this may be because they were constructed outside houses and were flimsy, temporary structures. Also, since so few pre-Iroquoian community settlement patterns have been investigated, there has been less opportunity to encounter sweat lodges. Communal sweat bathing may have been a feature of Early to Middle Woodland social life, although the first evidence of large sweat lodges appears on Early Iroquoian sites. It may be that the first use of semisubterranean sweat lodges occurred during Early Iroquoian times, perhaps employing construction techniques borrowed from the American Bottom area. For some reason, however, this sweat lodge style seems to have gone out of fashion some time in the sixteenth century as none have been found on historic Iroquoian sites. The use of above-ground sweat lodges continued into the seventeenth century, as is well documented both archaeologically and historically.

Increasingly, Iroquoian archaeological research is coming to terms with the symbolic and ideological components of culture (e.g. Von Gernet and Timmins 1987). This, however, has been a recent phenomenon and is only slowly replacing the traditional and unwarranted frustration with archaeological access to this domain. Archaeological investigations of Iroquoian sweat lodges can benefit from several early historical accounts and increasing knowledge concerning various aspects of American Indian shamanism. The availability of these resources, the obvious significance of sweat-bathing in Iroquoian and American Indian society, and a growing body of

comparative archaeological information from throughout the Northeast will hopefully encourage greater interest in the documentation and investigation of Ontario Iroquoian sweat lodges.

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