

Nova Scotia



Department of
Education

Nova Scotia Museum Complex

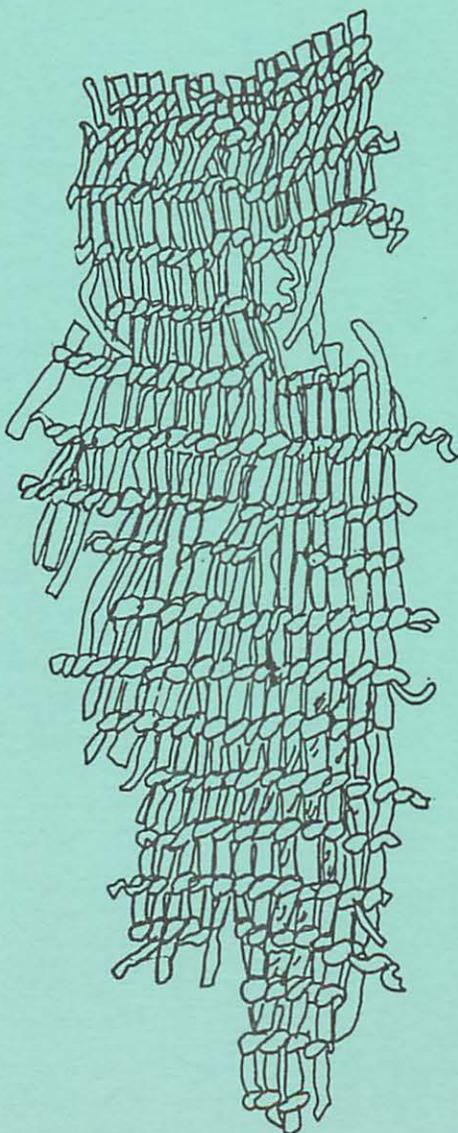
Curatorial Report Number 59

Plant Fibre Textiles from the Hopps Site: BkCp-1

Alex Wilson

Nova Scotia Museum
1747 Summer Street
Halifax, Nova Scotia, Canada
B3H 3A6

By:
R H Whitehead



Nova Scotia



Department of
Education

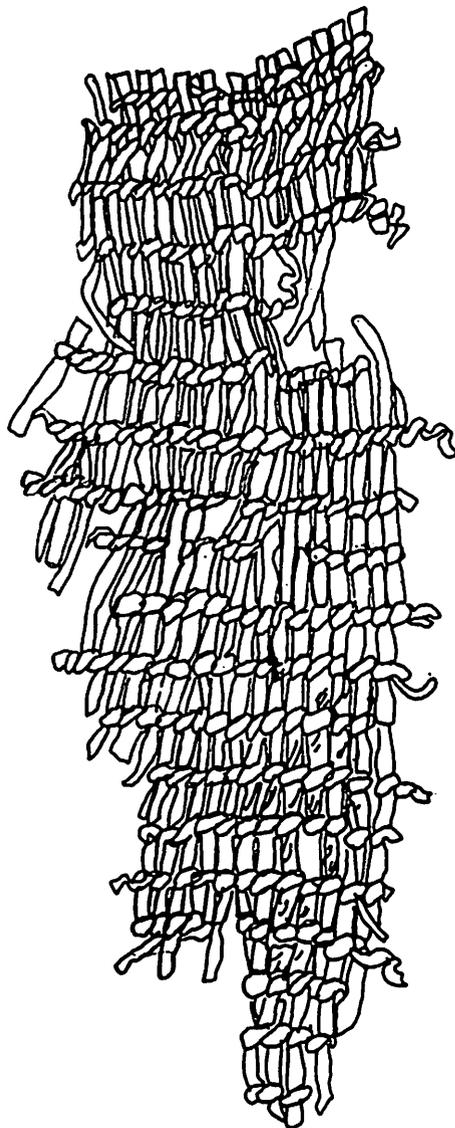
Nova Scotia Museum Complex

Curatorial Report Number 59

Plant Fibre Textiles from the Hopps Site: BkCp-1

Nova Scotia Museum
1747 Summer Street
Halifax, Nova Scotia, Canada
B3H 3A6

By:
R H Whitehead



Nova Scotia Museum Complex

Curatorial Reports

Curatorial reports contain information on the collections and the preliminary results of research projects carried out under the program of the museum. The reports may be cited in publication but their manuscript status should be clearly indicated.

TABLE OF CONTENTS

Introduction: Plant Fibre Textiles	1
Evidence from Archaeological Collections	2
Evidence from the Vocabularies	6
Evidence from the Ethnographies	9
Definition of Terms	23
The Hopps Site Report: BkCp-1	26
Nova Scotia Museum Collection BkCp-1 Textiles	31
Analysis of the Collection	36
Summary	42
Bibliography	42
Scale Drawings of BkCp-1 Textiles	49
Appendix One: The BlCx-1 Textiles	68
Appendix Two: A Maritime Archaic Textile From Maine	71

INTRODUCTION

Micmac and Maliseet women had developed, by the time of the first European contact with their people, a highly complex and diversified cordage and textile manufacture, using a variety of floral and faunal materials. Animal products included rawhide, tendon thread, feathers, moose and caribou hair, porcupine and bird quills, and the skins, furs and hide of everything from moose and caribou, rabbit and weasel, to fish and eels. The use of faunal material in textiles has been researched rather more extensively than that of floral material (Whitehead, 1980, 1982; Bourque and Whitehead, n.d.). Ethnographies of Atlantic Canada, Quebec and Maine--covering Maliseet and Micmac territory-- indicate that there were a wide range of plants in use: cattails, reeds, rushes, nettles, Indian hemp, sweetgrass, spruce root, cedar bark, basswood bark, yellow-birch fibres, and a number of unidentified grasses and shoots of trees and shrubs. A number of these plant usages have been confirmed by their presence, as worked fragments, in at least five archaeological sites across the Maritimes. To date, however, there are only four published reports on the use of plant materials based on analyses of actual objects--either as they occur in sites or for the area generally. All four are incomplete or flawed.

EVIDENCE FROM ARCHAEOLOGICAL COLLECTIONS

J. Russell Harper's 1956 preliminary site report on his Portland Point, New Brunswick, excavation, included two appendices. The first discussed a contact-period 'copper-kettle' burial near Pictou, Nova Scotia. Harper had been peripherally involved with its (amateur) excavation--he spent a few hours at the site reviewing the material recovered from the first burial pit in 1955. During the second excavation, in 1956, he spent approximately two days there:

Hopps called me on Thursday morning and I went up on the bus which left here at 3.30 AM Saturday morning, and a couple of the lads digging with me said that they would like to go as well. We went to work digging as soon as we arrived, but were interrupted by rain in the afternoon. However, on Sunday morning we went at it about 6.15 AM and worked until the perspiration was pouring off us until I had to leave for the bus in the late afternoon, without anything like reaching the end of the material, and rushing really far too fast as we did it as well. Left the two lads...who worked with a chap from Mass. and removed the rest of the stuff later that night and on Monday (Harper to G. MacLaren, 19 July 1956).

The first appendix mentions briefly the finding of fibre-woven artifacts (1956:40-48). His second appendix, "Netting and Matting Weaves of the Micmacs and Maliseets" (1956:49-51), went into greater detail about the Pictou material, comparing it with fragments from a contemporaneous burial at Red Bank, New Brunswick, and a charred fragment from Portland Point. Unfortunately, his analysis of the Pictou specimens was cursory, and many of the materials are misidentified. Harper does not give the scientific names of the plants he suggests are involved, using instead common names like reed, rush and bulrush, which are often applied in the literature to all three species. Nor does Harper give the complete compendium of ethnographic references. Naturally, in an appendix, he could not go into detail about the gathering-seasons for each plant, the processing and, in some cases, the dyeing of the raw material in preparation for working, or the techniques of construction and decoration. He includes a few speculations about the ultimate usage of each piece, but that is all. One must still be grateful to him for writing anything, since his is the only site report for this find.

The Portland Point fragment he describes as "so charred by age as to prevent an exact identification" (Ibid. :49); it was twine-woven, with the warps bound in alternating pairs to give a diamond effect (Ibid.: 19). He thought it was "grass

or bast nettle (?) fibres". Bast nettle (Galeopsis tetrahet) is not native to North America, and since Harper felt the piece came from a contact-period burial (Ibid.: 29), it is more likely to be Indian hemp (Apocynum cannabinum), or an American nettle species (Labiatae). He correctly identifies the Red Bank material as strips of cedar bark (Thuja occidentalis), twill-plaited in quarter-inch strips, rolled up tight at the selvedge edge (Ibid.: 51).

Harper later wrote a condensed article on the Pictou site for Anthropologica (IV, 1957). Kenneth Hopps, the owner of the land and the discoverer of the site, had this article typed up and offset-printed, for sale in the small museum which he built to house the finds. This condensation naturally suffers from the same flaws.

The excavation of the Augustine Mound at Red Bank, New Brunswick, disclosed the earliest-known (over 2000 years B.P.) fibre textiles from the Atlantic Canada region. Chris Turnbull, who directed the excavation, has written a number of articles on the site (1976a, 1976c, 1976e, 1978b, 1978d, 1980c). He has not yet published detailed descriptions of the two types of vegetable-fibre textiles, as they are still undergoing conservation. In 1978, however, he was kind enough to allow me to examine the pieces before they were shipped to Ottawa. The first fragment proved to be twine-woven reed, Scirpus lacustris. The second was segments

of twine-woven textile, using two-ply cordage, possibly Indian hemp, with every two warps paired into a three-strand braid by the addition of moose hair lengths, set in at right angles in groups of five hairs (Whitehead, 1980:53). Further work will need to be done on this earliest of collections, when it has been stabilized.

Studies which have reported on evidence from Maine include Petersen and Hamilton's exhaustive analysis of Perishable Fiber Industries from Northern New England (1984), based on "some 558 specimens dated between ca. 2000 B.C. and A.D. 1700". Unfortunately, few fragments have been recovered from Maine sites (Bourque, personal communication); and only eight of these 558 specimens were actual plant fibre pieces, all "derived from one site (Boucher, VT-FR-26 [Vermont]), the balance being reconstructions taken from negative casts preserved on aboriginal ceramics (Ibid.: 2)." Hence identification of species is difficult, if not impossible, and even less can be said about plant gathering or processing.

The Nova Scotia Museum publication Elitekey (Whitehead, 1980), devoted a chapter to vegetable-fiber textiles, in an attempt to pull together the ethnographies and the collections, with some experiments in reconstruction. Sadly, this had to be done without a comprehensive analysis of the Pictou material--the largest collection known to date--as Mr.

Hopps would not allow the material to be removed from the cases.

In 1982, however, Mr. Hopps retired, and the contents of the burials on his land came to the Nova Scotia Museum. The bulk of this paper will present an analysis of the vegetable-fibre textiles and cordage from this collection, which now bears the Borden number BkCp:1. Included in one appendix are discussions of two hitherto unpublished textile fragments from a contemporary burial at Northport, Nova Scotia (B1Cx:1), two from a second burial in New Brunswick, cordage from a site at Cellar's Cove, N.S., and evidence for a Maritime Archaic reed mat or bag from Maine. A second appendix gives a breakdown on all plants from the area utilized either in textiles or as dyes.

Prior to beginning the analysis, the available ethnographies for the region, as well as those from neighboring New England, were searched for references to vegetable-fibre textiles and cordage, as were published and unpublished Micmac vocabularies, myths and oral histories.

EVIDENCE FROM THE VOCABULARIES

The vocabularies provided some interesting insights: the knowledge, for example, that many of the nouns referring to textiles take the animate case, indicating that the object had a persona, an aura of power. Some of the terms suggest

possible clues to the item's origin or invention. The word abe is a case in point: it means both 'a net' and 'cobweb'. A further examination of the vocabularies indicates that all items of European manufacture take the inanimate case--carpets, for example, as opposed to reed mats. Therefore, in almost every instance, the use of the animate case marks the object as part of the pre-contact material culture.

The following list of terms is taken from Silas Rand's Micmac-English Dictionary, published posthumously in 1902. This included and superceded terms from his earlier English-Micmac version of 1888.

ababe: rope, cord, string

abajiskunooa: I weave or plait backwards

abe: a net, a cobweb

abik: it is network, netted

abujiskunooa: I knit or braid a seam

adooiqun: a netting needle, a shuttle

alankadoo: I plait, fold

alankesum: I plait it, stitching down the folds

[This is an apt description of the Augustine hemp-and-hair textile's construction.]

altukodega: I make a network of ropes (as a spider)

ankobegadoo: I lengthen a string [cordage construction]

apskootkadoo: I turn it over and fasten it down (weaving baskets)

ason: cloth [derived from a term for a type of reeds used in weaving]

elaabegesowa: twining it in and out [a weaving technique]

elegemkawa: a seed basket

eltnoowe: I twist a little string

esema: I weave in the filling of a snowshoe

kadabe: an eel net

kobiqun: a dip net, scoop net, a bag

labelask: flax [not native, it closely resembles Indian hemp, and may take its name from an earlier word for Indian hemp.]

labelasabe: a flaxen rope

leskunwokun: the 'filling' of a web, the interweaving, the woof

likpedequn: a splint for weaving

lutkudam: a woven belt, of the ancient time

mimuda: I spin, twist flax [or cordage]

m'koojelabegadakun: a braid, a string

moweskunwodum: I braid it [in coils]

nadooigun: a needle for filling in snowshoes

nageqadoo: I spread it out, spread out a mat for a seat

nasun: a rush, reed, bull-rush [woven in pre-contact times, see ason, cloth]

seguneskak: open, coarsely woven

tadooigun: a shuttle for weaving

ultaktequna: I weave with a loom

upskunakunamoose: withrod [Viburnum cassinoides, used in wicker-weave, or the construction of weirs]

EVIDENCE FROM THE ETHNOGRAPHIES

The earliest ethnographic source for fibre-textile manufacture comes from the 1607 visit of Marc Lescarbot to Port Royal (now Annapolis Royal, Nova Scotia). Lescarbot was familiar with both Micmac and Maliseet, who often visited the new settlement:

Touching their smaller exercises: when the winter doth approach they prepare that which is necessary to oppose themselves against this rigorous adversary, and make mats of rushes, wherewith they garnish their cabins, and others to sit upon, and all very artificially, yea, also colouring their rushes; they make partitions in their works, like to them that our gardeners do make in their garden knots, with such measure and proportion as nothing is found amiss therein (1609/1928:252,253).

The Relation of Jesuit Father Pierre Biard (1616/1895, III:77), who lived in Port Royal for three years between 1611 and 1613, provides us with a vague depiction of sleeping mats, also used as cushions when sitting in the wigwam. "All the space around the fire is strewn with leaves of the fir

tree, so they will not feel the dampness of the ground; over these leaves are often thrown some mats, or sealskins as soft as velvet; upon this they stretch themselves around the fire with their heads resting upon their baggage...." He goes on to describe in greater detail a type of reed mat used as a wigwam covering in summer:

They nearly always cover them with bark, or mats made of tender reeds, finer and more delicate than ours made of straw, and so skillfully woven, that when they are hung up the water runs along their surface without penetrating them (Ibid.).

The women also made bags of reeds, and these were sometimes quite large. "The storehouses are like this: they put these provisions in sacks, which they tie up in big pieces of bark; these they suspend from the interlacing branches of two or three trees...(Ibid., III:107-109). We assume that reeds are the materials used here, as Nicholas Denys, living in what is now Nova Scotia and New Brunswick between 1635 and 1681, tells of panniers and sacks of reeds, and how "They made bags of flattened rushes, which they plaited one within another (1672/1908:423)." Such bags became the family's luggage when it came time to move: "Then the women and girls must carry the wigwam, their dishes, their bags, their skins, their robes, and everything they can take, for the men and boys carry nothing...(Ibid. :405)."

They make use of another device. At the narrowest place of the rivers, where there is the least water, they make a fence of wood clear across the river to hinder the passage of the fish. In the middle of it they leave an opening in which they place a bag-net like those used in France, so arranged that it is inevitable the fish should run into them. These bag-nets, which are larger than ours, they raise two or three times a day, and they always find fish therein. It is in spring that the fish ascend, and in autumn they descend and return to the sea. At that time they placed the opening of their bag-net in the other direction (Ibid. :437)."

Fish and eel weirs of this type (also mentioned by Lescarbot, Op.Cit.: 283-284), are evidence that Micmac and Maliseet practised a wicker-weave--to make the actual weir--and some type of netting, for the catch-bag in the centre. The term 'wicker' here refers to a type of weave, utilising whole shoots, small branches or twigs, where both standards (warps) and weavers (wefts) are circular in cross-section; the standards are usually fairly rigid, and the weavers less so. A twining technique is employed: "a hurdle, or weir, that crosseth the brook, which they hold almost up straight, propped against wooden bars, arch-wise (Ibid.)". The problem of the bag-net's construction and medium still continues to plague me, as there are a number of

possibilities. Its name seems to imply that it was less rigid than a modern wicker-woven eel trap, for example, yet it had to be strong enough to allow for containing and lifting the enormous weight of fish it trapped.

Wilson Wallis, after a three-month visit to the Maritimes in 1911, recorded "a net, a'bi, sometimes fifty yards in length...made of intertwined branches of birch, elder or other tree or bush (1955: 28)"; this is a little hard to swallow as a net--surely he is referring to a weir here. (It must also be remembered that 44 years passed before he wrote up this information.) Wallis, however, differentiated between this 'net', and a weir proper, which he termed a lakaskadegan.

In constructing this weir, which was from fifty to a hundred feet in length, the first step was to drive vertical sticks, about three feet apart, into the mud. They were then interwoven by a man who stood in the water. The intertwining was done at the surface, and the branches were pushed down, layer by layer, until the work was completed.

This is an apt description. I have seen weir construction at the Wild Cat Reserve in southern Nova Scotia, where the stream bed is all solid rock; the men sink whole trees into the water, then pound the stakes which act as standards for the wicker-weave into these trees. The 'net', in this case,

was a huge barrel-like construction of birchbark--but here they were after eels, not fish.

Wicker baskets were made by the Micmac in the early twentieth century, if not before. Alder (Alnus crispa, Alnus rugosa), was the preferred material; such baskets were all called tupsi, which means alder. Elder (Sambucis pubens), Red Osier Dogwood (Cornus stolonifera), Yellow Birch (Betula allegheniensis), and Witherod were also used, as well as unidentified species of willow (Salix).

Wallis's description of a net fifty yards long made of wicker materials seems to me to be a physical impossibility. A much more logical medium would have been cordage, such as Denys describes (Op. Cit.: 401) as "a cord of bark from trees". This is, in all probability, a cordage made from the inner bark of basswood trees (Tilia americana). Unlike the relatively short shoots used in wicker, such as Wallis reports above, basswood bark strips can be cut from the entire length of the tree, rolled, plied to the desired thickness, and spliced. According to Richard Schneider (1972:198-199), basswood bark cordage is stronger, "diameter for diameter", than any other natural-fibre rope.

Returning to the seventeenth century, a Maine ethnography (Brereton, 1602/1906:338), states, "We had also of their Flaxe, wherewith they make many strings and cords, but it is not so bright of colour as ours in England: I am persuaded

they have great store growing upon the maine..." This is Indian hemp. It is related to flax, which it closely resembles. Flax, however, is not native to the New World. (It is interesting to note that this resemblance once led to the Canadian Conservation Institute's analyzing a two-ply cordage of Indian hemp, found in association with copper beads in the Cellar's Cove site [see Appendix One], as flax. Given the date of the site, this was impossible; I suggested they re-examine it as Indian hemp.) Gabriel Archer speaks of the use in Maine of "hemp", and "artificial strings coloured" more than once (1602/1843:75,78).

Samuel Champlain reported that the Armouchiquois on the south coast of Maine wore clothing "made from grasses and hemp (1605/1922:355)". (These were probably Penobscot; the term 'Armouchiquois' he got from his Micmac interpreters--it means 'dogs' and was derogatory (Prins, Bourque, personal communication). Indian hemp takes dye nicely, as does flax. Hemp could be woven and decorated in a technique known as false embroidery. Willoughby (1905:92) reports an eighteenth-century example made by a native woman of Oxford County, Maine, named Mollocket. The fabric, woven ca. 1785, is rectangular, twine-woven, and so fine that each projection of the weave could be completely covered by the wrapping of a single dyed moose hair. The hairs are natural white, and dyed red, green, blue and yellow. The false embroidery

covers the entire obverse of the weave in geometric patterns.

The bag-net described above could perhaps have been made of Indian hemp, which survives wetting. "The Armouchiquois, which have hemp, do make fishing lines of it...(Lescarbot, Op. Cit.: 245)." Champlain tells of fish hooks "attached with hemp (Op. Cit.: 344)". Yet another type of fishing line was made of tree-bark, however, (Lescarbot, Op. Cit.), which brings us back to basswood bark for the bag-net above. It is so very strong.

One old man with whom I traveled had the beguiling habit of singing songs to the pulling of the bark because he thought the bark came off stronger and freer on account of it. Some of the strips not more than two fingers in width and almost as thin as paper held our combined weight when we tried to swing from them. "See what my song do, boy!" said he (Speck, 1940:135).

Finally, with regards to nets, we have John Josselyn's depiction of "the Alewives they take in nets like a pursenet put upon a round hoop'd stick with a handle, in fresh ponds (1833, III:305)." According to Speck, writing 300 years later, these simple dip-nets were of basswood fibres (Op. Cit.: 86), the Penobscot word for net "has reference to basswood (Ibid.: 87)", he tells us, and they were made in a variety of mesh sizes, using a wooden needle whose length gauged the distances between the knots.

Although such articles have long been out of use, nevertheless blankets and mats are recalled to have been formerly manufactured of basswood-bark twine by means of a crude loom. From a suspended horizontal bar the warps were hung, and with the fingers the finer woof filling was woven or twisted in (Ibid.: 135).

