MONTAGNAIS ART IN BIRCH-BARK, A CIRCUMPOLAR TRAIT

BY

FRANK G. SPECK

NEW YORK
MUSEUM OF THE AMERICAN INDIAN
HEYE FOUNDATION
1937
This series of Indian Notes and Monographs is devoted to the publication of the results of studies by members of the staff and by collaborators of the Museum of the American Indian, Heye Foundation, and is uniform with Hispanic Notes and Monographs, published by the Hispanic Society of America, with which organization this Museum is in cordial cooperation.

Museum of the American Indian
Heye Foundation
Broadway at 155th St.
New York City
Grove of canoe birches (*Betula papyrifera*) near Lake Netségɔmi (lake at one side of river) peeled by Lake St. John Montagnais family of Tsebi’c to secure bark for containers.
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EXPLANATION OF CHARACTERS USED THROUGHOUT THE TEXT

. denotes lengthening of vowel or doubling of consonant.
ôme denotes aspiration following vowel or consonant.
œ denotes mid-mixed vowel shorter than α.
α denotes open, obscure vowel, as English u in but.
w denotes whispered w, only following k.
' denotes stress accent.
c used in native words, denotes a medial palatal surd, as sh in English wish.
MONTAGNAIS ART IN BIRCH-BARK,
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INTRODUCTION

RESEARCH in the history of American Indian art has suffered unquestionably through a lack of published material by which comparisons and analyses could be made. This circumstance, however, has not prevented devotees of the history of art from constructing theories of origin and advancing systems of evolution in explanation of its mysterious forms. Dogmas, once formulated, have been presented with a finality admitting little or no reconsideration of their substance. Many of these might have been of a different complexion had they been postponed until types of art and historical data concerning them had been forthcoming from tribes and areas at the time not reported upon. To have proceeded in such a manner may have been in some cases injudicious. It was until but recently regarded as a fact beyond question that the art styles of Middle America stood in a sole category as viewed in relation to registers of design in areas beyond. Eskimo decoration was at one time thought to frame a consistent and uniform tradition throughout the
range of distribution and history of its people. When considering the history as well as the aesthetic character of decorative systems, art students need not be asked to admit that something must still be left to the imagination.

The material here offered advances several suppositions, all intended to reconstruct some phases of the history of art techniques and decorative concepts found in the cultural life of three divisions of the Algonkian peoples of eastern North America. A temporary indifference of spirit that might be affected toward the meaning of these tribal types is dispelled when the uniform character of style and technique in each of them is given full weight. Mohegan decorations, for instance, show a strong individual character. They constitute a style of treatment by themselves in spite of the fact that when analyzed into elementary design units these reveal affinities with those of the Montagnais and Algonquin whose specimens of ornamentation are before us. The outcome of comparison of these with the elements of Iroquois and Central Algonkian art-forms shows them to be not particularly different. From a prevalence of dots, bars, domes, ovals, scrolls, double curves or involutes, all with their varied combinations, we shall, it is believed, ultimately discover a connection with earlier, now almost forgotten, systems of hieratic picture-writing among the eastern tribes. Through an analysis of symbols this is apparently true for some groups and is sus-
pected for the whole of the Middle Atlantic and New England areas, if we believe the testimony of tradition.

We could be led to assume as much for the others when we estimate them all from the point of view suggested by consideration of the records in pictures handed down among the Ojibwa in the Midéwíwin ceremony and among the Delaware in the W’alam Olum. For some years the accumulated material illustrating the art of the tribes here summarized has been studied and compared, and the findings now call for appearance in printed form. Some results are offered to contribute substance, whatever it may signify in historical retrospect as concerns the northern peoples, to the study of indigenous folk-design in which specialists as well as art appreciators are becoming interested.