Speck and Wallis both record the use of cedar bark and basswood bark for cordage as well as for weaving. There are no early ethnographic records for cedar bark, unless the "bark of trees" above refers to cedar instead of to basswood, which I doubt. However, there are examples of at least two--and possibly five--mats and one bag of cedar bark from archaeological sites, which will be discussed more fully below. The species used would have been White Cedar (Thuja occidentalis), common in New Brunswick, but much rarer in Nova Scotia and Prince Edward Island. Wallis also reports the use of Yellow Birch fibre (Betula allegheniensis), stripped off the log and plaited.

From Maine comes the only reference to wicker basketry, prior to the twentieth century; the natives gave Brereton (Op. Cit.: 333) "of their fish, ready boiled (which they carried in a basket made of twiggs, not unlike our osier)...." This can only be a wicker weave; Brereton is very specific, and it is frightening to think that of all the putative hundreds of wicker-woven baskets made then and

later, this is the only surviving mention of the craft. It leads one to wonder what else has been left out of the record.

Finally, ethnographers in seventeenth-century Maine reported "baskets, bags and mats woven with Sparke [?], bark of the Line-Tree [Basswood, also called Lime], and Rushes of several kindes, dyed as before, some blacke, blew, red, yellow...", and twine-woven mats "painted with several colours" for lining the insides of wigwams (Josselyn, Op. Cit.:295, 307). A diamond pattern, such as the one described above by Harper, was used in twine-weaving, in addition to a simple over-one/under-one twine, as exemplified in Pring (1603/1906:348):

Their quivers are a full yard long, and made of long dried Rushes wrought about two handfuls broad above, and one handful beneath with prettie works and compartments, Diamant wise of red and other colours.

Mère Marie de L'Incarnation, an Ursuline living in seventeenth-century Québec, records a red dye (Marshall, 1967:372), and a bark cordage, as well as the preparation of a nettle-fibre twine:

They make thongs from the bark of tender wood....They also make thread of nettles, which they spin without a spindle, twisting it on their knees with the palm of the hand. With this they make their embroidery, ornamenting

it with black-and-white porcupine quills, combined with others boiled in roots, which makes them as beautiful as cochineal makes scarlet in France.

While this is at the extreme edge of the Micmac-Maliseet range, it must be remembered that historically there were Micmac camps at Point Lévi across the river from Québec city, and the Ursulines by 1675 had taught two Micmac girls from the Gaspé to read, write and embroider (LeClercq, 1691/1910:).

No dye-plants are mentioned in the early ethnographies, although the use of dyes and pigments are well-documented (Whitehead, 1980, 1982). Not until 1750, when the Swedish botanist Peter Kalm traveled in Canada and the northern American colonies, do we have actual plant names given. The closest we come to earlier identification is this record by Father Chrestien LeClercq, living with the Gaspé Micmac between 1675 and 1683 (Op. Cit.: 96):

But as to the Tissaouhinne, which is a little red and slender root like the fruit of parsley, it is valued, say they, and much esteemed among them. In fact our Gaspesiens, who preserve it with much care, make remarkably good use of it in staining their quills of porcupine a beautiful brilliant red; and with these they ornament their canoes, their snowshoes, and their other works which are sent into France as curiosities.

Kalm was able to identify this red dye as the root of Red Bedstraw, Galium tinctorium; he also reported a yellow dye from Galium luteum (1770/1961, I:380). In 1822, Cormack noted the Micmac use of Taxus canadensis leaves for green dye, and Salix roots for black (Howley, 1915:156). Other common dyes came from Bloodroot, Sanguinaria canadensis, which produces a deep golden russet; Goldthread, Coptis trifolia, a pale yellow; black appears to have been obtained from bark of the Black Spruce (Picea mariana), blue from rotten wood of Wire Birch (Betula populifolia), and brownish red from Alder bark (Alnus rubra). A third yellow came from buds of Sweet Gale (Myrica gale). More complete references for these and other less well-identified dyes, as well as dye-terms which linger in the vocabularies, can be found in Micmac Quillwork (Whitehead, 1982:66-71).

A final note: there is no hard evidence, either ethnographic or archaeological, that wood-splint basketry was being made by Micmac or Maliseet women prior to the latter half of the eighteenth century (Whitehead, 1980:55-67). However, wood splints of the requisite tolerances--width and thickness--were being manufactured as canoe sheathing hundreds of years previously (Ibid.), and Kathryn Bardwell (1986:49-671) has recently published evidence of wood-splint basketry fragments from four contact-period Seneca burials in western New York; dates range from 1565-1670 approximately.

Of these, a Steele site fragment (Ibid.: 58), has been identified as ash (Fraxinus sp.), which is still the preferred medium today, throughout the Northeast Woodlands.

EVIDENCE FROM FOLKLORE AND ORAL HISTORIES

By this point, you will be relieved to hear that only a few references to vegetable-fibre use appear in folk-tales. Silas Rand's Legends of the Micmac (1894/1971), is the largest collection, and one of the earliest. Chrestien LeClercq (Op. Cit), recorded two tales ca. 1675, and the occasional story was set down by nineteenth-century sportsmen, who heard them sitting around the campfire at night with their Micmac or Maliseet guides. The Nova Scotia Museum curator, Harry Piers, made notes of conversations on plant usage he had with Micmac friends between 1900-1940, but these deal largely with tobaccos, dyes, medicines, foods and punk--Piers was fascinated by punk, for some reason (N.S. Museum Printed Matter Files). One of his informants told him of a moose-hair textile:

Dr. Lone Cloud (Jerry Bartlett)...says that about 50 years ago, when he was a boy, squaw Polly Williams, then an old woman, of Great Lake, Pubnico...told him various old things...among them she said (almost forgot about it) that the Micmacs in old times used to make cloth made of threads made from tiam [moose] hair, and used a

stone twirling thing such as this [drawing of what Piers refers to as a 'so-called plummet stone'], for twisting the threads....This cloth was used for the special purpose of being finally put around a couple who were being married by the chief (who performed such ceremonies). The chief always had such a cloth which he retained for this use. Sometimes well-off couples had their own, which they retained and could pass on to their children when they were married afterwards (NSM PMF: 3 February 1912).

Wilson Wallis also collected stories, including one on the origin of baskets and dyes. Rand's tales mention cords, and 'green withies' used to tie wizards up, mats for sitting upon, and carrying straps, but nowhere is he any more specific. Wallis is not much better: his stories include a bag made of feathers, snowshoes made of hemlock bark, yellow-birch fibre snares, and three short explanatory tales on the origins of dye, weaving and baskets:

A lazy woman was lying down. She rose, scratched the ground, and found a long root. She split it at one end with her teeth; then, holding one end in her teeth, and grasping the other end with her hand, split it lengthwise, into two long fibres. She removed the bark. She did the same with another root. She wrapped the root around her finger several times, leaving eight

strands sticking out. The eight pieces served as eight ribs, the warp around which she wove another root, running it alternately in and out of the ribs until the basket was finished. This she showed to the people. No one could name it. It was the first time one had been made, and no one knew what to call it. Next day, people came to see the thing which she had made. They noticed that the bottom of the basket was round, and that the ribs had been filled in to the top....thereafter, people made baskets. Green cedar is very easy to split, and it splits into pieces as small as one desires. The woman made a little handle, and the basket was finished (Op. Cit.: 73).

Was there an aboriginal spruce-root basket? The closest evidence for one is a Beothuk netted construction made of two lengths of this root (Newfoundland VIII-A-395: Whitehead, n.d.). Later rib-baskets, a form thought to be European in origin (Gordon, 1977:39), were sometimes made by Micmac women, substituting spruce root weavers in place of maple fibre. Spruce root makes excellent cordage for lashing wood together, and thread for sewing birchbark; presumably it might have been used for bags or baskets.

Wallis records a Micmac belief that moose-hair weaving was taught to them by an old Indian woman named St. Anne (Ibid.: 399), and that dyes were discovered by a man chewing wood

chips as he built a canoe. "He spat, and saw that the saliva was black (Ibid.)."

DEFINITION OF TERMS

The analysis of the Hopps site material will include two categories of fibre work, properly referred to as cordage and basketry. Cordage is variously used as thread, twine or rope, depending on its width or diameter. Cordage can be produced in several different ways: plant fibres can be spun, either on a spindle or simple weight; long inner-bark fibres may simply be rolled, or reeds twisted. Large whole leaves may be braided in strands of three or more, to form coarser twine, rope or basket handles or coils. Spun or rolled cordage can be made thicker by plying lengths of it. Many types of cordage are further used as warp and weft in the production of basketry.

The term basketry here refers not only to baskets per se, but to all those constructions which make use of materials and manufacturing techniques common to baskets; some scholars define it more narrowly as items which are rigid or semi-rigid, and which can be said to hold their form (Holmes, 1896:15). This definition cannot accomodate bark-blankets and similar textiles. The term must be broad enough to include not only basket-like containers, and mats, bags, hats, or masks, but also fibre blankets, curtains and wigwam

insulation.

Basketry techniques include plaiting, twining, coiling, braiding and sewing.

Plaiting subdivides as chequer plaiting, where two elements--warps/standards/ uprights, and wefts/woofs/weavers--are interlaced at right angles, in a simple over-one/under-one weave. Twill plaiting is also done with warp and weft at right angles, but in a twill-weave the wefts pass under the warps at staggered intervals of 2/2, 2/3, 3/3, and so forth (Adovasio, 1977:99). Hexagonal plaiting, used primarily as the snowshoe-filling weave, incorporates three elements, interwoven at a 60o/120o angle, creating a very open weave. A decorative variation of the chequer-weave is achieved by laying a second weft element over the first, and twisting the uppermost in a number of ways.

Twining involves courses of two wefts, which alternately pass over or under; each warp thus has weft passing across on both obverse and reverse simultaneously. In my opinion, the term wicker-weave should be regarded as a subdivision of the twine-weave, usually one where warp and weft are circular in cross-section, and where the warps are fairly rigid. Certainly most wicker items have courses composed of two-strand twining wefts. (There are a few wicker pieces where only one weft is used [Whitehead, 1980:64-65]; this

could be called a chequer-plaited wicker, but they are in the minority.) Twine weaves can be varied by having the weft catch alternately paired warps--creating a diamond effect after two courses, and a more openwork appearance. A second type of openwork twine-weave is effected by crossing one warp over another in an X.

Braiding requires a minimum of three elements, held vertically. The outermost strand on the right side passes over the centre element, then under the element on the opposite side, in sequence as the centre element becomes the outside right strand. (This is how right-handed people braid, most left-handers begin on the left strand.) Extra strands can be added, but the braiding mechanics become increasingly complex. I confess I cannot do them at all, or even understand them as yet. A second variation, using only a three-strand braid, consists of two horizontal elements, with the third inserted at right angles, folded over and under the outer two, and sometimes completely covering them.

The Hopps collection includes semi-rigid materials sewn together in parallel rows to create mats, the medium in this case being cattail-leaf thread and slats.

THE HOPPS SITE REPORT: BkCp-1

Analyzed material from the Hopps site has shown the presence of many of the types of basketry and cordage described above, using a variety of plant materials, among them Reed (Scirpus lacustris; Juncus effusus), White Cedar bark (Thuja occidentalis), Cattail leaf (Typha latifolia), as well as Basswood bark (Tilia americana), and a species of grass--probably American Beach Grass (Amophila brevilingulata). Material initially thought to resemble Indian Hemp has been identified by Mary Lou Florian of the British Columbia Provincial Museum as the inner bark of a species of conifer. While the conifer has yet to be named, Florian states that it is not cedar. (M.L. Florian to Joleen Gordon, personal communication, 1986.)

The site itself consisted of two separate late-sixteenth-century burials, located on land owned by Kenneth Hopps at Lowndes Beach, near the mouth of Pictou harbour. As mentioned above, the 1956 and 1957 reports by Russell Harper are the only ones for the site, which was excavated in those years:

The Pictou burial site is located 25' above high water mark and back 300' from the edge of Pictou Harbour on the upper gentle slope of a southerly bank. It is 3 1/4 miles from the open waters of Northumberland

Strait...Methodical excavation of the [1955] burial was carried out by K.B. Hopps, the owner, his son Ralph, and by George Crawford of the Pictou school staff. The burial pit was divided into two sections. The first formed a complete circle of approx. 6' diameter and was carefully prepared. To the north of this was an irregular...hole, its edge overlapping...Both were dug to a depth of 3' below the present surface (Harper, 1955:40-41).

Hopps uncovered the burial while digging a drain on 10 October 1955. The presence in the two pits of nine large copper pots ("kettles") had sterilized the soil with copper salts, resulting in good preservation of the organic material within. The irregular pit-extension contained "fragments of carefully woven rush matting", which lay immediately under "Kettle No. 4" (Ibid.), and smaller pieces were scattered randomly about the pit. This is Harper's only mention of basketry from the 1955 excavation report; however, in his second appendix (Ibid.: 50-51), he expands on this:

The two twined matting fragments from the Pictou site are of slightly earlier date than that from Portland Point, but technically are closely related. Bulrushes are used in both. The first has a single-strand warp; in the second the weaver used alternating pairs of rushes in an identical manner to that of the Portland

Point worker. Both mats are remarkable for the evenness and regularity of workmanship...The mats at Pictou were used as a grave lining but would seem to be of the type referred to [by Biard, see above]...A third matting fragment...is made in quite a different manner, employing sewing...by stringing the flat bulrushes together on a fine 2-ply twisted twine to make a soft thick mat admirable for a floor covering....

The burial seems, by the type of grave goods included, to be that of an adult male. It was a secondary burial, as was the case with the five to six adults and the baby found in a second pit in 1956. This pit was excavated by Russell Harper in the manner he describes above. Once again, copper salts had preserved examples of basketry; this collection--perhaps due to the fact that one of the adults was a woman (Erickson, personal communication)--was much richer than Pit One in this respect. (The other adults may well have been women too, as only one was sexable.) According to Harper, "A bulrush basket in the south west sector was the first object placed in the grave...A cranium fragment lay on matting in the same sector [with] strings of glass beads (1956: 4)." In addition, the mourners had thrown in "several grass or reed baskets, only a small one being nearly complete...[and] two sections of sewn rush matting (Ibid.:5)." More rush matting lay in the southern sector. Harper adds (Ibid.: 11/12), "Skull No. 1

is certainly male, but the grave contains leather and rush thongs, some of which may be women's tump lines. There are also numerous baskets and strings of beads." This pit further contained glass beads "strung on a two-ply and very fibrous thread, fragments of which still remained (Ibid.: 13)."

Many woven fragments employing bulrushes and grass fibres came from both burials. Some were undoubtedly parts of baskets, others possibly were mats...A basic twine weave technique was used in production of all specimens in which two weft threads were carried across simultaneously in such a way that they are twined around each warp thread. A soft basket of hemispherical form with diameter 6", depth 3", and made from coarse sedge grass, came from Grave Pit No. 2. The specimen was sufficiently complete to allow of a complete analysis of its construction. The two first stems of fibrous grass went from rim to rim right across the bottom of the basket; they thus formed four warp threads or spines of the basket. To these stems six additional warp threads or stems were bound at the bottom so that the first circle of weft twining at the bottom of the basket was carried around ten warp threads or spines. As further circles of weft twining encircled the basket, more warp threads were added by binding the lower end of each in the same loop as a warp thread which already existed...A

total of 13 rows of weft threads completed the basket but with the last two rows on the rim being very close together to give a firm finish.

I include this description in its entirety, as the basket was no longer in the collection when it came to the Nova Scotia Museum. The Museum collection is in two components: the 84.22 accession and the 69.80 accession. The latter consists of material taken back to Massachusetts in 1956 by Harper's "chap from Mass." above, a Mr. Valenti. On his death, his widow gave these pieces to the Massachusetts Historical Society, which sent them on up to the Nova Scotia Museum. A third component, given the museum in 1955 by Mr. Hopps, and never accessioned, has been subsumed into 84.22. To further complicate matters, Harper himself may have taken material from the site; Hopps often gave fragments away to people whom he liked. Hopps also told me that he had re-buried three cubic yards of basketry fragments and furs, as he had no place to store them. This makes any attempt to match the present museum collection to Harper's reports difficult.

Portions of two other baskets with a similar weaving technique but differing in material came from the same burial pit; they are made from a two-ply twisted twine...from fine grass. One of these baskets was lined with a very fine pelt, possibly that of a squirrel.

Fragments of woven bulrush mats or baskets came from both pits. Two variants of a twining technique were used [a simple twine and]...a decorative border...by crossing over pairs [and] a diamond pattern. Bulrush mats of two types...[one] sewn together at six inch intervals with a two ply twisted thread, the sewing going right through the thin part of the leaf blade...[and] in Grave Pit No. 2 mats were made in which thread was sewn through from side to side the width of the bulrush blade...(Ibid.: 17)

Harper's list for Pit 2 finished with "plaited heavy bulrushes; the ends were bound with a two-ply twisted cord (Ibid.)."

NOVA SCOTIA MUSEUM COLLECTION BkCp-1

84.22. Accession Sequence:

550: Mat fragment, Typha latifolia leaves; fibre cordage.
26 x 20cm

551a: Mat fragment, Typha latifolia leaves; fibre cordage.
Laminated to moosehide fragment 551b, due to burial. 14.5 x
8.5cm

552: Mat fragment, Typha latifolia leaves; fibre cordage.
52 x 43cm

553: Bag fragment, Thuja occidentalis bark; twine-woven.

14.5 x 8cm

554: Braid fragment, Juncus effusus; 4-6 strand handle(?).

5 x 1cm

555a: Bag fragment, Juncus effusus; twine-woven, possible rim. 7.5 x 4cm

555b: Bag fragment, Juncus effusus; twine-woven, possible rim. 6.3 x 6.2cm

556: Cordage fragment, plant fibre; 2-ply, Z-twist. 16.3 x 0.27cm diam.

557: Cordage fragment, plant fibre; 2-ply, Z-twist. 29 x 0.3cm diam.

558: Cordage fragment, plant fibre; 2-ply, Z-twist. 12.5 x 0.25cm diam.

559: Cordage fragment, plant fibre; 2-ply, Z-twist. 10 x 0.4cm diam.

560: Bag fragment, Tilia americana bark; twine-woven. 10.5 x 17cm

561: Bag fragment, Tilia americana bark, twine-woven. Contaminated with hair or quills, leather scrap, due to burial. 5.2 x 5cm

562a: Bag fragment, Tilia americana bark; twine-woven. Bonded to fur fragment 562b, possibly due to burial. 16.2 x 8cm

563a: Cordage fragment, plant fibre; 2-ply, S-spun, Z-twist. Bonded to fur fragment 563b, forming tuft of hair at end,

possibly due to burial. 10.3 x 3cm

564: Mat fragment, Typha latifolia leaves; fibre cordage.

22 x 12 x 2.5cm

565: Blanket fragment, loom-woven wool. European origin. 3

x 1cm

566a: Blanket fragment, loom-woven wool. European origin.

1.7 x 3cm

566b: Blanket fragment, loom-woven wool. European origin. 3

x 2.1cm

567: Bag fragment, Tilia americana bark; twine-woven. 4

x 3cm

568: Bag fragment, Tilia americana bark; twine-woven. 3

x 1cm

569a: Cordage fragment, Typha latifolia; 3-strand braid, see

569b. 9 x 1cm

569b: Cordage fragment, plant fibre; 2-ply, Z-twist; see

569a. 0.4cm diam.

570: Cordage fragment, Typha latifolia; 3-strand braid. 24

x 1.9cm

571a: Cordage fragment, Typha latifolia; 3-strand braid, see

571b. 13.5 x 1cm

571b: Cordage fragment, plant fibre; 2-ply, Z-twist; see

571a. 0.37cm diam.

572a: Cordage fragment, Typha latifolia; 3-strand braid, see

572b. 13 x 1.3cm

572b: Cordage fragment, plant fibre; 2-ply, Z-twist; see
572a. 3.6 x 0.2cm diam.

573a: Bag fragment, conifer inner bark; twine-woven.
Laminated to beaver fur 573h due to burial. 8.5 x 7.5cm

573b: Bag fragment, conifer inner bark; twine-woven.
Laminated to beaver fur 573i due to burial. 5.5 x 3cm

573c: Bag fragment, conifer inner bark; twine-woven.
Laminated to beaver fur 573j due to burial. 6.8 x 4cm

573d: Bag fragment, conifer inner bark; twine-woven.
Laminated to beaver fur 573k due to burial. 7 x 3.5cm

573e: Bag fragment, conifer inner bark; twine-woven.
Laminated to beaver fur 573l due to burial. 4.4 x 2.3cm

573f: Bag fragment, conifer inner bark; twine-woven.
Laminated to beaver fur 573m due to burial. 12.5 x 12.3cm

573n: Bag fragment (?), Juncus effusus; twine-woven.
Laminated to beaver fur 573m due to burial. 3.1 x 1.5cm

573g: Bag fragment, conifer inner bark; twine-woven.
Laminated to beaver fur 573o due to burial. 5.2 x 2cm

574a: Bag fragment, Scirpus lacustris; twine-woven base.
Feather and hide fragments 574d-e adhering, possibly due to
burial. 20 x 12.5cm

574b: Bag fragment, Scirpus lacustris; twine-woven. 12 x 9cm

574c: Bag fragment, Scirpus lacustris; twine-woven base. 6.8
x 6.5cm

575: Bag fragment, Scirpus lacustris; twine-woven edge.

14.8 x 5.5cm

576a: Bag fragment, Juncus effusus; twine-woven rim. 23 x 9.5cm

576b: Bag fragment, Juncus effusus; twine-woven. 18.5 x 15cm

577: Bag fragment, Juncus effusus; twine-woven rim. 11.9 x 11cm

578: Bag fragment, Juncus effusus; twine-woven rim. 12.3 x 6.3cm

579: Bag fragment, Juncus effusus; twine-woven. Not measured.

580: Bag fragment, Juncus effusus; twine-woven. 18 x 12cm

581: Bag fragment, Scirpus lacustris; twine-woven edge. 8.5 x 8.3cm

582: Bag fragment, Scirpus lacustris; twine-woven. 12.2 x 6.4cm

583: Bag fragment, Scirpus lacustris; twine-woven rim edge. 11.3 x 8.4cm

584: Bag fragment, Scirpus lacustris; twine-woven. Not measured.

585: Cordage fragment, plant fibre; 2-ply, Z-twist. 13.8 x 0.4cm diam.

586: Cordage fragment, plant fibre; 2-ply, Z-twist. 6.5 x 0.2cm diam.

587: Cordage fragment, plant fibre; 2-ply, Z-twist. 6 x 0.5cm diam.

588: Cordage fragment, plant fibre; 2-ply, Z-twist. 21.4 x 0.3cm diam.

69.70. Accession Sequence:

12: Cordage fragment, plant fibre (conifer inner bark?). Strung with 2 glass beads. 3 x 0.1cm diam.

13: Cordage fragment, plant fibre (conifer inner bark?). Strung with 1 glass bead. 0.8 x 0.1cm diam.

The Nova Scotia Museum collection BkCp-1, Accession Number 84.22, contains a number of plant-fibre materials still uncatalogued, including approximately 72 cordage strings, some further cattail-mat fragments, and sections of woven reeds. These are laminated between layers of birchbark and fur and metal, due to the pressure of the burial; conservation and separation is necessary before any analysis of this material can be completed.

ANALYSIS OF THE COLLECTION

The collection now in the Nova Scotia Museum was found to contain 84 specimens of loose cordage, ranging in length from 0.8cm to 29cm, and in diameter between 0.1cm and 0.5cm. All of the above were 2-ply, S-spun, Z-twist types of a very fibrous plant material, presently unidentified. It is likely that this will prove to be either the conifer bark, Tilia

americana bark, or both fibres. A second type of 2-ply, Z-twist cordage was used in the manufacture of the ten-plus mat segments of Typha latifolia leaves in the collection. Each ply is made up of what appear to be three grass leaves each, twisted; we suspect the grass to be American Beach Grass (Amophila brevilingulata). Certainly modern reconstructions of cordage using this material, by Nova Scotia Museum Research Associate Joleen Gordon, seem to that this will prove to be either the unidentified conifer bark , Tilia americana bark, or both fibres. A second type of 2-ply, Z-twist cordage was used in the manufacture of the ten-plus mat segments of Typha latifolia leaves in the collection. Each ply is made up of what appear to be three grass leaves each, twisted; we suspect the grass to be American Beach Grass (Amophila brevilingulata). Certainly modern reconstructions of cordage using this material, by Nova Scotia Museum Research Associate Joleen Gordon, seem to resemble the BkCp-1 pieces closely. Large stands of this grass presently grow on the site itself. In one of the examples, the cordage has been spliced by tying it to another segment.

A braided cordage, composed of three strands of Typha latifolia leaves, is represented by four short fragments. Harper felt these to be tump lines. It seems more realistic to think of them as basket handles, due to the problem of

splicing them into cordage long enough to serve as a tump. Numbers 569 and 571 are tied at one end with the type of 2-ply fibrous cordage described above. Item 572 has a strand of cordage passing through its midsection. The longest (24cm) piece, 570, is not tied off or sewn in any way. Numbers 571-572 also appear to have had their braided leaves woven back through the braid at the unbound end.

A second, more complex braided type consists of four to six reeds (Juncus effusus) in a multistrand braid. The piece is caked with dried mud, which makes analysis difficult.

In terms of basketry, this collection is composed predominately of twine weaves, with variations in the weave beginning with the simple over-one/under-one which binds only one warp at a time. A decorative openwork effect was noted, where the warps between two weft courses are crossed over one another. A third pattern binds two warps at a time, alternating the pairing in the next course to produce a diamond effect. This can be done binding the warps closely together, or in a more open-work appearance.

Analysis of BkCp-1 was complicated by the fact that the collection, for the most part, is made up of tiny twined fragments, some of which show the use of one weave-variation on the back panel of a bag, and a second on the front, or throw in combinations of singly or doubly bound warps in no discernable pattern. Thus any decision as to which specimens

belong with which has to be based first on materials, basic weave, warp diameters, weft diameters and the measurement of interval of weave, before studying weave variations.

The basketry fragments present make up five bags and possibly more; one each in Scirpus lacustris, Juncus effusus, Thuja occidentalis, and Tilia americana, plus one using the unidentified conifer's inner bark.

Bag I is represented by seven fragments (84.22.573a-g), all of which had been laminated--by the pressures of the burial--to a beaver fur pelt now also in pieces--573h-m,o; 573n being a small piece of woven Juncus, laminated to 573f,m). Both warps and wefts are 2-ply, Z-twist cordage, of conifer inner bark. The weft has a diameter of 0.15cm. The interval between the weft courses varies from 0.4cm to 0.7cm for fragment 573b; all the other fragments have an interval of 0.5cm. A simple twine-weave is used, with the openwork appearance possibly being due to shrinkage of the material, and the use of a slightly larger weft.

Bag II is similar to Bag I. The twine weave is very close, with warps bound doubly, and the cordage used is thicker, with a diameter of 0.2cm. The material is confirmed by Mary Lou Florian as Tilia americana. Four fragments of this bag have survived: 84.22.560, 562, 567 and 568. Item 562 is laminated to a piece of beaver fur and other organic material, due to burial. This section, as well as section

560, is heavily coated with dirt and rust.

Bag III is of twine-woven Scirpus lacustris. The core fragments are 84.22.574a-c, with reeds 0.5cm in diameter. Specimen 574a forms a portion of the base, one outside edge and side, and a minuscule portion of a second side. (Pieces of a brown feather, 574d, and a leather or bark scrap, 574e, are laminated to this fragment either as former bag contents, or due to the burial.) Item 574b is a central section. 574c is a second base piece, with back which shows a convex curve. The interval of weave for 574a is 1.3-1.8cm, for 574b is 1.2-1.5cm, for 574c is 0.9-1.2cm; this variation is due to the portion of the construction represented. All three fragments use the doubly-bound, alternately-paired warp variation of the twine weave.

Fragments possibly part of this bag include 84.22.575, 581, 582, and 582. All are within the required tolerances for Bag III, but show variations in the weave. Item 583 has at least four crossed warps and some simple twining, as well as the variation common to Bag III. Number 575 mixes single and double-binding of warps.

This bag appears to have been made by bending the reeds in half, twining two tight rows of weft across the bend, then folding up the halves as warps for the front and back of the bag, respectively. The weft appears to have run across one side, then continued around the edge to catch the other side.

The convex curve on the sides of these two flat panels which form front and back is produced by adding in warps as required.

Bag IV is twine-woven of the smaller Juncus effusus, with warps bound singly. The core fragments are 84.22.576a-b. 576a is a rim, finished with two close weft courses above a cross-over warp area; the warps are cut off straight. The reeds are 0.2-0.3cm in diameter, and the interval of weave is 0.6-1.0cm, the smaller interval coming at the rim. 576b is a central section of the bag, with the same 1.0cm intervals. Segment 578 is identical to 576a, except the rim is finished with one course, not two. Is this part of the second side? Items 577 and 555a-b match 576a and 578, without the cross-over warps. 580 is a central segment; 579 is similar but occasionally bursts forth in doubly-paired warps. The four-to-six-strand braid 554 may be a handle for this bag, as it too is composed of Juncus.

Bag V is a twine weave, using singly-bound warps and wefts of Thuja occidentalis strips. This small circular bag has a spoked-warp base, showing 3-4 weft courses. The base warps bend up to form the sides. This bag is badly damaged, brittle, and cannot be unfolded without prior conservation; the rim, however, appears to be formed with two close weft courses, and the warps cut off straight.

The mysteries of all these bags' shapes, strengths and

construction should be elucidated once Joleen Gordon has finished her reconstructions of each piece.

A second basketry technique is represented by ten or more fragments of Typha latifolia mats, made by stringing or sewing the leaves on 2-ply cordage. The thread passes through the width of the leaf, from side to side, rather than through the depth, or front to back. (Although the latter method was represented in the burial, no examples are present in the museum collection.) These mats are then laid one on top of another and bound, to form a thick cushion, but the present state of conservation prohibits separating them to count layers or examine binding methods.

SUMMARY

The BkCp-1 material now in the Nova Scotia Museum would seem to be the largest collection of objects of worked plant-fibres known for the Maritimes, and possibly for northern New England as well. Species represented include Scirpus lacustris, Juncus effusus, Thuja occidentalis, Typha latifolia, Tilia americana, and suspected Amophila brevilingulata, and conifer inner bark. There are two types of cordage: twisted and braided, with two varieties of braid. Basketry techniques include twining--in three variations--braiding and sewing, to form at least five bags, and one or more mats. Further material requires conservation prior to

analysis.

All illustrations are exactly to scale, having been drawn on clear plastic mylar, supported over the actual piece, or from photos; exceptions have been marked 'reduced' or 'enlarged'. It is the intention of the Nova Scotia Museum to have reproductions made of all pieces, which should shed further light on this well-preserved and extensive collection.

BIBLIOGRAPHY

Adovasio, J.M.

1977 *Basket technology, a guide to identification and analysis*. Aldine Publishing, Chicago.

Archer, Gabriel

1843 "The relation of Captain Gosnold's voyage to the north part of Virginia, 1602". In *Collections of the Massachusetts Historical Society*, Vol. III, Third Series. Boston, Charles C. Little James Brown.

Bardwell, Kathryn

1986 "The case for an aboriginal origin of northeast Indian woodsplint basketry". In *Man in the northeast*, No. 31, pp.49-67.

Biard, Pierre

1896 *Jesuit relations and allied documents*. Ed. by

R.G.Thwaites. Vols. I-III. Burrows Brothers, Cleveland.

Bourque, Bruce J., R.H. Whitehead others

n.d. 12,000 years of Maine native history. Maine State Museum, Augusta. In press.

Brereton, John

1906 "A brief and true relation of the discovery of the north part of Virginia, 1602". In Early English and French voyages. Ed. by H.S.Burrage. Charles Scribner's Sons, New York.

Champlain, Samuel

1922 The works of Samuel de Champlain. Ed. by H.H.Langton and W.F.Ganong. Vol. I. The Champlain Society, Toronto.

Denys, Nicolas

1908 The description and natural history of the coasts of North America (Acadia), 1672. Tr. and ed. by W.F.Ganong. The Champlain Society, Toronto.

Gordon, Joleen

1977 Edith Clayton's market basket. The Nova Scotia Museum, Halifax.

Harper, J.Russell

1956 Portland Point: preliminary report of the 1955 excavation. Historical Studies No. 9. The New Brunswick Museum, St. John.

1957 "Two seventeenth-century copper-kettle burials".

In Anthropologica, No.4, pp. 11-36. Reprinted by K. Hopps,
n.d. Pagination from Hopps printing.

Holmes, W.H.

1896 Prehistoric textile art of eastern United States.

13th Annual Report of the Bureau of American Ethnology, pp.
9-46. Washington.

Josselyn, J.

1865. An account of two voyages to New-England, 1674.

2d. ed. Veazie, Boston.

Kalm, Peter

1964 Travels in North America: the English version of

1770. Ed. by Adolph Benson. 2 vols. 2d ed. Dover

Publications, New York.

LeClercq, Chrestien

1910 New relation of Gaspesia, 1691. Tr. and ed. by

W.F.Ganong. The Champlain Society, Toronto.

Lescarbot, Marc

1928 Nova Francia, 1609. Tr. by P. Erondelle. 2d ed.

Harper, London.

Marshall, Joyce, ed.

1967 Word from New France: the letters of Marie de

l'Incarnation. Oxford University Press, Toronto.

Nova Scotia Museum

1956, 19 July J. Russell Harper to George MacLaren. MS

in Printed Matter File.

1912, 3 February Harry Piers MS. Printed Matter File.
Pedersen, James, Nathan Hamilton and others

1984 Perishable fibre industries of northern New
England. Paper presented at the 49th Annual Meeting of the
Society for American Archaeology, Portland.

Pring, Martin

1906 "A voyage set out from the citie of Bristoll,
1603". In Early English and French voyages. Ed. by
H.S.Burrage. Charles Scribner's Sons, New York.

Schneider, Richard

1972 Crafts of the North American Indians. Van Nostrand
Reinhold, New York.

Speck, Frank

1940 Penobscot Man. University of Pennsylvania,
Philadelphia.

Turnbull, Chris

1976a Augustine Mound, New Brunswick: report of
progress, 1975 season. MS on file, Archaeology Branch, New
Brunswick Department of Tourism, Recreation and Heritage,
Fredericton.

1976e The Augustine site: a mound from the Maritimes.
Archaeology of Eastern North America 4:50-62.

1978b 2000 year old Indian heritage revealed: the Augustine Mound. In New Brunswick Information Service 3(2/3):16-23, Fredericton.

1978d Introductory report of investigations at the Augustine Mound. National Historic Site (CfD12), New Brunswick. MS on file, Archaeology Branch, New Brunswick Department of Tourism, Recreation and Heritage, Fredericton.

1980c The Augustine Mound. MS on file, Archaeology Branch, New Brunswick Department of Tourism, Recreation and Heritage, Fredericton.

Wallis, W.D., and R.S. Wallis

1955 The Micmac Indians of eastern Canada. University of Minnesota, Minneapolis.

Whitehead, Ruth Holmes

1980 Elitekey: Micmac material culture from 1600 A.D. to the present. Nova Scotia Museum, Halifax.

1982 Micmac Quillwork. Nova Scotia Museum, Halifax.

n.d. "Everything they make and wear". In 12000 years of Maine native history. Ed. Bruce J. Bourque. Maine State Museum, Augusta. In press.

n.d. Micmac, Maliseet and Beothuk material culture in international collectons. MS on file, The Glenbow Museum, Calgary.

Willoughby, C.C.

Textile fragments of New England Indians. American Anthropologist, 7(1):85-93.

INFORMANTS:

Dr. Paul Erickson, St. Mary's University, Halifax

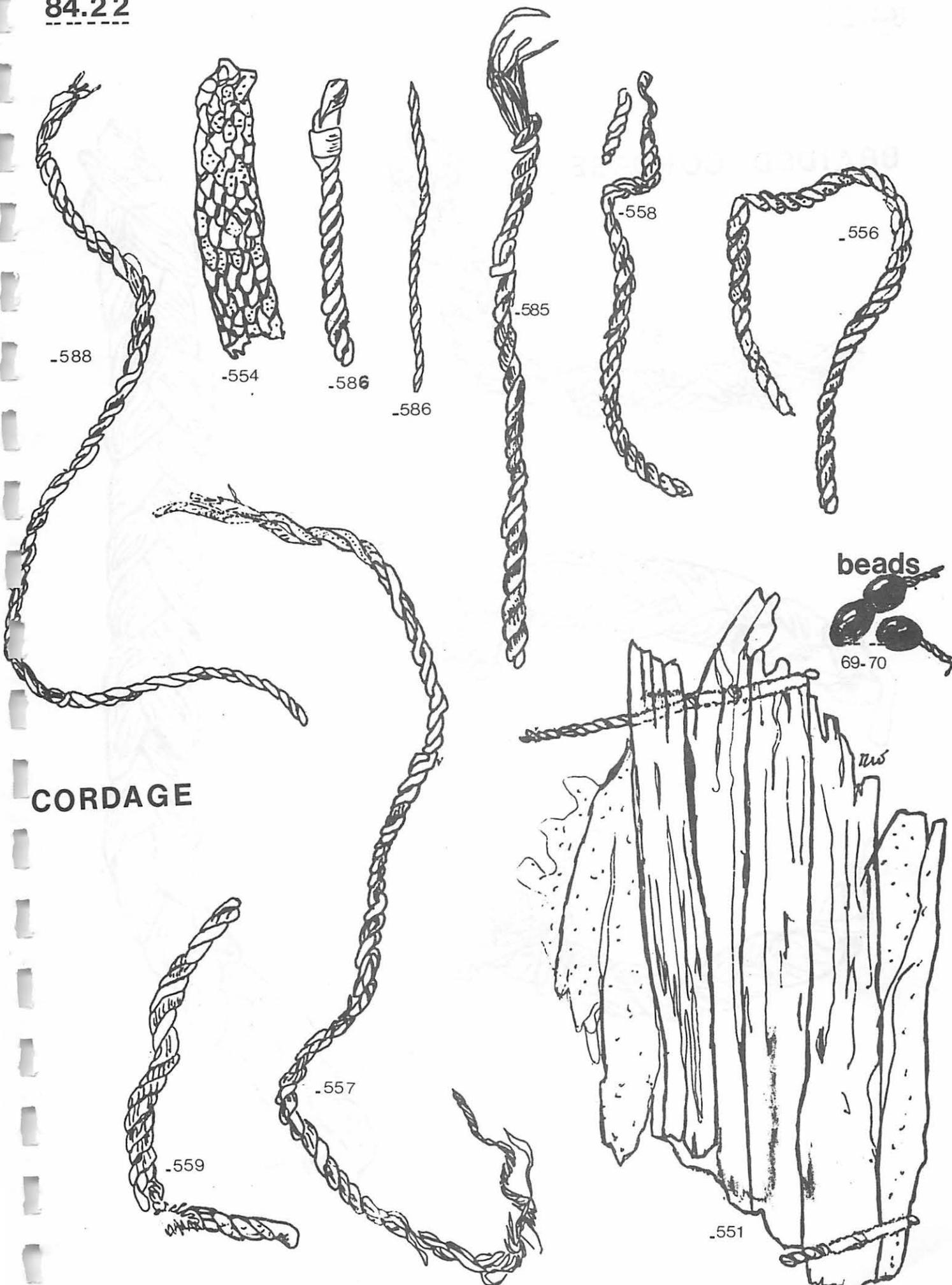
Dr. Bruce J. Bourque, Maine State Museum, Augusta

Mr. Kenneth Hopps, Pictou, N.S.

My grateful thanks to Mr. and Mrs. Kenneth Hopps, to Joleen Gordon for her reconstructions and for pointing out to me in 1984 that one of the fragments was a double base; and to Bruce Bourque and Michael Deal. The paper was done on a three-week study leave granted by the Nova Scotia Museum.

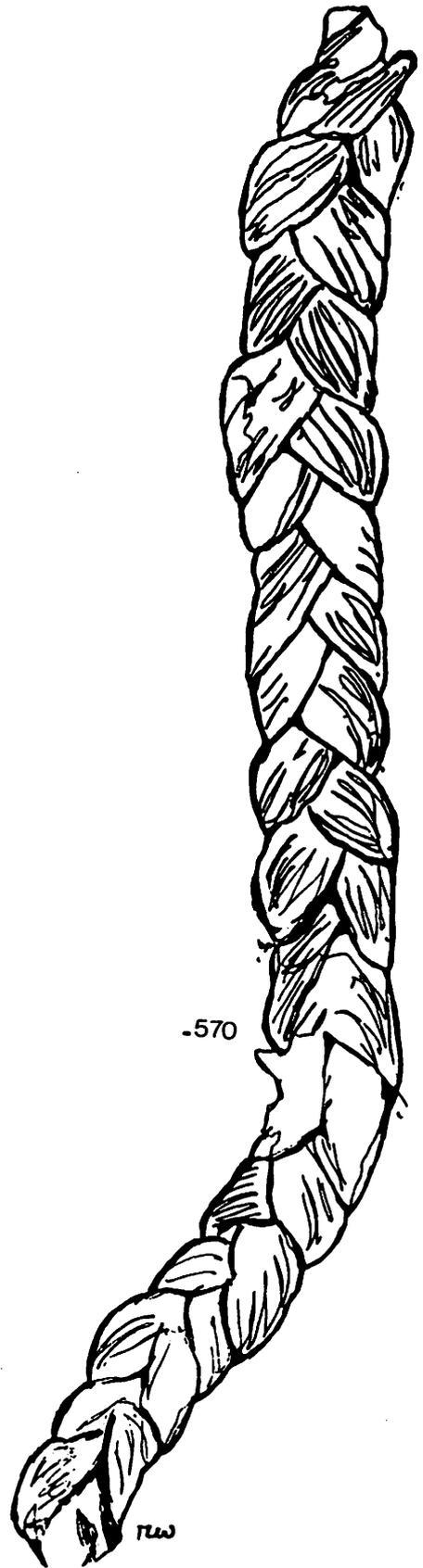
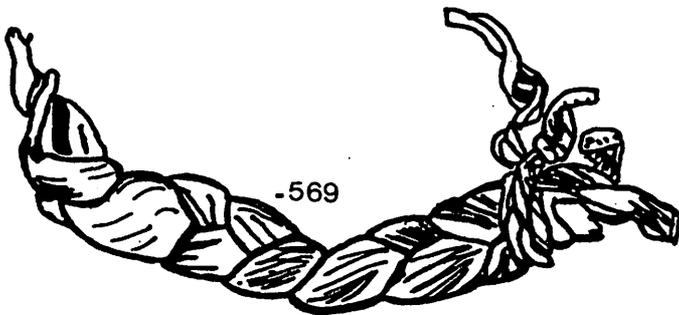
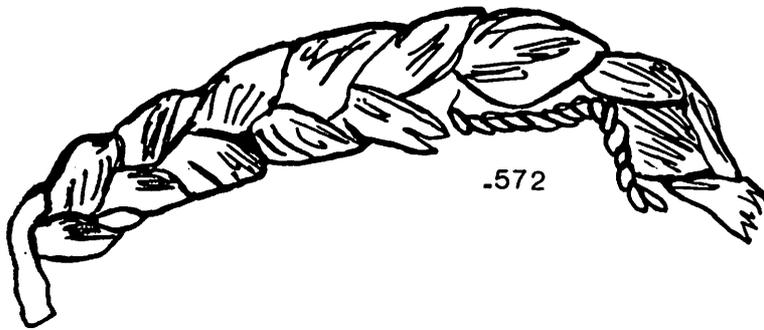
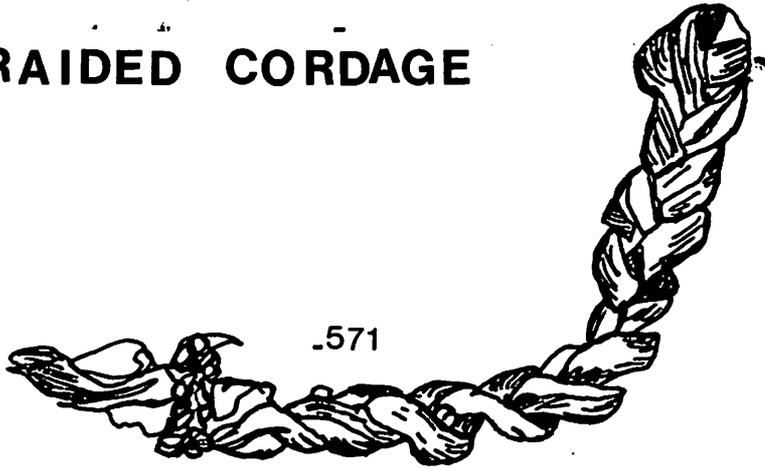
Further thanks to Mary Lou Florian, Conservator, the British Columbia Provincial Museum, Victoria, for a preliminary identification of the cordage of conifer inner bark, and for confirmation of my guesses at the other species. Thanks to William FitzGerald for identification of the dates of the trade goods in the Hopps and Northport sites, and to Bruce Ellis of the Army Museum, Halifax, for identification of the edged weapons in the BkCp-1 material.