**ART IN BIRCH-BARK**

The utilization of the canoe birch (*Betula papyrifera*) in northern North America has been a most important factor in the economic progress of Indians from Newfoundland to Alaska. To the Montagnais-Naskapi north of the St. Lawrence from Seven Islands to the head of James Bay and north to the Height of Land, beyond which its growth is too feeble to be of much service, the outer bark of this noble tree has been the indispensable “vegetable rawhide,” as Ernest Thompson Seton has so aptly
termed it. Here it is requisitioned for use in a multitude of forms; to roof the forest wigwam, to build the canoe, and to bend and sew in the making of pails, pots, pans, dishes, spoons, boxes, trunks, and containers of every size and description.

Birch-bark plays a significant part in the historic culture of these hunting bands, not only in domestic industry but in art behavior. Yet up to the present time we have no adequate study of the birch-bark complex. Knowledge of its component traits rests almost solely upon material gathered into museums without full text explanation, and upon passages in the accounts of explorers—mute material sources bearing witness to the almost complete dependence of the natives upon the substance nature affords so generously ready-made for human utility. The manufacture of birch-bark domestic commodities must be very ancient, and the question naturally arises as to what may be said of the antiquity of its decoration. In view of the attention being given in ethnological literature to problems of industry and art techniques, as processes acting one upon the other, the following study of material and notes collected from the Indians of Lake St. John and neighboring regions has been prepared.

In most attempts to deal with the history of the arts it is usual to trace progress from simple conceptions of technique onward through the more and more complicated developments leading finally to the advanced stages of culmination viewed as such
from a consideration of technique and material. This arrangement of theoretical premises seems natural and acceptable. If such a conception be applied to the crafts of the tribes of northern North America a certain series of logical steps evolves in respect to the art industries of these tribes which it is manifestly profitable to examine. Amid the extreme simplicity of economic and social life of the Algonkian speaking groups of eastern Canada and northeastern United States it seems characteristic of their culture that the trend has not been toward invention of processes and ideas which have marked the advance of other regions more favored by an abundant supply of material and where closer contact with stimulated populations has caused inventions to arise and spread. Here, for instance, woven basketry and pottery making have never invaded the area.

Without referring in further detail to the general culture of the northeastern tribes it is proposed to present for consideration the results of prolonged study of the birch-bark industry and the collection of many such specimens of the Montagnais-Naskapi, Lake St. John Band, whose location around Lake St. John in the Province of Quebec and the southern interior of the Labrador peninsula has been described and detailed in another report. The Lake St. John Indians are typical of the inhabitants of the more favored section of the northern zone, living well within the tree limit and amidst an abundance of
fur-bearing and game animals, including not only the woodland caribou but the moose. In social and economic life the resemblances are quite strong with the more northerly bands of Naskapi and Cree, yet in their industries there is much to point to long intimacy with the Algonquin proper and the Ojibwa of the region north of the Great Lakes.

In the present work, a single branch of industry is examined, the making and ornamentation of birch-bark containers of the Montagnais of the lower St. Lawrence, in whose economic history the use of birch-bark has been indispensable and continuous since the early stages of their culture.

From collections made for the Museum of the American Indian, Heye Foundation, The American Museum of Natural History, the Field Museum of Natural History, The University Museum, University of Pennsylvania, the National Museum of Canada, and Nationalmuseet, Copenhagen, Denmark, the notes and illustrations provided through their cooperation have been arranged in the form in which they are now presented. The specimens of birch-bark household utensils and containers available for examination number by estimate several hundred; hence, coming chiefly from artisans of the Lake St. John Band, the aggregate should represent quite completely the techniques and decorative concepts of the region. In another paper awaiting publication the author has prepared material in the same branch of industry and art from a near-by and
culturally homologous group, the Algonquin of River Desert, which gives an angle of comparison for an initial step in dealing with the art history of the Algonkian speaking peoples.

The investigations now under way, however, are but the beginnings of treatment of tribal art in northeastern America. A preliminary attempt to present material available, and to outline some characteristics in the field of inquiry, was made some years ago. Later a monograph was prepared dealing with the art of the Penobscot of Maine, one of the first groups to be studied in the northeastern region. These papers should be consulted in connection with the present theme. For groups farther west, yet with the same general art complex, reference should be made to the report of Davidson on Têtes de Boule bark decoration and to the studies of Densmore in Chippewa (Ojibwa) art techniques.