Ruth Holmes Whitehead
Curatorial Assistant in History
The Nova Scotia Museum
1987



CORDAGE

BRAIDED CORDAGE

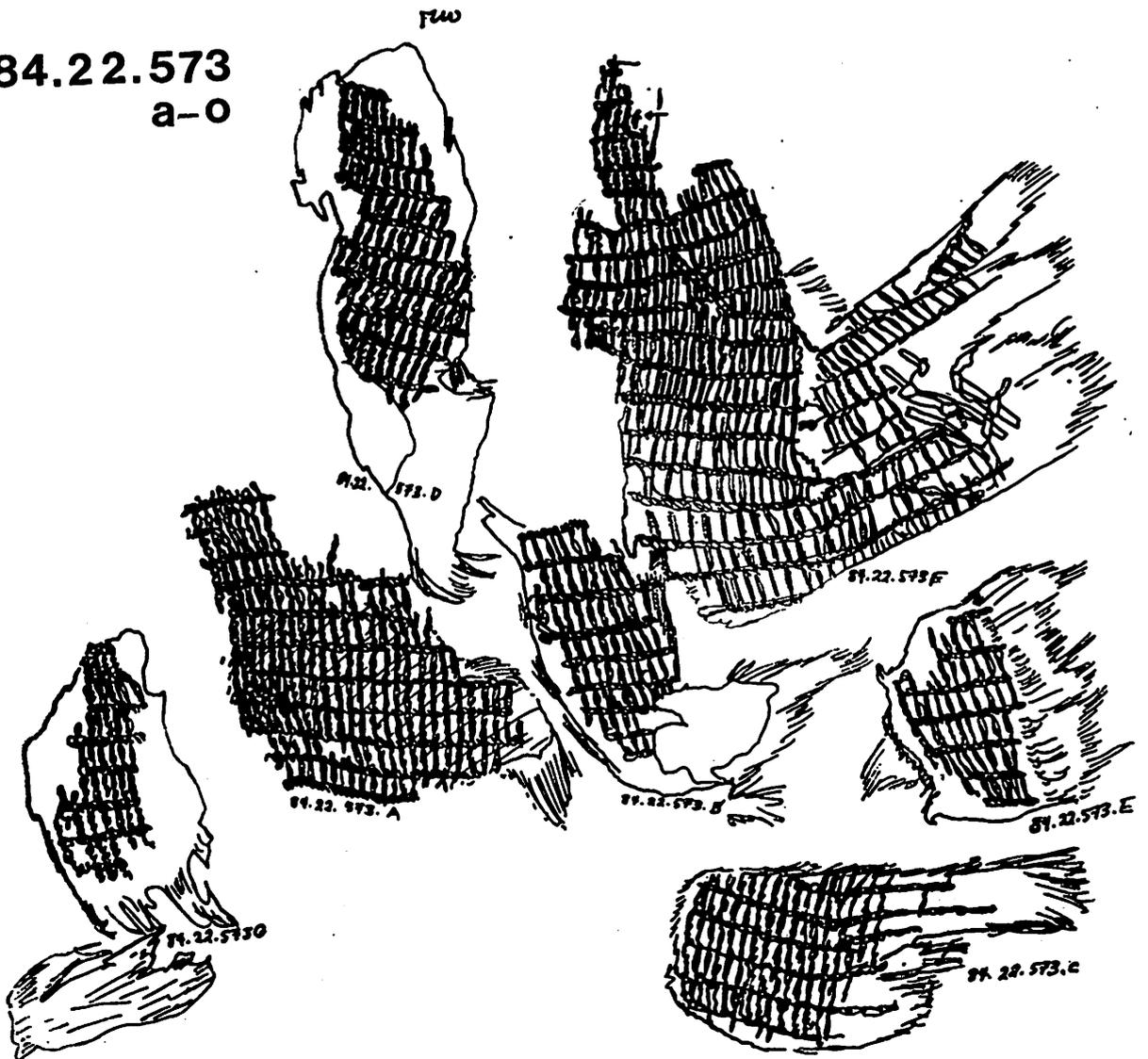


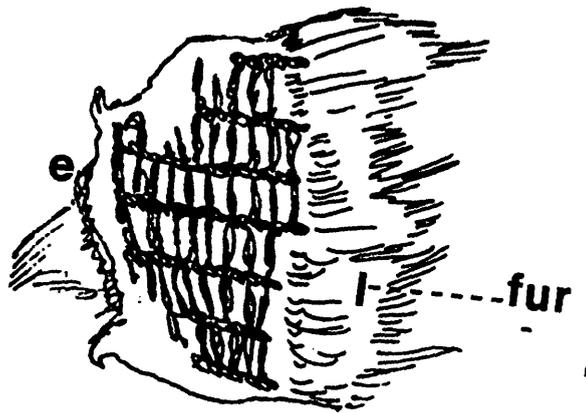
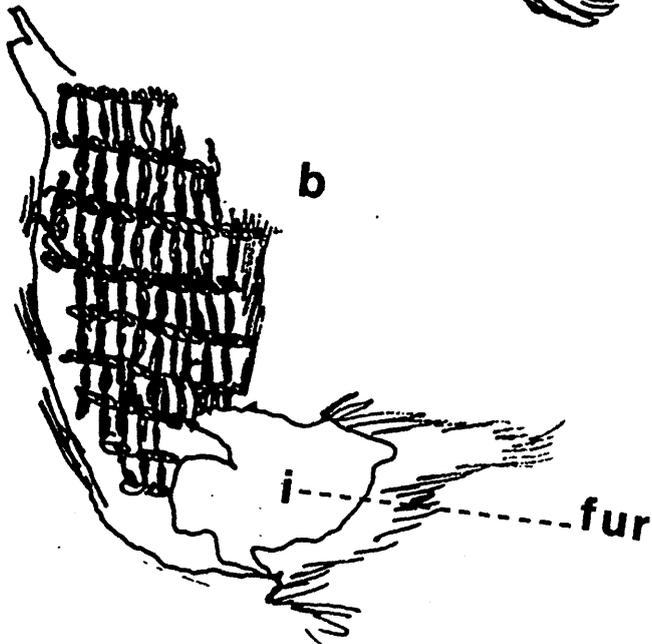
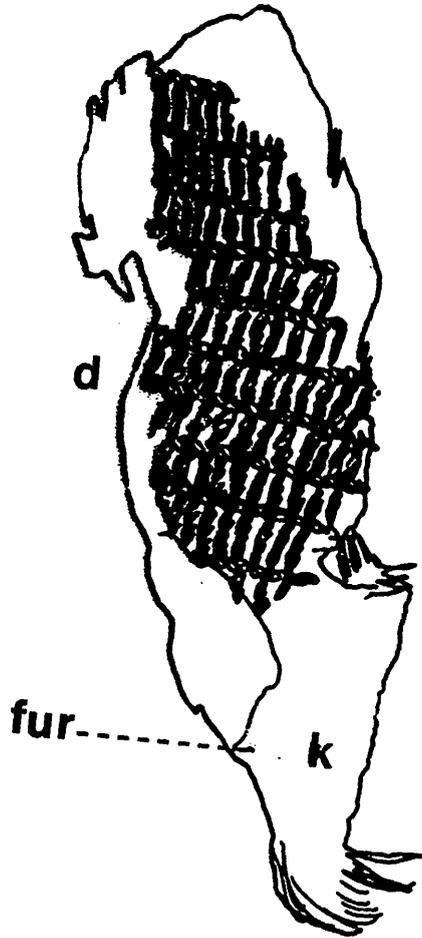
BAG I

TWINED BASKETRY

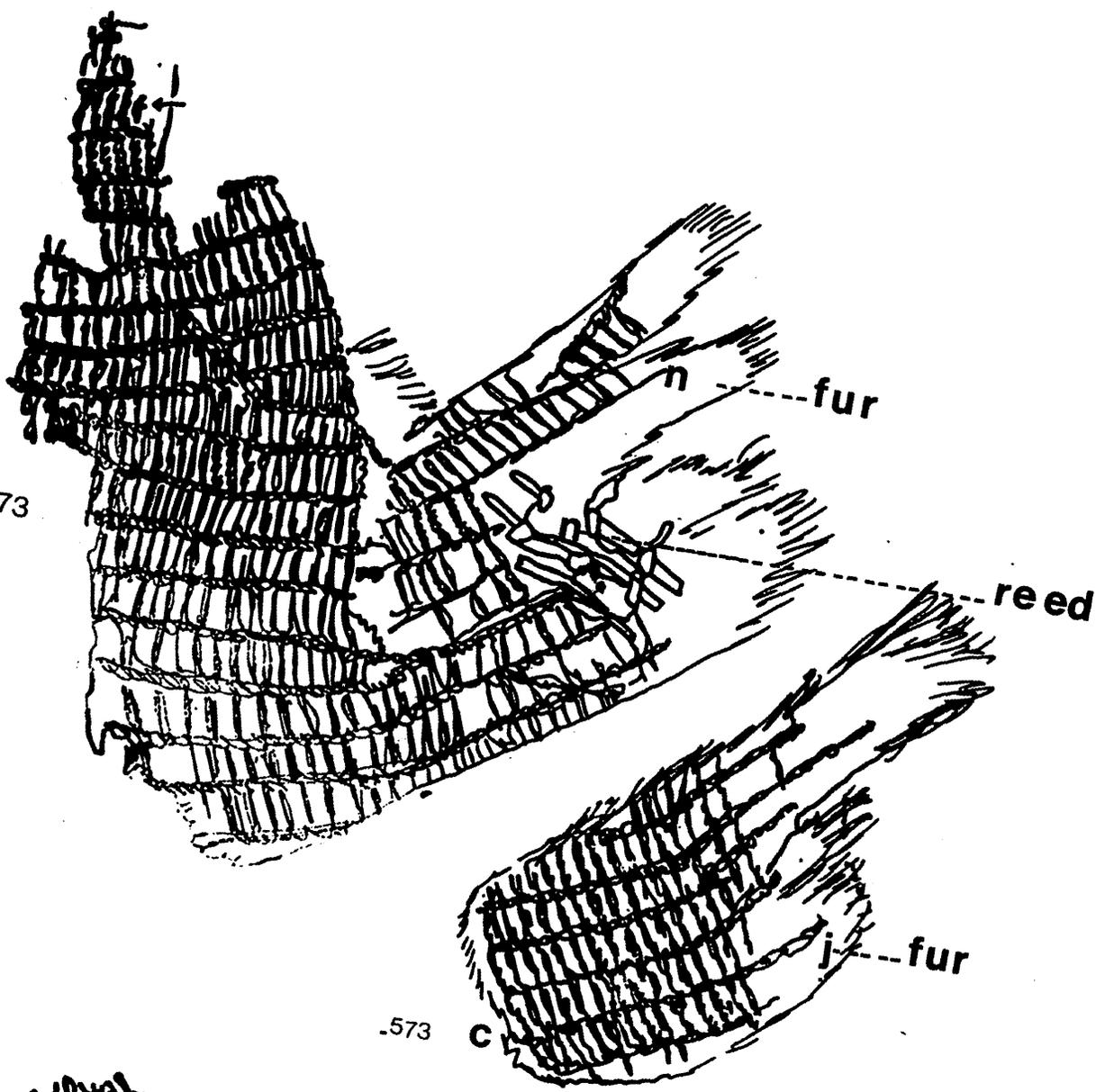
Reduced

84.22.573
a-o





.573

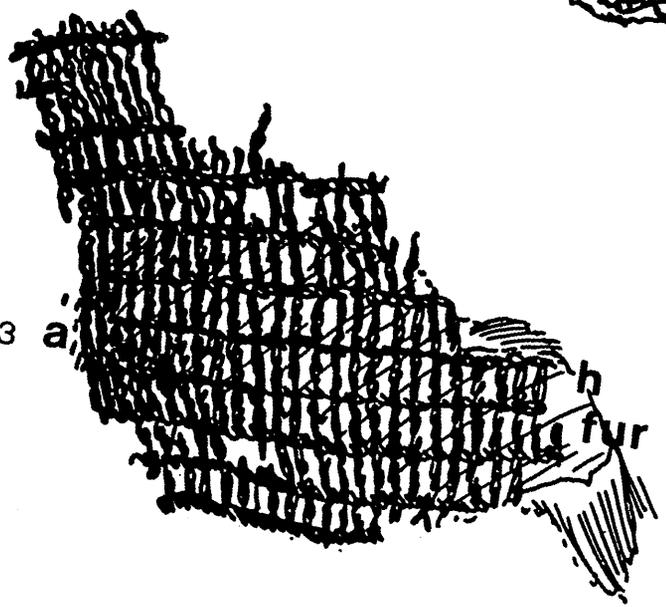


.573

c

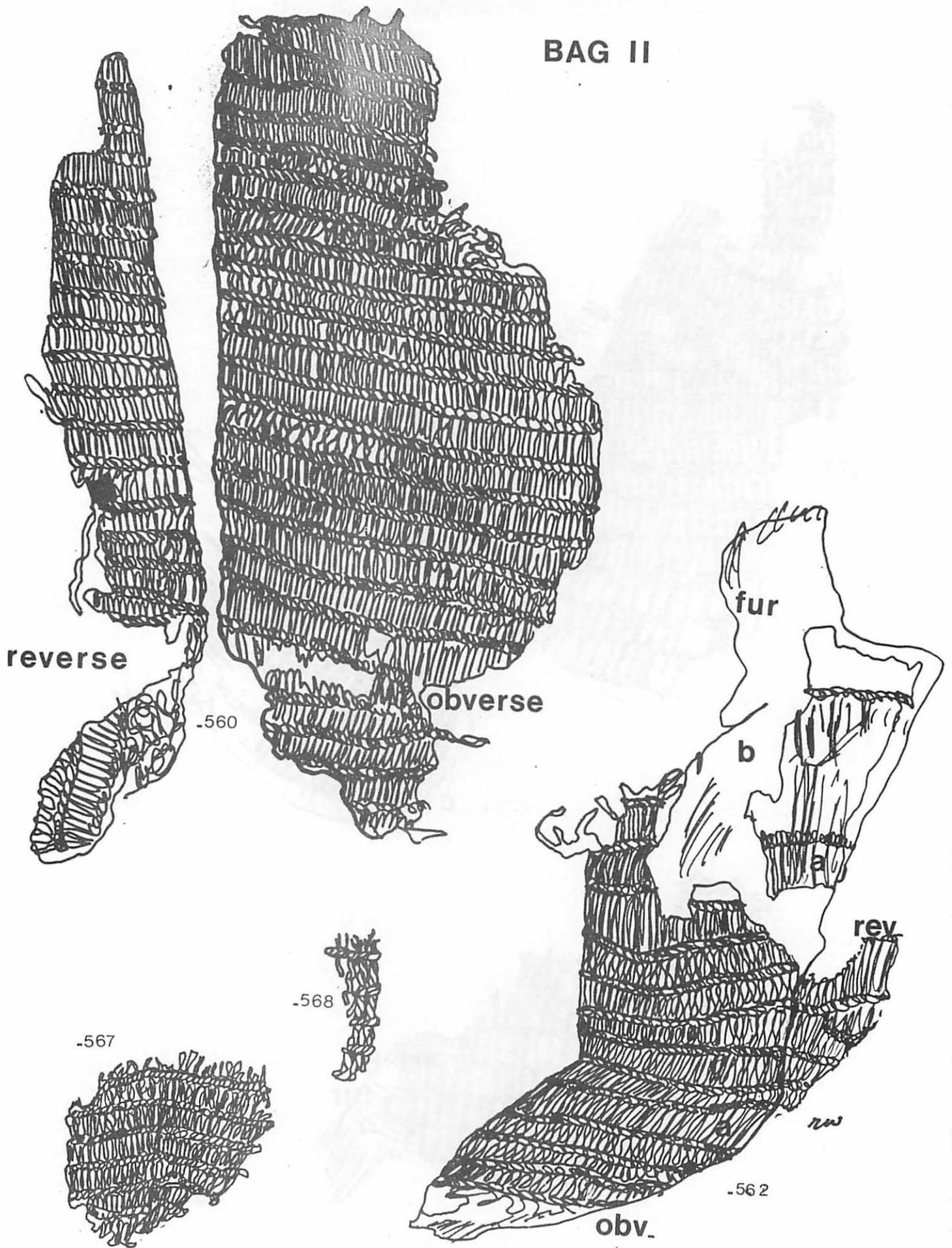
.573

a



rw

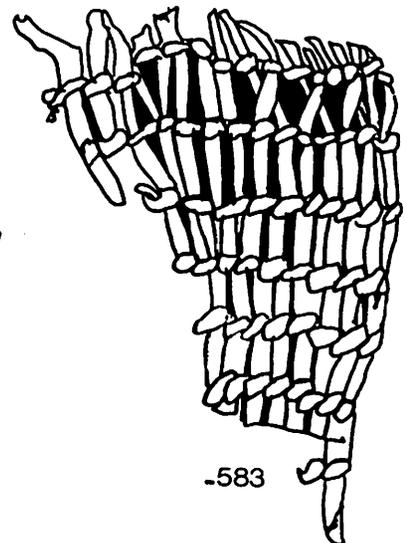
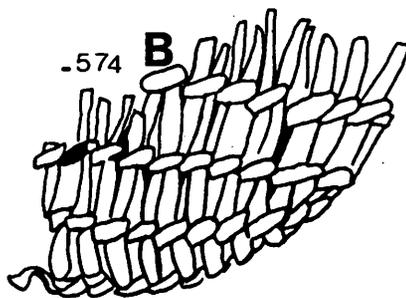
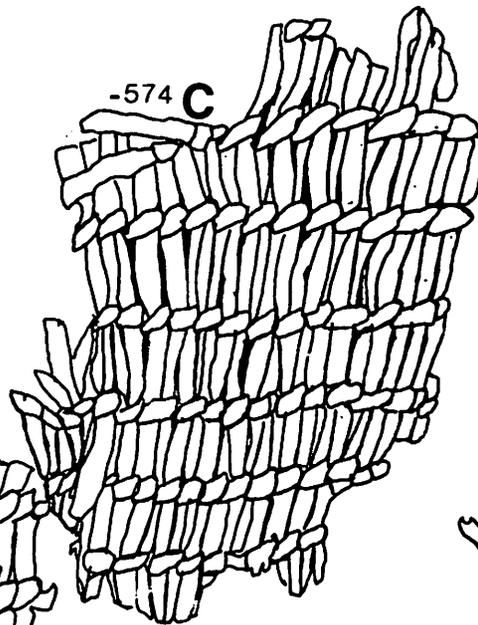
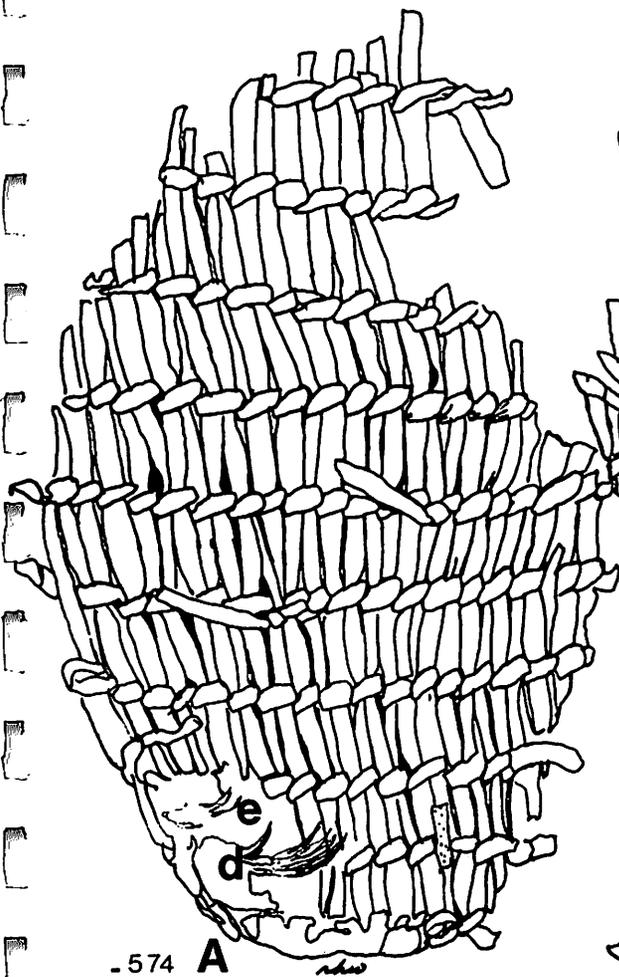
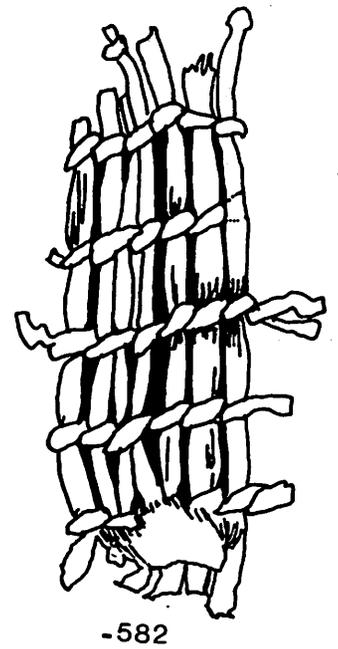
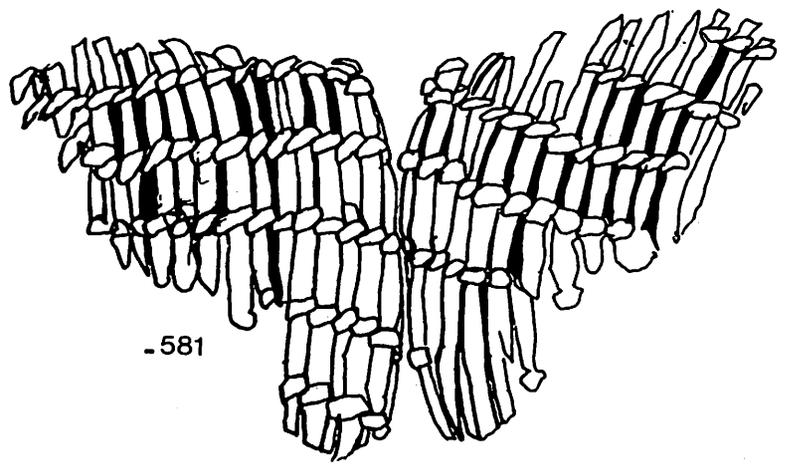
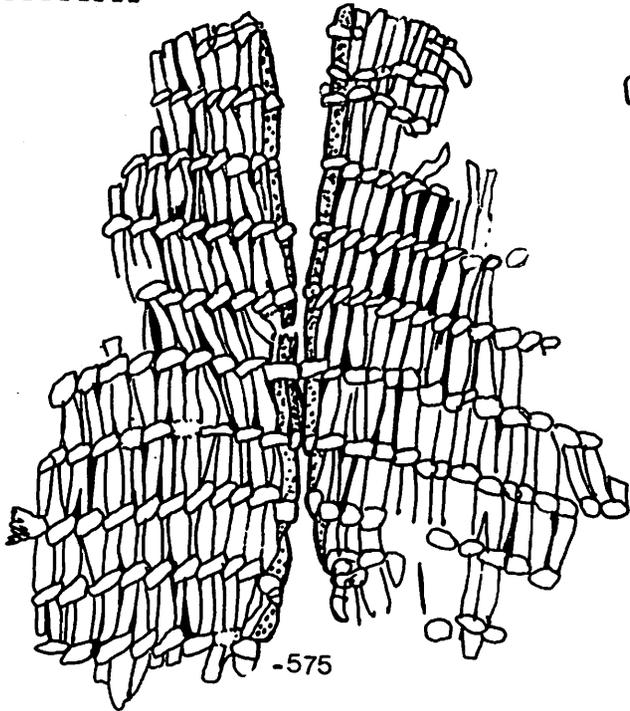
BAG II



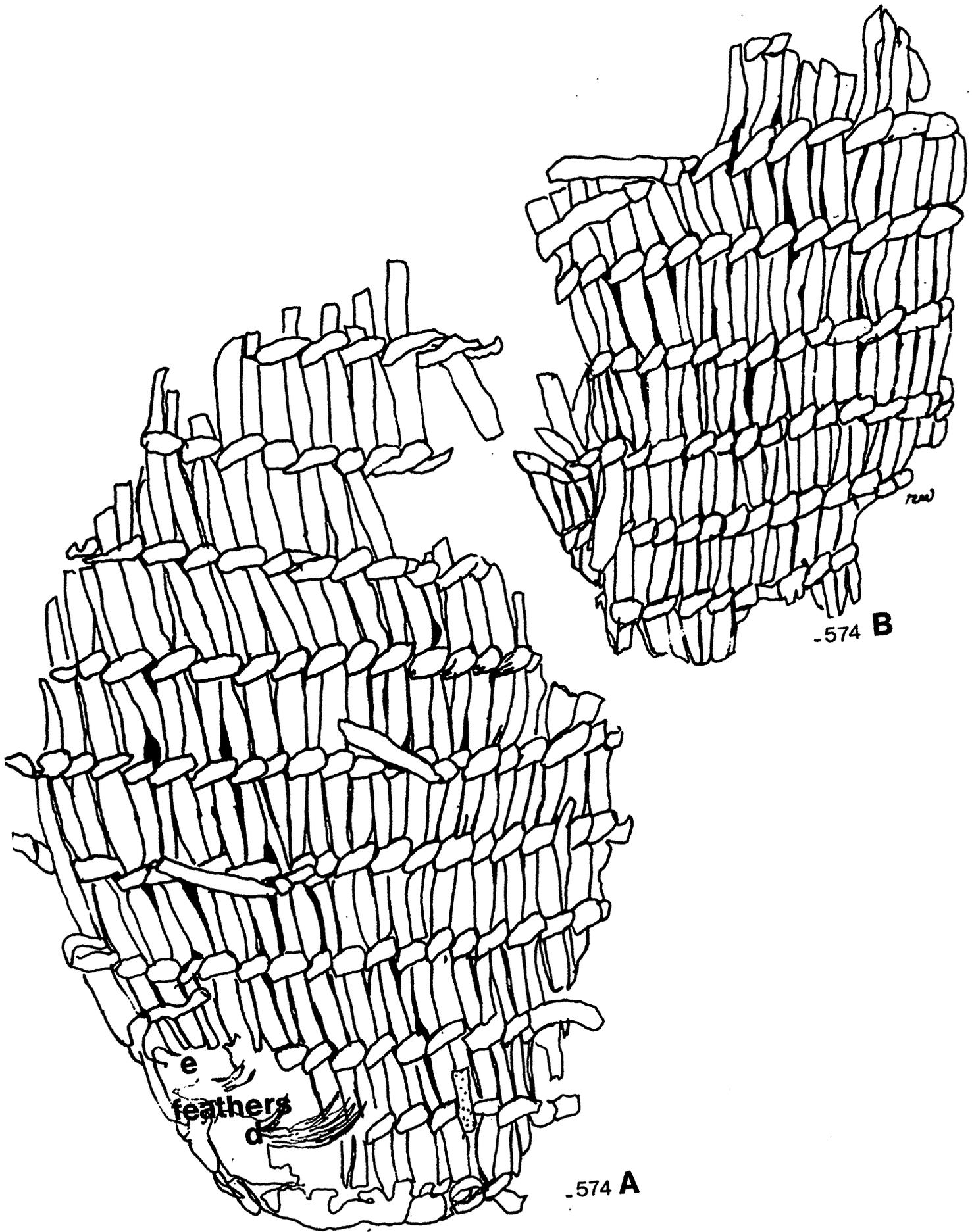
84.22

Reduced

BAG III



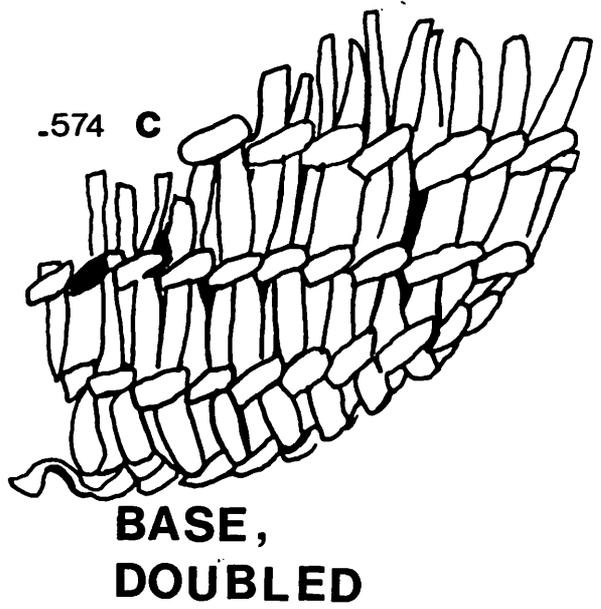
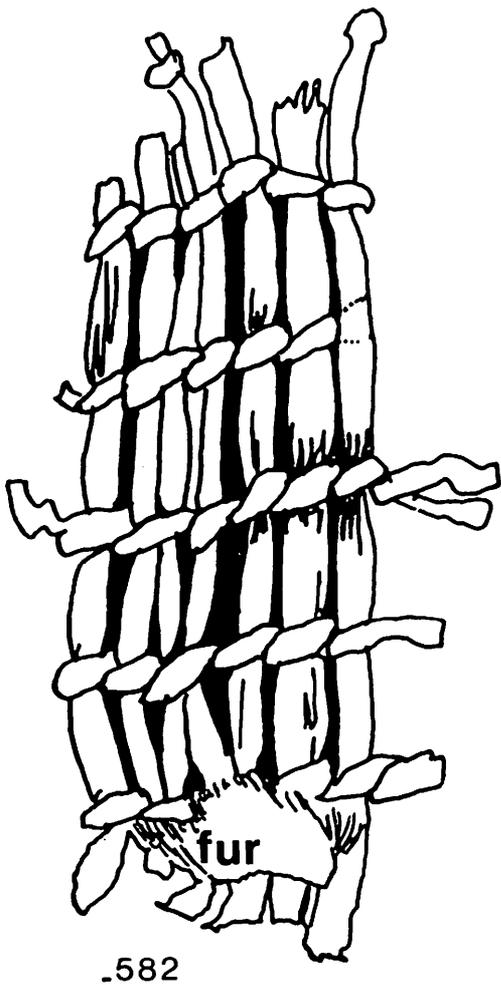
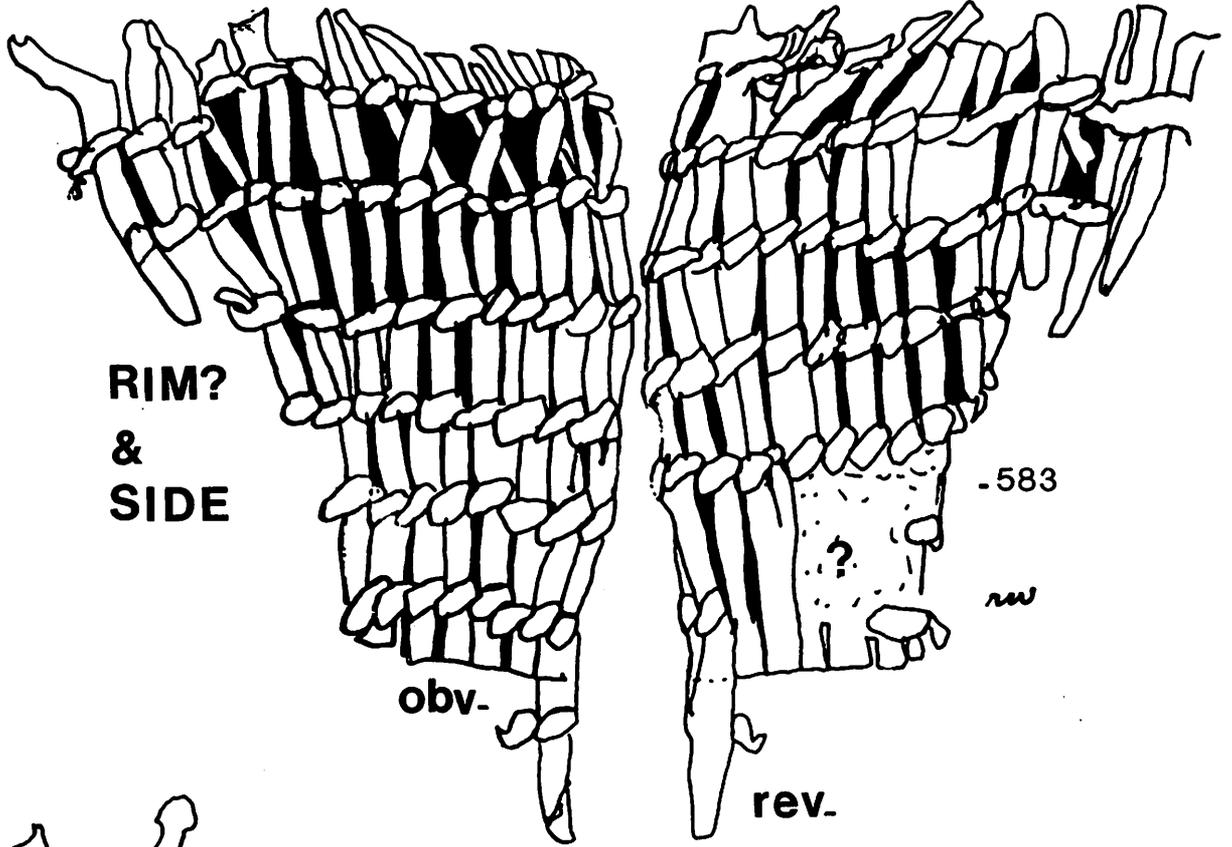
rw

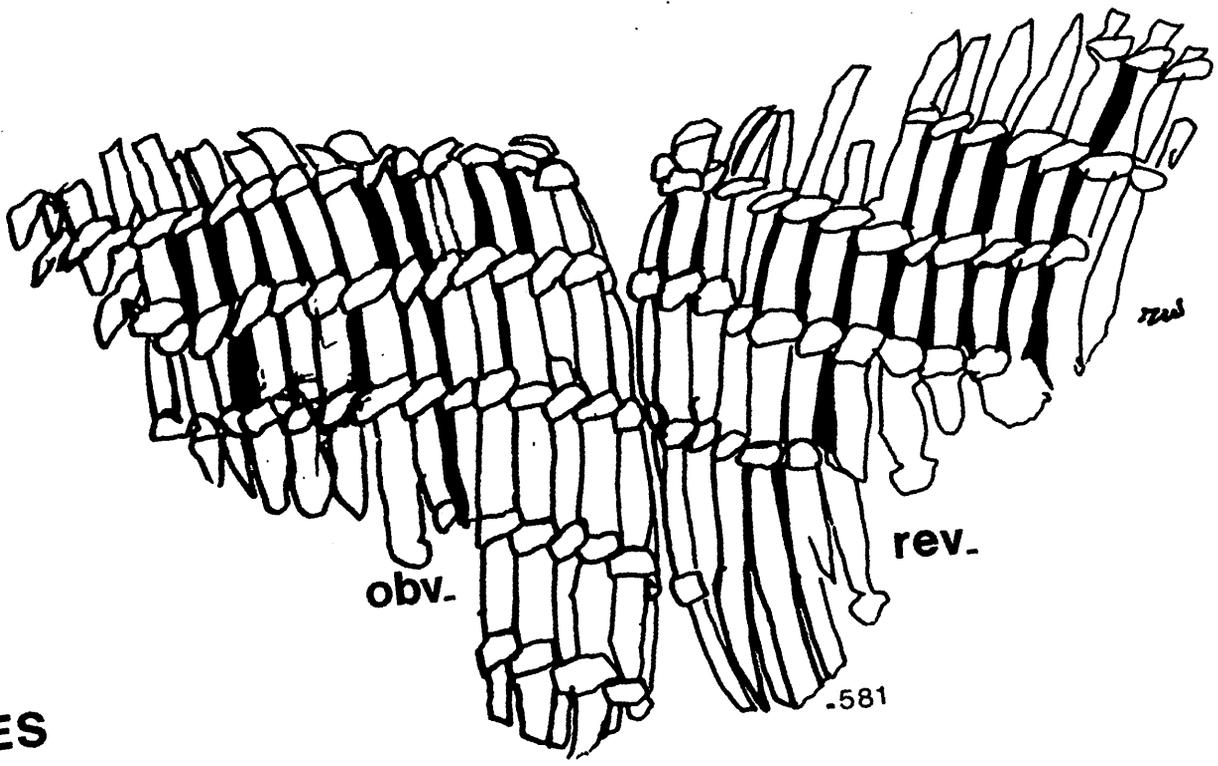


BASE & SIDE

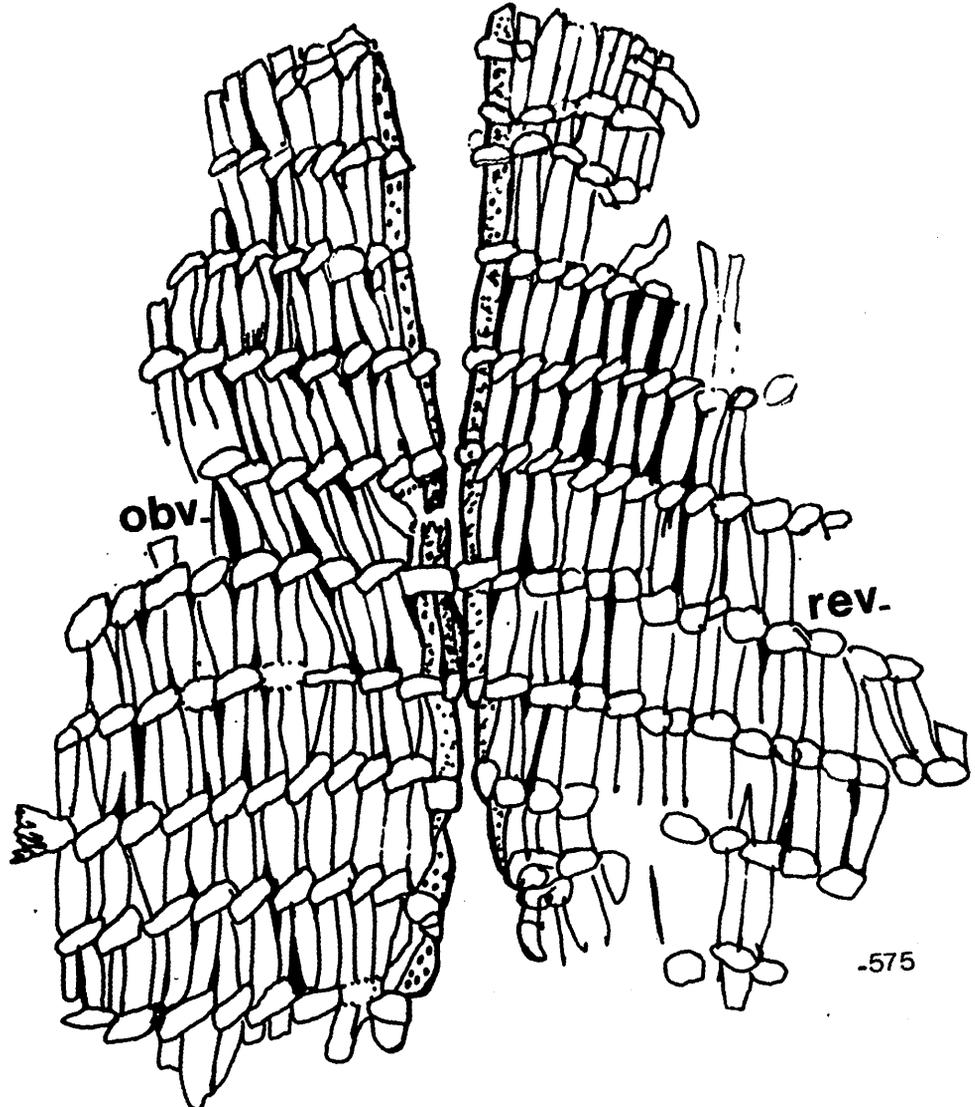
-574 B

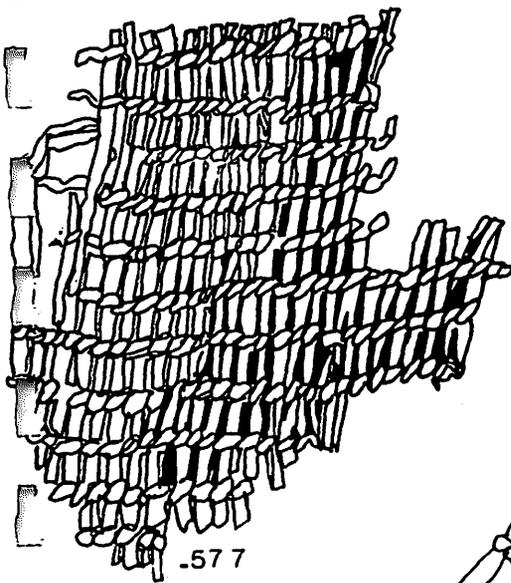
-574 A





SIDES



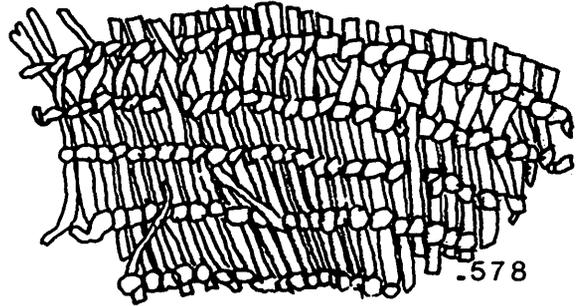


.577

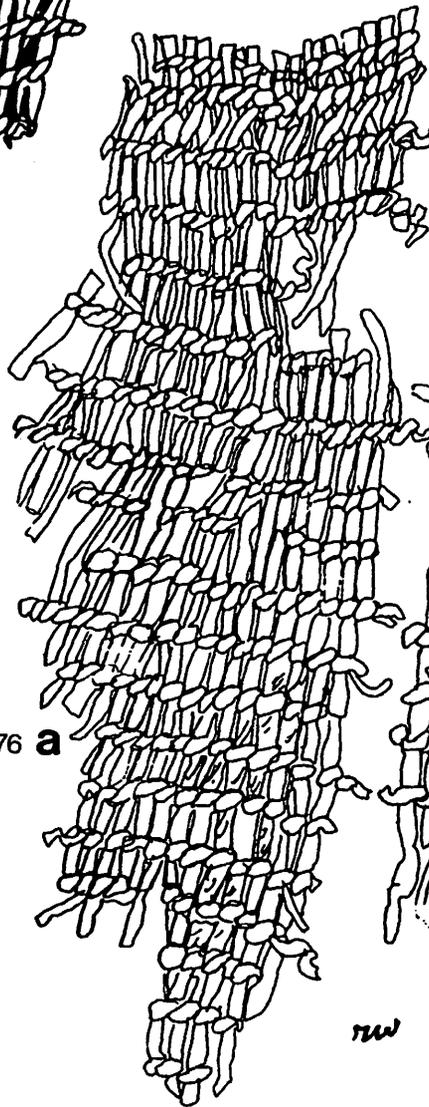


-554

BAG IV

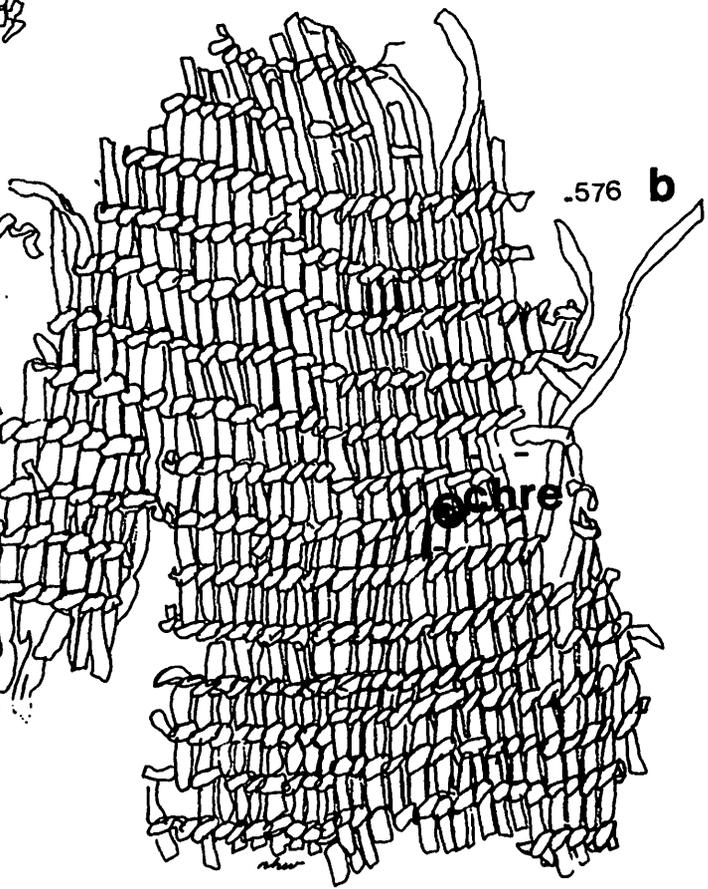


.578



.576 a

NW

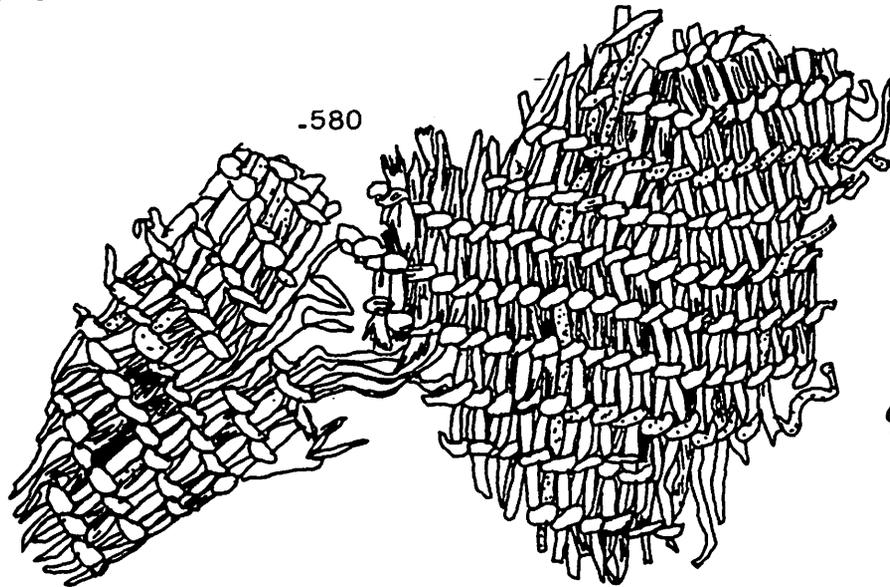


.576 b

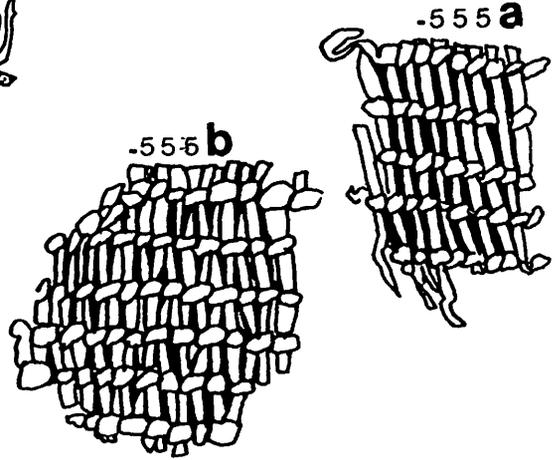
Chre

84.22

Reduced

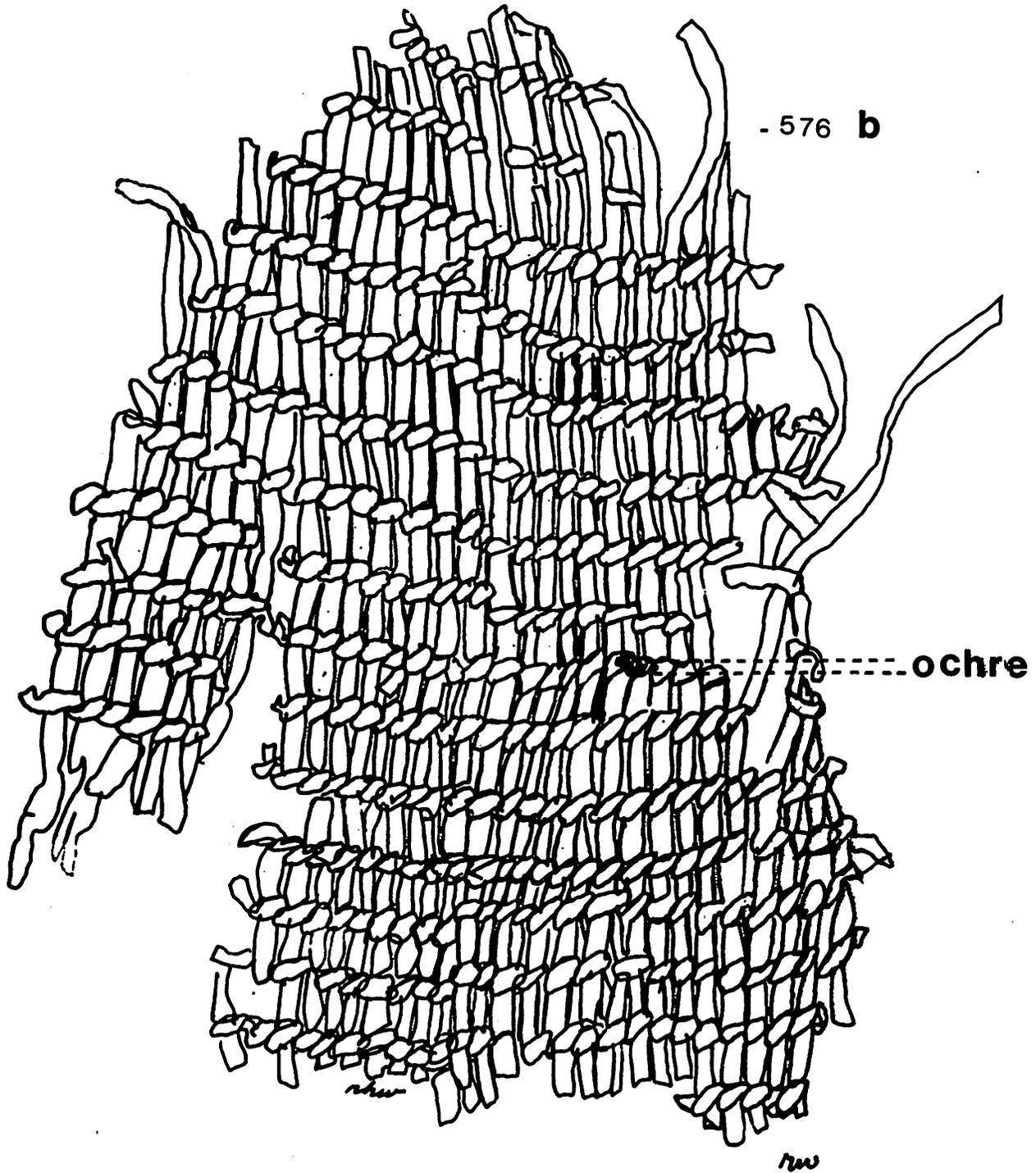


.580



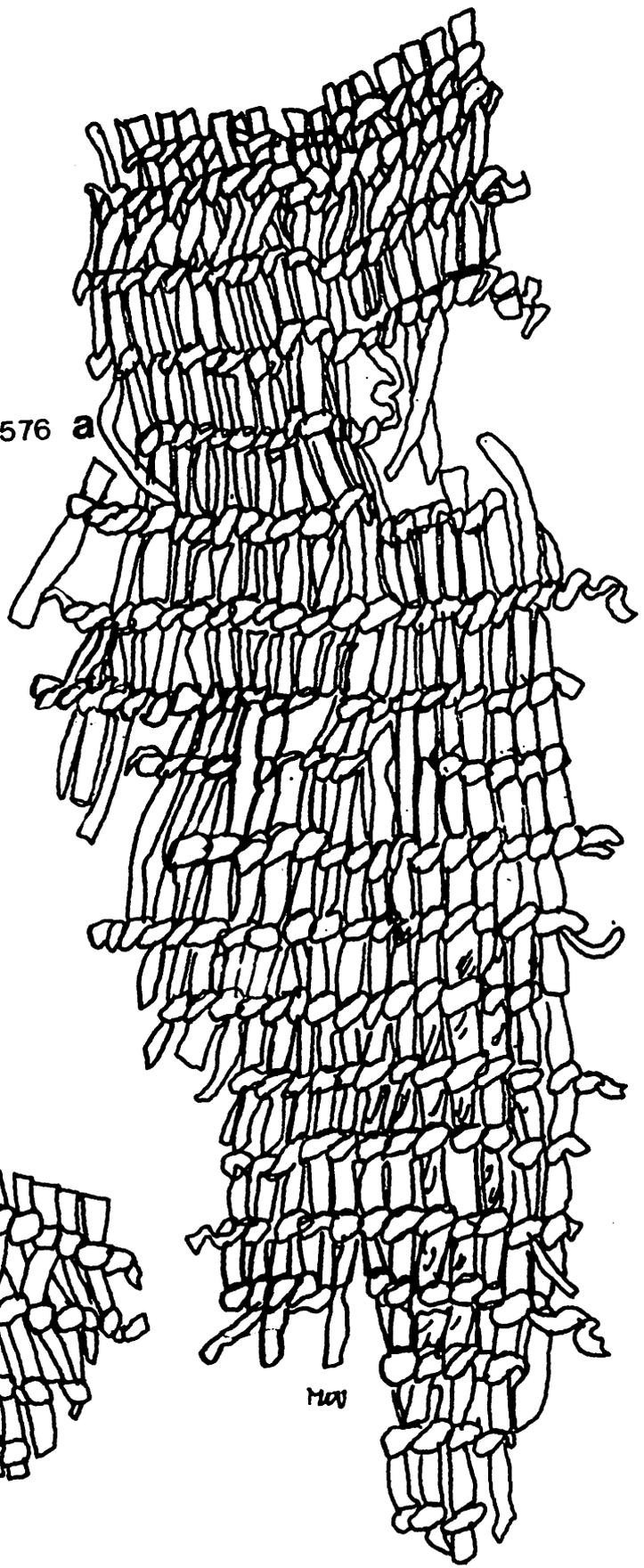
.555 a

.555 b

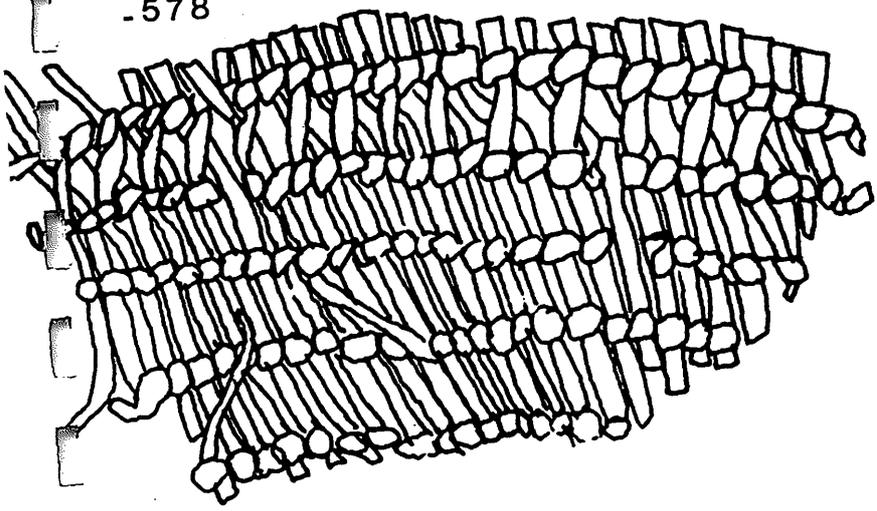


RIMS

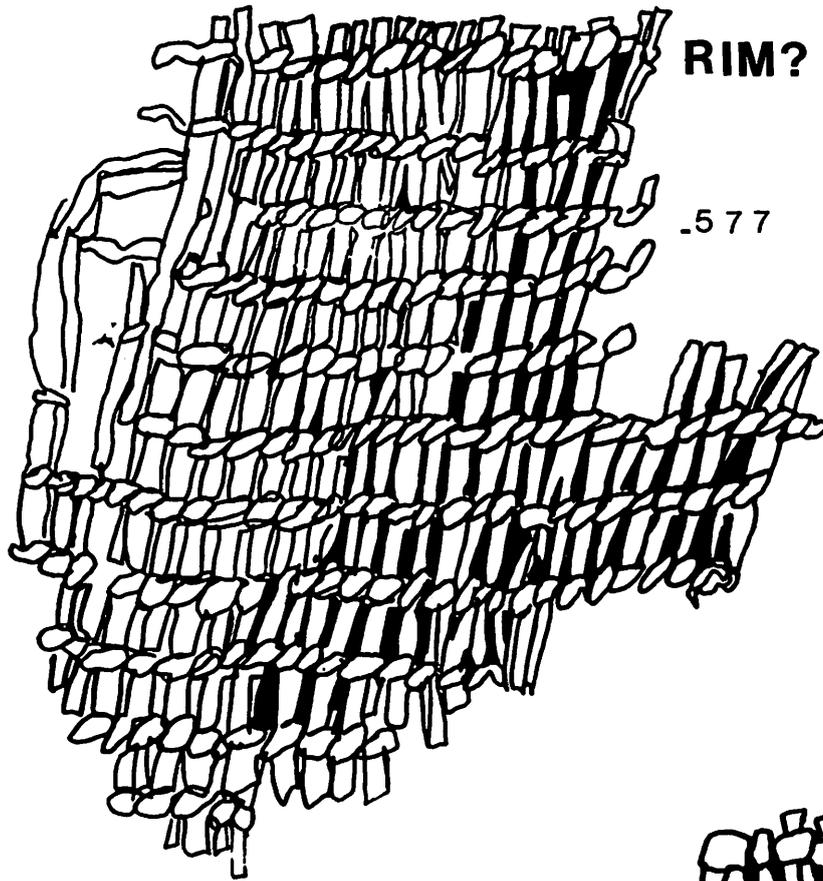
.576 a



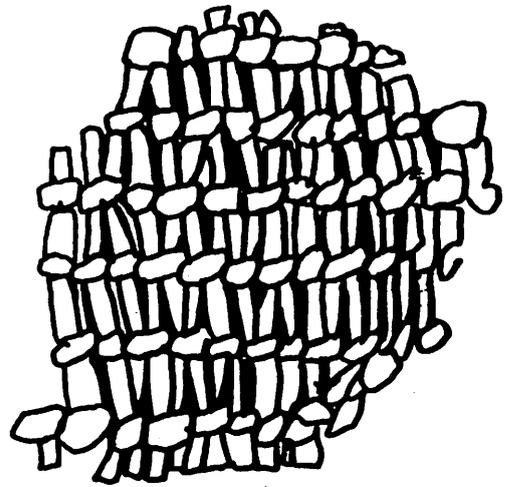
.578



140

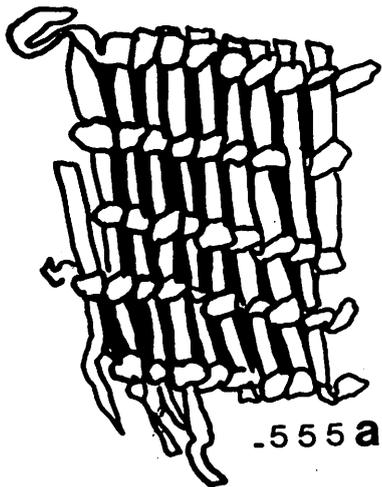


rw



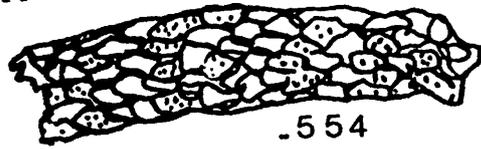
.555b

rw



.555a

HANDLE ?



.554

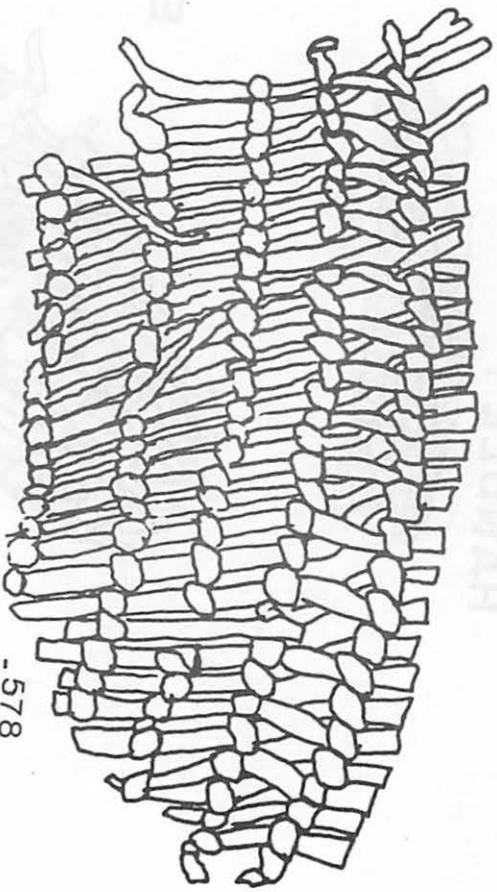
Enlarged



.580

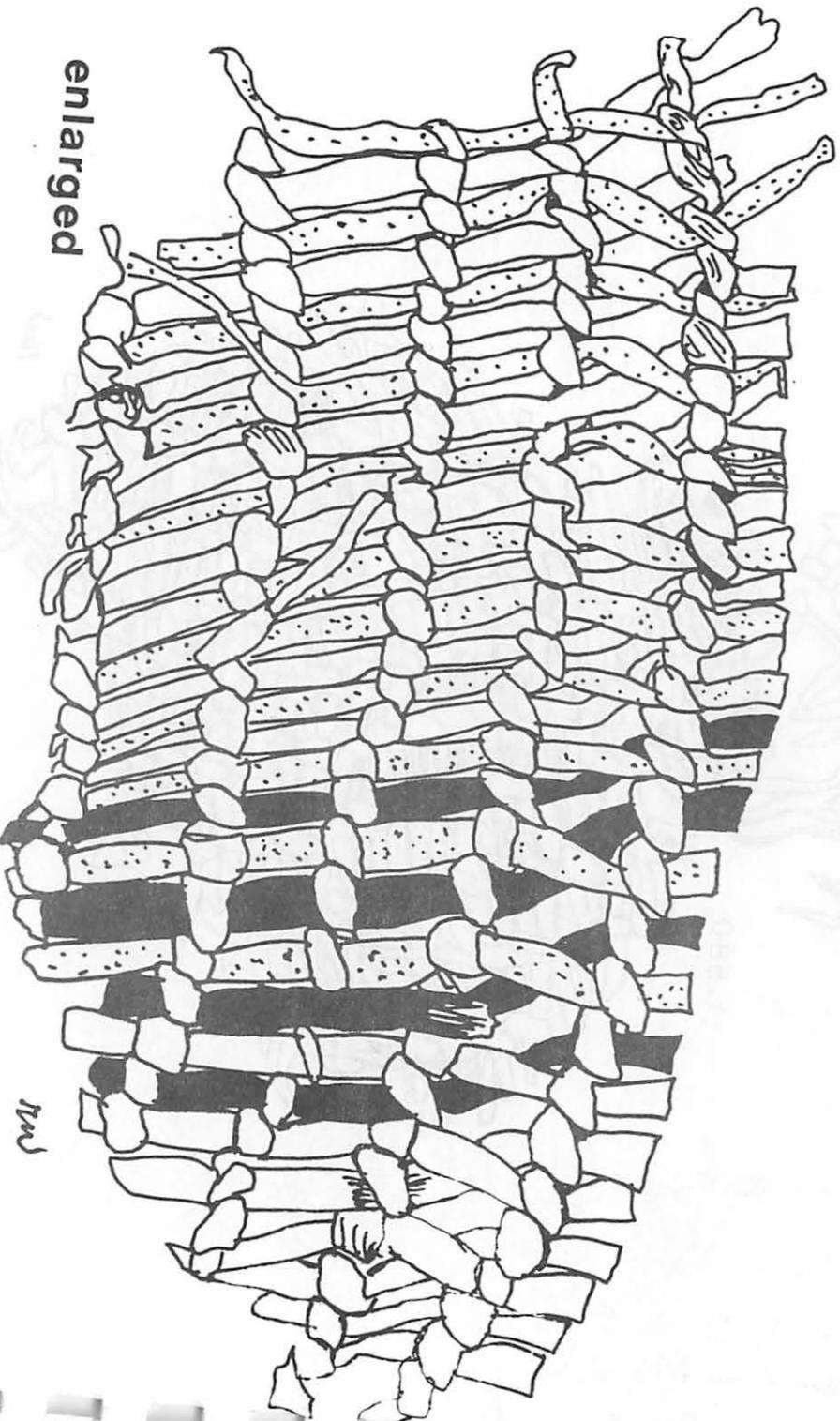
rw

CROSS-OVER
WARP
DECORATIVE
WEAVE

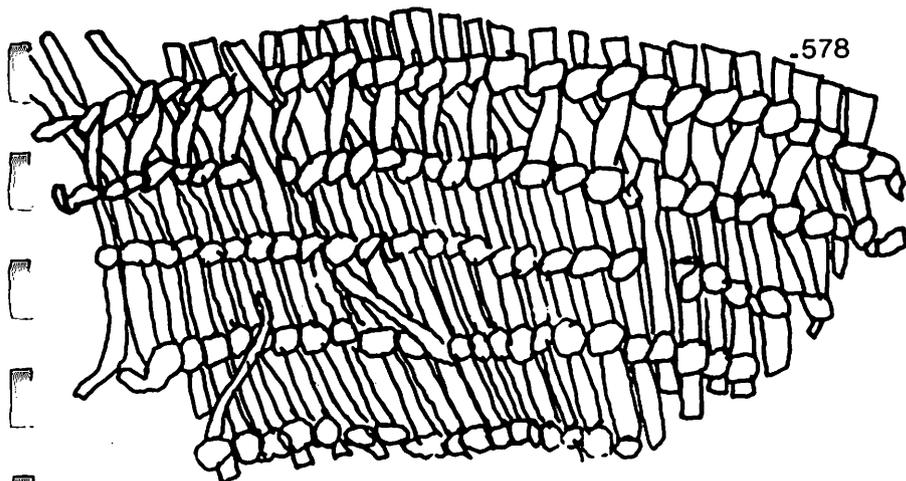
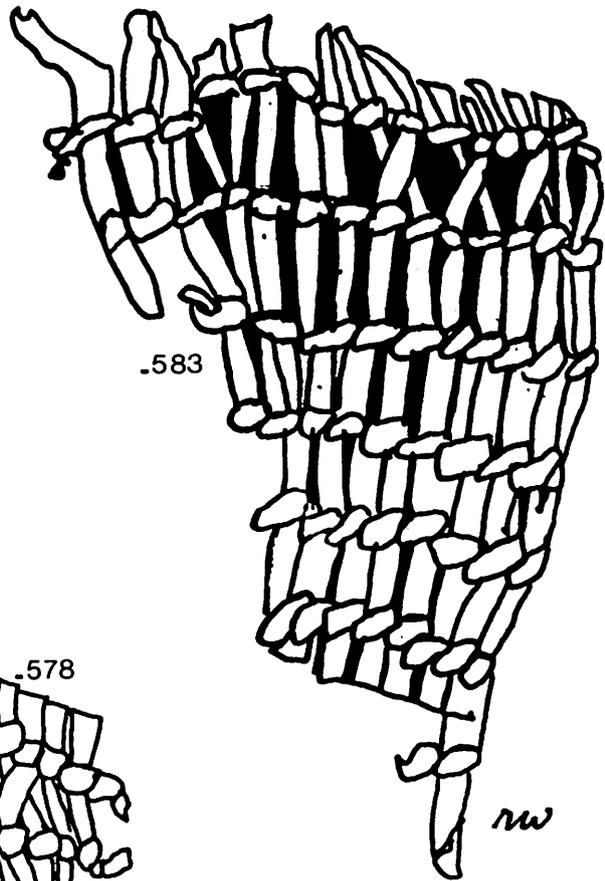
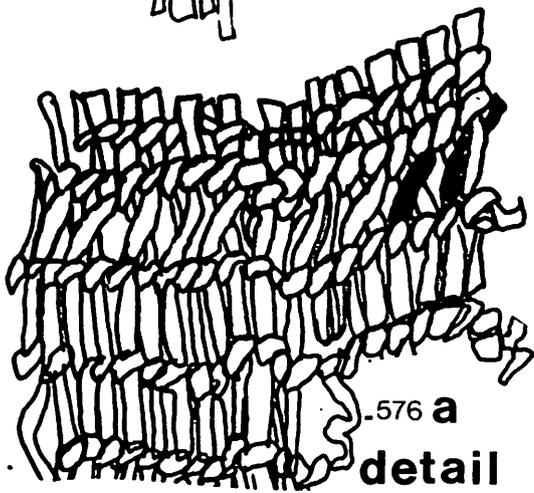
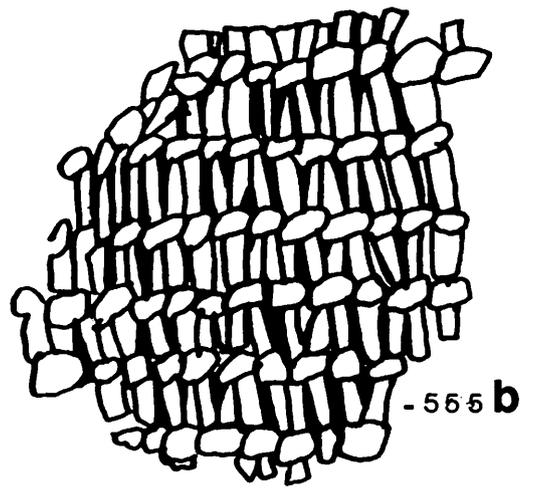
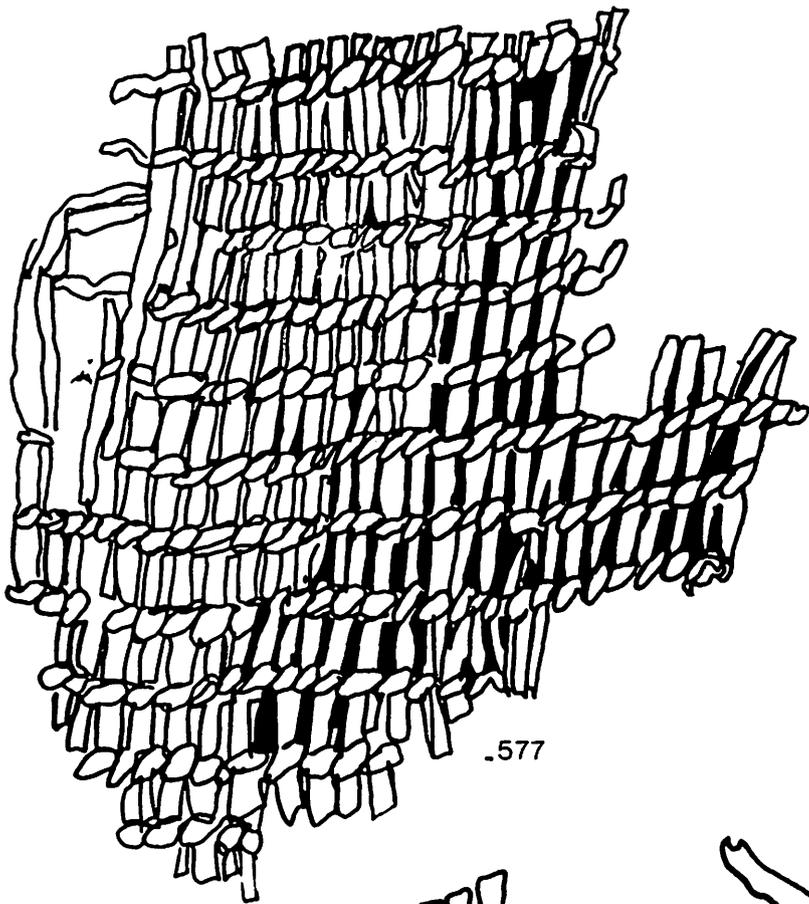


-578

enlarged



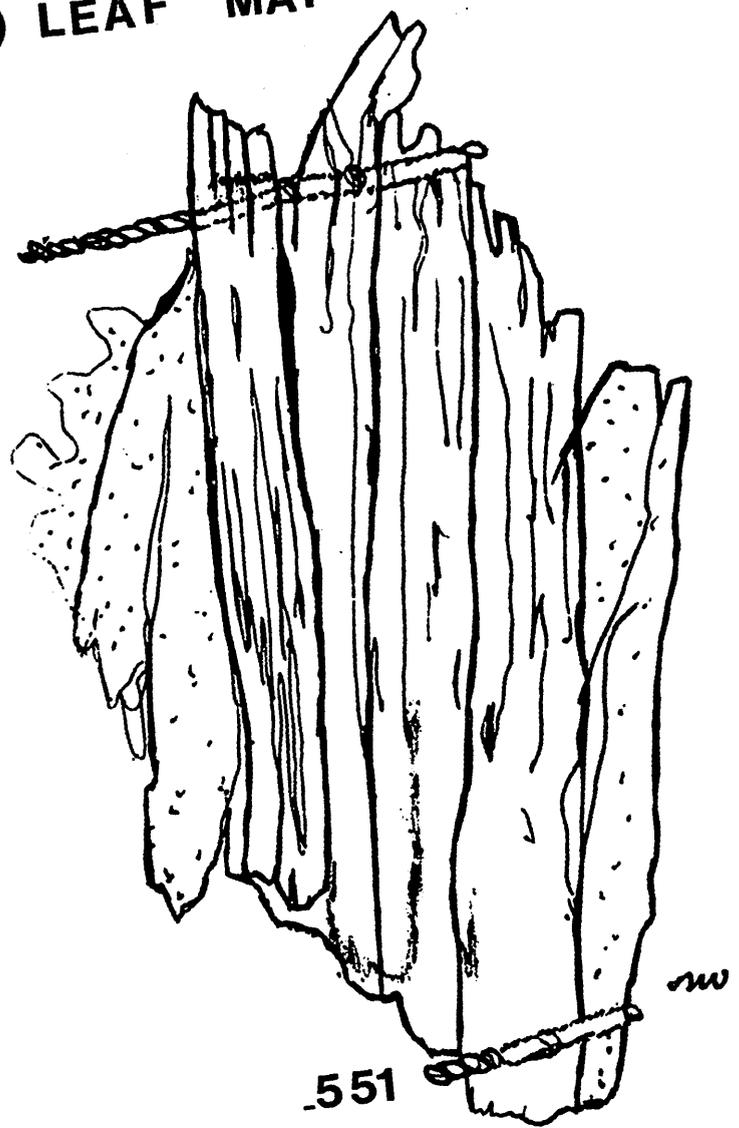
rows



RIM FRAGMENTS

SEWN (STRUNG) LEAF MAT

FRAGMENT

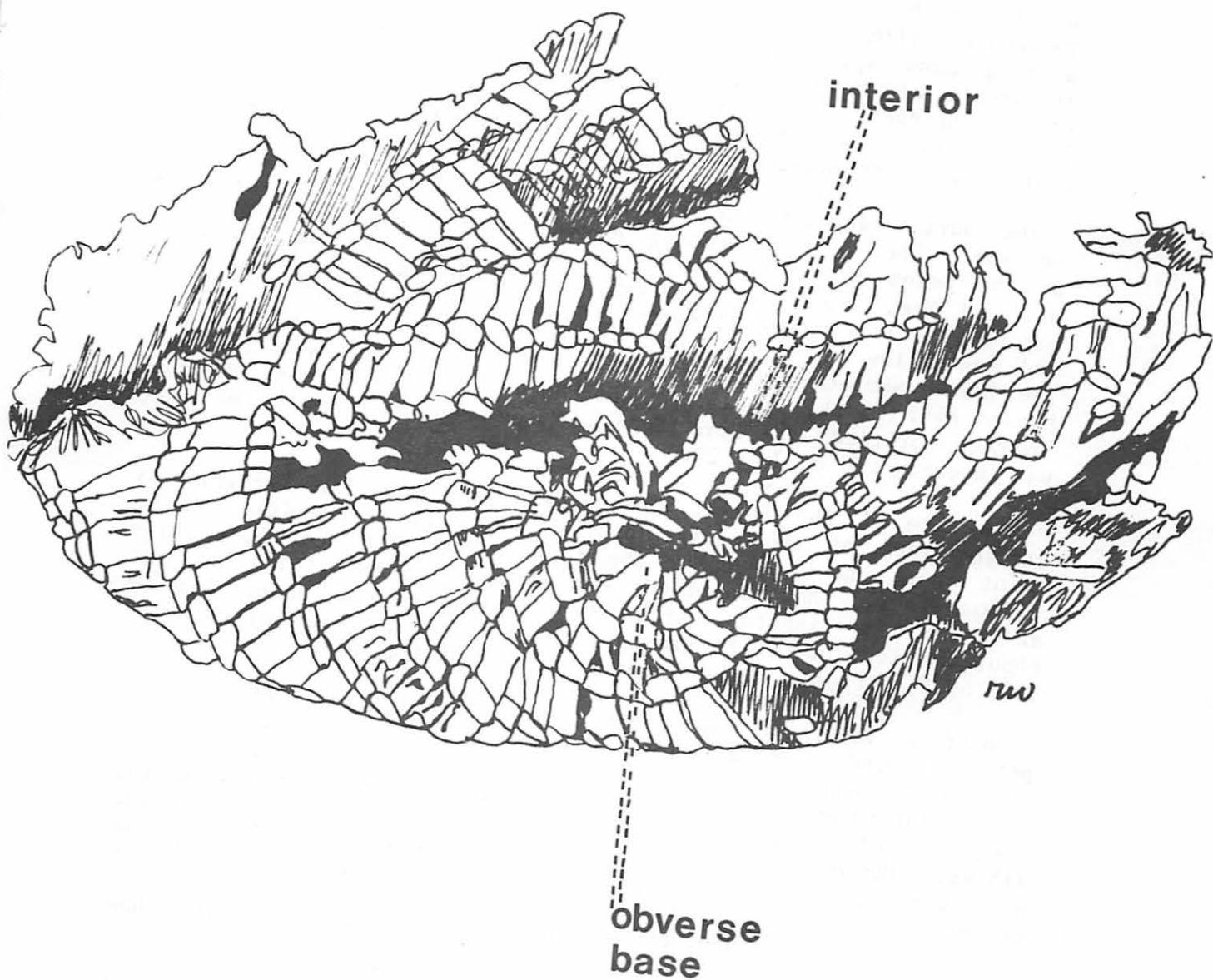


.551

m

BAG V

Enlarged



APPENDIX ONE

An interesting comparison with the Hopps' Site textile material can be made with two fragments recovered from a second "copper-kettle" burial near Northport, Nova Scotia, in 1971:

The site is located in the north bank of the outlet of the Shinimicas River on Northumberland Strait, about 300 yards northeast of the north end of the bridge over the river at Northport (Map reference: 11/E/13/327874). From this point on the north bank, a long sand spit formerly stretched in a southerly direction to within about 100 yards of the south bank by the south end of the bridge. The spit was known locally as "Indian Point". It has now been entirely eroded and only the base remains as a vertical cliff, about 30 feet high.

The burial deposit was exposed in the face of the cliff by erosion. The area stretching back from the edge of the cliff at the point is occupied by a lawn and summer cottage owned by Mr. and Mrs. Ivan Perry of Amherst. After the burial had been exposed, it was excavated during the week 18-24 July by a daughter and son-in-law of Mr. and Mrs. Perry, on vacation from Montreal. The human skeletal remains and some of the other material were handed over to the local RCMP detachment at Amherst, and Constable Pushman notified the Nova Scotia Museum on July 24. The site was investigated on July 29.

The site of the burial deposit was marked by an irregularity in the face of the cliff about 4 feet wide, extending from a point about one foot below the top of the cliff to about three to four feet. The remaining features suggested an original deposit about 54" in diameter, about two to three feet deep, located about one foot below the present ground surface. A verbal description of the deposit was obtained from Mr. and Mrs. Perry.

Under a layer of red ochre there were four inverted copper pots situated over a flexed inhumation burial. The body was encased in birchbark and fur pelts (the latter perhaps a cloak? -- the informants referred to "a fur coat"). Some of the surviving fragments of these materials show fine traces of woven plant fibres. Personal adornment consisted of a necklace of discoidal and cylindrical shell beads, a leather wrist strap and a sheet copper bracelet or gorget. There were also 45 glass beads which probably came from another necklace. Four iron trade axes had been placed on or by the breasts and thighs. Other iron objects included two knives and a number of as-yet unidentified implements. The deposit also included a fragment of sheet copper, two shell fragments, fragments of a possible abrader of sandstone, and two modified animal long bones, which were probably beamers.

A considerable amount of fragmentary human skeletal material was salvaged including skull, pelvis and long bones. A preliminary examination of these remains suggested a young adult female....The site has been designated B1Cx-1. (Brian Preston, Field Report, 29 July 1971, Nova Scotia Museum Files.)

This burial had a number of interesting features. Dr. Paul Erickson of St. Mary's University confirms that the skeletal material was that of a young woman. The long bones were either moose or caribou; they had been coated with red ochre. The date of burial would appear to be within the same period as those at the Hopps Site, due to a number of interesting correlations between the European trade goods included in both burials as grave gifts.

Each burial included a number of knives with full-slab forged iron blades, and grips of two pieces of wood, riveted. A small-sword or dagger from B1Cx-1 was a match for a similar dagger in BkCp-1; the daggers are a type common in the late sixteenth century (Wilkinson, 1967: Plates 31-44). Wilkinson's Swords and Daggers illustrates a nearly identical German dagger ca 1550 (Ibid.:Plate 31). In 1973, when cleaning the copper pots from the Northport Site, I noticed that the smallest pot had been incised around the outside to resemble the markings on a birchbark bowl; the pot's rim had also been incised to imitate the spruce-root lashing on a birchbark bowl-rim. All the copper pots from the Hopps Site have been incised on their rims in this manner. The hammered pattern on these larger pots may have precluded incising on their sides. It is hoped that a more thorough report will be done on the contents of the Northport burial as an adjunct to the final Hopps Site report.

The presence of the blue-glazed clay beads in each site would seem to date both sites to a period before 1600, because at some point prior to 1607, a new type of bead became the main-stay of the European-Micmac trade, according to Marc Lescarbot, a French lawyer who spent a year at Port Royal in what is now Nova Scotia:

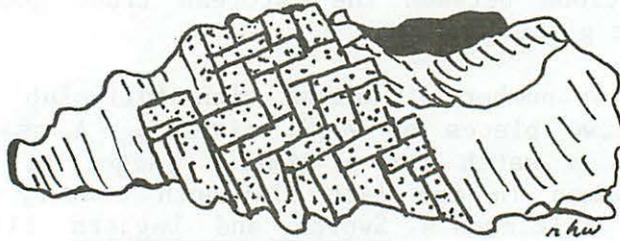
There is brought unto them from France matachias made with small quills of glass mingled with tin or lead, which are trucked with them, and measured by the fathom for want of an ell....(1609/1928:222)

Lescarbot goes on to mention that these cylindrical glass beads are blue and white (Ibid.:213); a large cache of these beads from the early seventeenth-century trade have been uncovered at Avonport (BgDb-1). This cache also includes a different type of knife -- one constructed with a tanged blade, not the full-slab type in Northport and Hopps Sites.

Finally, William FitzGerald viewed the Northport and Hopps material in 1985, and it is his opinion that the trade goods are those common to the late sixteenth century. Thus an examination of the Northport textile fragments is of interest, for purposes of comparison with the Hopps material.

B1Cx-1 Northport, N.S.

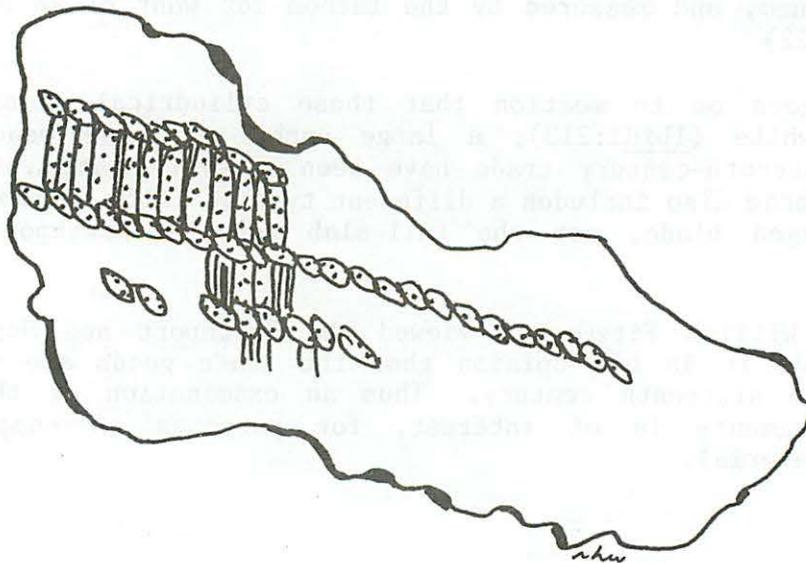
Textile Fragment A: unaccessioned. Twill-woven, in what appears to be strips of cedar bark (Thuja occidentalis), 4mm wide. The longest surviving warp strip is 31mm. The strips appear evenly cut and flatter than would woven reed (Juncus effusus) of a similar diameter. Cedar bark lends itself to chequer and twill weaves; reeds are usually twine-woven. The fragment itself measures 40 x 31mm, and is fused by pressure of burial and by decay to a lump of black organic matter 80 x 30mm.



This specimen is the second surviving example to date of a Micmac twill weave; the first being a cedar-bark mat fragment from a 17th-century "copper-kettle" burial at Red Bank, N.B., now in the New Brunswick Museum.

Fragment B: Unaccessioned. Three courses of twine-woven reed, probably Juncus effusus. The first course shows approximately 12 twists around 12 warps, then a 10mm interval; the second course has 25 surviving twists around approximately 7 surviving warps, then a 6-7mm interval; the third course shows approximately 9 twists, with a gap in the line. The reeds are 2-4mm in diameter. The piece measures 88 x 35mm, and is fused to a lump of black organic matter 115 x 55mm.

Both fragments are in poor condition and badly need conservation.



APPENDIX TWO

The earliest known textile from the Maritimes and northern Maine is a twine-woven reed bag or mat deposited in a "Red Paint" Maritime Archaic burial near Union, Maine, about 4000 B.P. The actual piece is no longer in existence; it may never have been recovered from the burial. Evidence for its existence comes from six ground-slate bayonets which were placed in the grave either wrapped in the textile or enclosed in it. These bayonets had been acquired by the Maine State Museum from a local Historical Society. Dr. Bruce J. Bourque noticed that the process of decay had etched a ghost-impression of the textile onto the slate. In December 1986, he very kindly allowed me to do scale drawings, measurements and an analysis of these impressions on the bayonets; and I was able to show that they represented a twine-woven reed construction.

Each bayonet, of course, is impressed with different segments of weave, and at least five segments appear to be from the same piece. The weft courses line up, and the interval of weave matches within a few millimeters. The sixth bayonet is etched with a slightly different picture. The weft courses do not line up with the preceding segments, the intervals are much longer, and the course nearest the base of the bayonet is a double one, not in evidence on any of the other pieces. Technique and materials are the same, however, and this variation may simply represent the other side of the bag. (See the variations in the Hopps Site reed bag sides.)

Each bayonet is beveled, and generally the impressions fall in the flat mid-section rather than the slope of the bevels. However, 28.5.330 shows impressions only on the right bevel, and Dr. Bourque suggests (personal communication, 1986) that there was some overlap when the bayonets were laid to rest in the grave. This prevents an accurate estimate of the width of the fragment.

Bayonet 28.5.325: There are seven, perhaps eight, twined weft courses. Beginning at the tip of the bayonet:
1st course shows 3 twists of the weft, and there are no impressions of warp fibres in the 16mm interval below.
2nd course shows 2 twists, with 1 warp impression in the 13mm interval
3rd course shows 4 twists, with 4 warp impressions in the 16mm interval
4th course shows 4 twists, with 4 warp impressions in the 15mm interval
5th course shows 3 twists, with 2 warp impressions in the 15mm interval
6th course shows 4 twists, with 2-3 warp impressions in the indiscernible interval between the 6th course and a theoretical 7th course.

The impression shows a warp spread of 7+ reeds, 4-5mm in diameter.

With this diameter, and allowing for possible shrinkage, the reed is more likely to have been Scirpus lacustris, rather than the smaller Juncus effusus.

Bayonet 28.5.332: There are seven, perhaps eight, twined weft courses. Beginning at the top of the bayonet (tip missing):
1st course shows 1 twist, with 3 warp impressions in the 21mm interval
2nd course shows 3 twists, with 4 warp impressions in the 14.5mm interval
3rd course shows 3 twists, with 3 warp impressions in the 14.5mm interval
4th course shows 3 twists, with 3 warp impressions in the 14.5mm interval
5th course shows 4 twists, with 4 warp impressions in the 15mm interval
6th course shows 4 twists, with 3 warp impressions in the 14.5mm interval
7th course shows 3 twists, with 5(?) warp impressions in the 14.5mm interval

Immediately below the 4th course one sees the impression of what looks like a single twist. Whether this indicates a double course -- one right over another -- or splicing, or a mistake in either the weave or the reading of the impression, is hard to say. There is also an arrow-shaped impression at the point of hafting; this occurs on one side of the bayonet only.

The impression shows a warp spread of 6 reeds, 4-5mm in diameter.

Bayonet 28.5.326 (A): There are eight twined weft courses. Beginning at the top of the bayonet (tip missing):
1st course shows 1-2 twists, with 2 warp impressions in the 16mm interval
2nd course shows 3 twists, with 3 warp impressions in the 16mm interval
3rd course shows 5 twists, with 2 warp impressions in the 14mm interval
4th course shows 4 twists, with 2-3 warp impressions in the 17mm interval
5th course shows 3 twists, with 3 warp impressions in the 13-14mm interval
6th course shows 3 twists, with 4 warp impressions in the 16mm interval
7th course shows 2 twists, with 2 warp impressions in the 14mm interval
8th course shows 1 twist, with no trace of warps below this line

The impression shows a warp spread of 5-6 reeds, 3-4mm in diameter.

Bayonet 28.5.330: There are five twined weft courses evident. Beginning at the top of the bayonet (tip missing):
1st course shows 1 twist, no evident warps, 25mm interval below
2nd course shows 1 twist, no evident warps, 15mm interval below
3rd course shows 1 twist, no evident warps, 12mm interval
4th course shows 1-3 twists, no evident warps, 15mm interval
5th course shows 1 twist, no evident warps, no trace of warps or courses below this line.

The impression shows a warp spread of 1-3 reeds. The impression appears only on the right beveled plane, so this bayonet was probably overlapped by another within the reed wrap. The large interval between 1st and 2nd courses (25mm) may reflect a missing course. Uninterpretable impressions at the haft of the bayonet, on one side only, are left to the reader's judgement.

Bayonet 28.5.328: There are six twined weft courses.
Beginning at the top of the bayonet (tip missing):

1st course shows 2 twists, with 2 warp impressions in the 13.5mm interval
2nd course shows 2 twists, with 3 warp impressions in the 16.5mm interval
3rd course shows 1 twist, with 1 warp impression in the 13mm interval
4th course shows 1 twist, with 1-2 warp impressions in the 14mm interval
5th course shows 1 twist, with 1-3 warp impressions in the 13mm interval
6th course shows 1 twist, with a trace of warp impression immediately below the course.

The impression shows a warp spread of 4-5 reeds, 4mm in diameter.

Bayonet 28.5.326 (B): There are eight twined weft courses.
Beginning at the tip of the bayonet:

1st course shows 2 twists, with 1-2 warp impressions in the 20mm interval
2nd course shows 3 twists, no warp impressions in the 23.5mm interval
3rd course shows 2 twists, with 2 warp impressions in the 25mm interval
4th course shows 3 twists, with no warp impressions in the 21mm interval
5th course shows 4 twists, with no warp impressions in the 21mm interval
6th course shows 4-5 twists, with 3 warp impressions in the 21mm interval
7th course shows 4-5 twists. Since this is the first line of a double course with the 8th course below, there are no warp impressions and no interval
8th course shows 4-5 twists, with 4-5 warp impressions in the 14mm interval

There is no trace of a 9th course

The impression shows a warp spread of 6 reeds, 4-5mm in diameter.

Bayonet 28.5.326 (B) is incised with diagonal slashes across the flat plane in the centre, between courses 4-5. The haft area is incised.

Bayonet 28.5.325 measures 23.3cm x 2.4cm with tip missing.

Bayonet 28.5.326 (A) measures 27.2cm x 2.1cm with tip missing.

Bayonet 28.5.330 measures 29.3cm x 2.2cm with tip missing.

Bayonet 28.5.328 measures 31.3cm x 2.1cm with tip missing.

Bayonet 28.5.326 (B) measures 23cm x 2.35cm.

Bayonet 28.5.332 measures 22.6cm x 2.2cm.

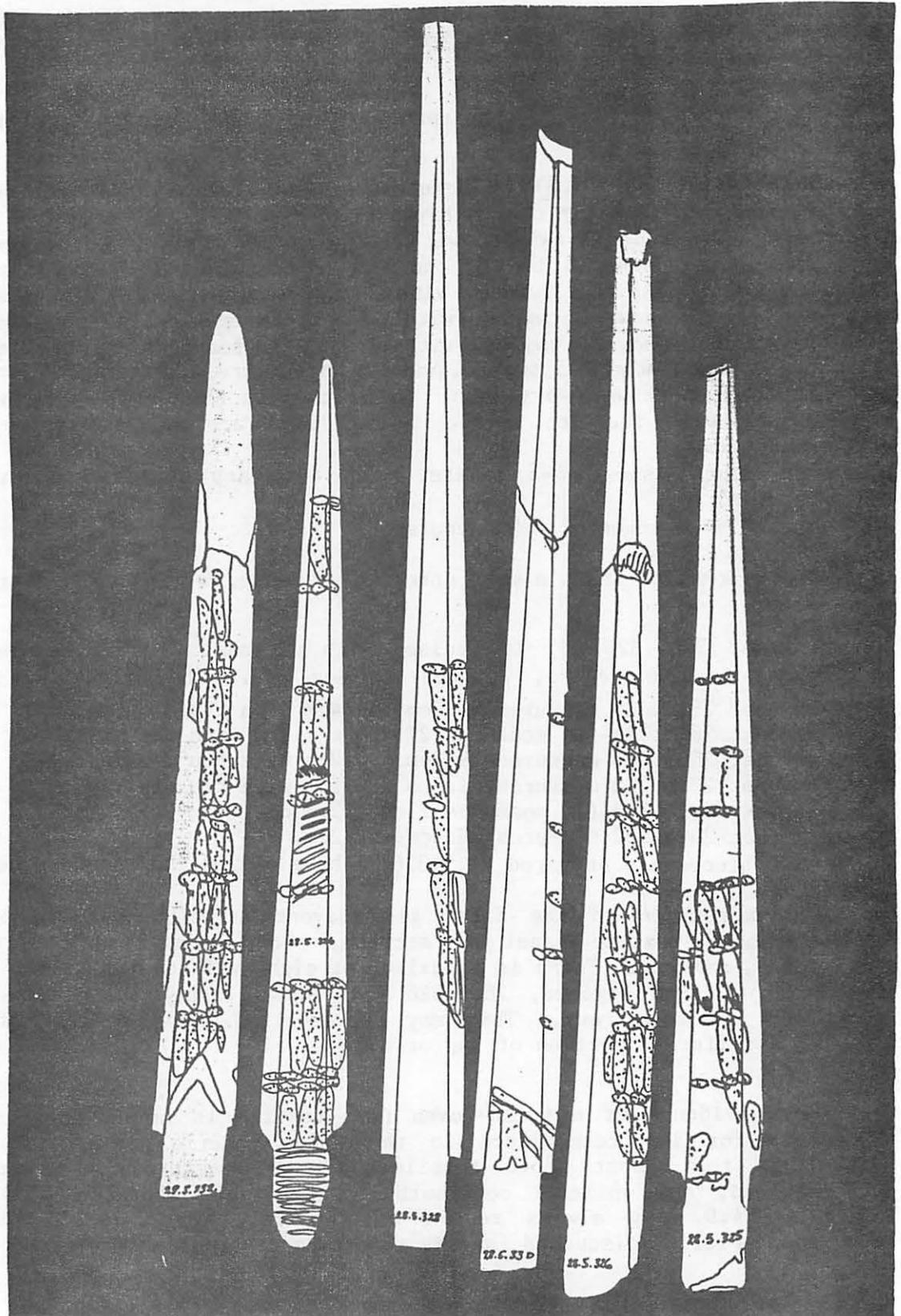
[Two pieces are numbered 28.5.326; I have called them A and B here.]

The impression on the first five bayonets, which seem to be part of the same textile panel or section, show a total warp spread of 27 reeds, maximum. There is a maximum of eight weft courses. The impression on the sixth bayonet, 28.5.326 (B), shows eight courses (two of which form a double row). This may represent the second side of the bag, or a different section of bag or mat.

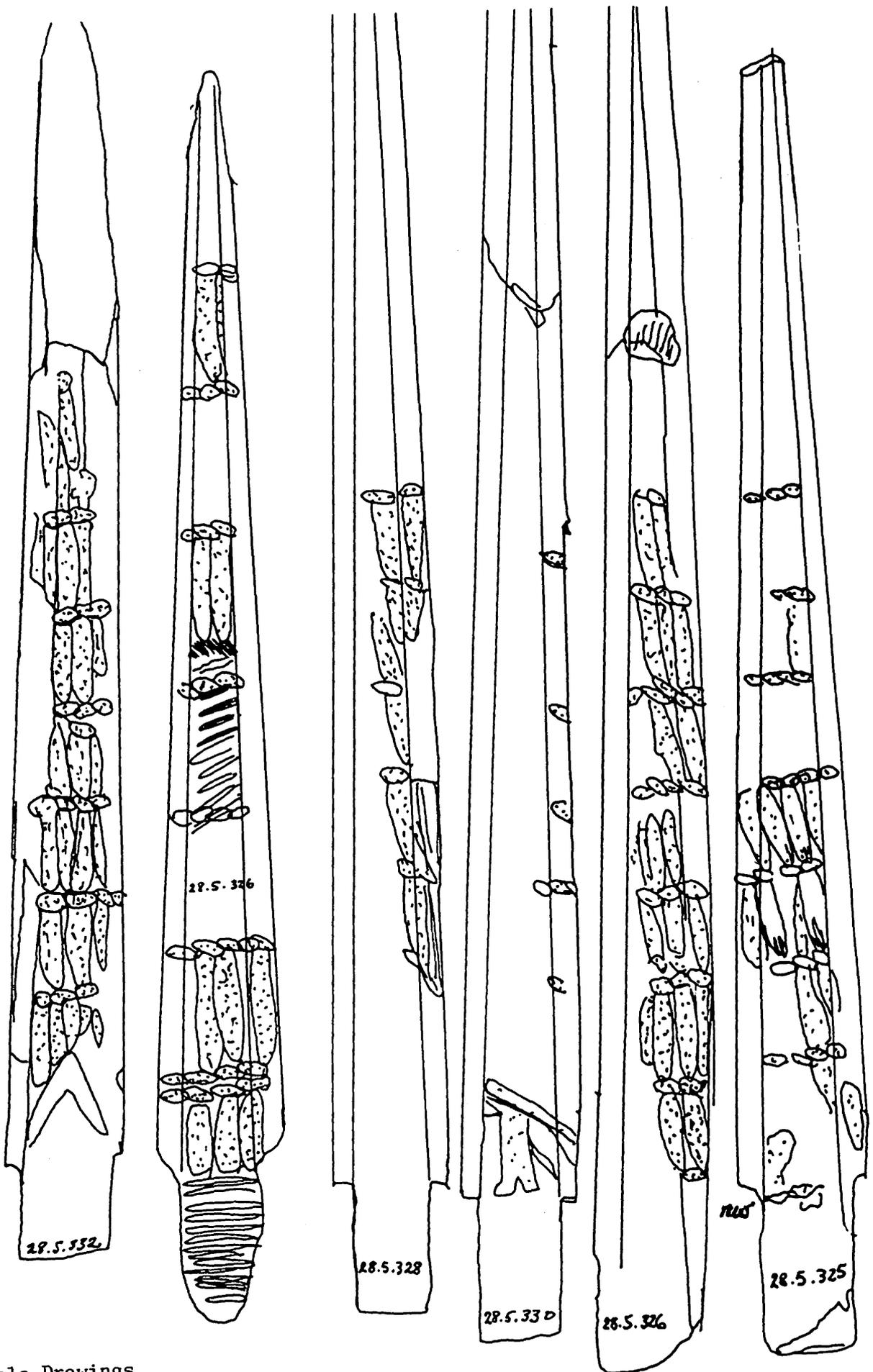
This evidence of a twine-woven reed textile is important to this study both for its resemblance to the Hopps material, and its antiquity. It is the oldest known textile from the Maritimes and northern New England, and while a continuity in population between 4000 B.P. and 1570 A.D. may always remain hypothetical, there is certainly, with the textiles discussed in this report, a continuity of basketry technique.

Maritime Archaic Textile Impressions on Six Slate Bayonets
From the Collections of the Maine State Museum, Augusta
28.5.325, 326a-b, 328, 330, 332.
Drawings by R.H. Whitehead

Reduced



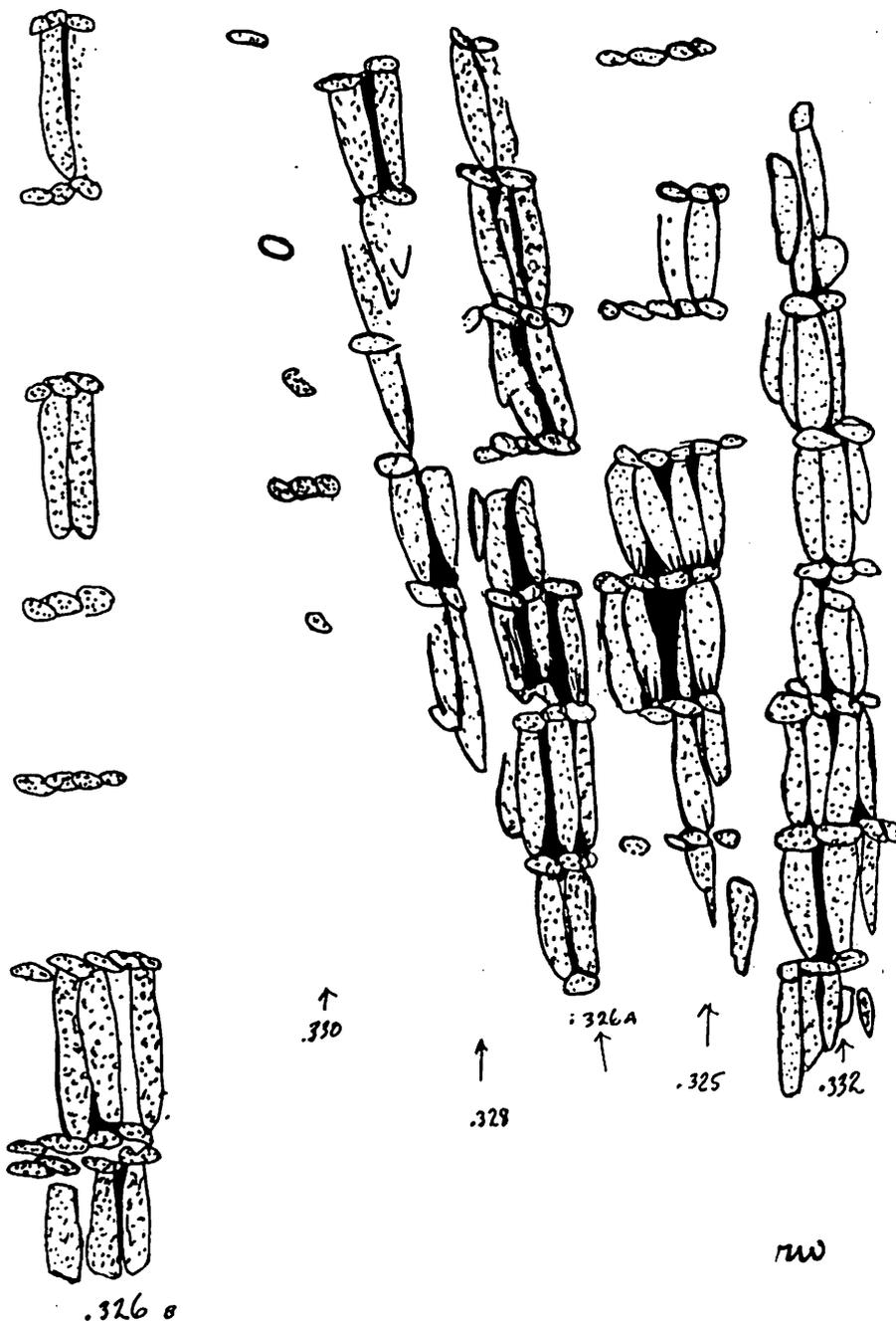
rw



Scale Drawings
Maritime Archaic Textile Impressions
On Six Slate Bayonets
Maine State Museum, Augusta
28.5.325, 326a-b, 328, 330, 332

Textile Impressions Recovered From Six Slate Bayonets
Maine State Museum Collection
28.5.325, 326a-b, 328, 330, 332
Maritime Archaic
4000 B.P.

Scale Drawings by R.H. Whitehead



Addenda to the Bibliography
For Appendix One:

Preston, Brian

1971 Field Report, 29 July 1971. Nova Scotia Museum Files.

Wilkinson, Frederick

1967 Swords and Daggers. London: Ward Lock & Co. Ltd.