Among the older authorities who invite us to consider the history of the technique is one from New England. Daniel Gookin, the first Indian Commissioner of Massachusetts, is the author of clear testimony in regard to the material and decoration of the containers of the natives of his time. “Their pails to fetch their water in, are made of birch barks, artificially doubled up. . . . Some of their baskets are made of . . . barks of trees: many of them very neat and artificial, with the portraiture of birds, beasts, fishes and flowers upon them in colours.” This appears to be the earliest reference giving
definite description of the bark receptacle in terms that we can recognize as applying to the still existing birch-bark constructions and their ornamentation. Gookin's remarks allude to observations made among the tribes of New England, and could have been strictly applicable to the Penobscot as we know their art and industry from contemporary sources. As such, his description applies to the related groups whose techniques and forms of decoration we find preserved for our consideration to the present day.

It is, accordingly, no longer upon dubious or feeble bibliographical support that our knowledge of the early bark technique rests.

The material here presented is practically an exclusive study of construction and designing of the Montagnais bands at Lake St. John and resident at Escoumains, the former being an interior group of the region about the lake of their name, the latter a band located below the mouth of the Saguenay on the north shore of the St. Lawrence. At the same time occasion has been taken to illustrate and discuss figures on some specimens of bark containers collected from the Mistassini who inhabit the environs of the lake of that name. Specimens from this group are not so common, and as they possess properties resembling those of the Lake St. John Indians, the material has been included. 8

The whole life of decoration upon birch-bark among the Montagnais owes its existence to the phenomenon of nature which produces a thin dark
substance forming a coating on the inner surface of the bark peeled from the tree late in winter or early in spring, the so-called sap or winter bark. Its designation in Montagnais is *ilnuckwi'*, meaning “Indians’ bark,” or “bark intended for man’s use.” Birch-bark is, in general, *wuckwi’*; the thin sheets not serviceable for container manufacture are *pi‘tockwi’*. Bark taken off in summer lacks the dark coating, whence it happens that containers made of summer-peeled bark must remain plain. The seasonal influences of nature upon the art industry of a group must be given due significance in theorizing on the history of the arts among uncivilized peoples. If, for instance, a custom should arise resulting in taboo against peeling bark during the season of winter, we would witness the decline of bark vessel ornamentation or else the substitution of embroidery, such as quill or moose-hair mosaic, or painting upon the surfaces of containers in place of the scratching-away process. While at present we do not know of definite instances of such a factor behind the growth of technique, the condition is quite within the realm of the possible. There is no satisfactory explanation, as yet, for the irregularities of art development in the northern area—in the appearance of moose-hair embroidery upon birch-bark boxes of the Huron⁹ and Abenaki, the porcupine- and bird-quill mosaic technique of the isolated Micmac and the centrally located Ojibwa, Ottawa, Menomini, and some of the Pottawatomi,¹⁰ the absence of surface
ornamentation among the Têtes de Boule, some groups of Ojibwa and most of the known bands of Woods Cree, and the etching technique of decoration among the Algonkian populations forming the Wabanaki group and those of the Province of Quebec and eastern and northern Ontario.

Still another association might be traced for the early development, if not the origin, of birch-bark vessel making in North America, namely, in the direction of the maple sugar industry. The Ojibwa and related groups around the Great Lakes region, and eastward among the other tribes to the Atlantic, in whose economic cycle the collection and reduction of the sap of the sugar maple forms an important early spring activity, could scarcely carry out the process of syrup boiling, sap gathering and storage without the bark vessels. The inseparability of native maple syrup manufacture and that of the birch-bark vessels has evidently not impressed itself much upon those who have dealt in detail with the former. The suggestion is, however, open for consideration from a negative as well as a positive point of approach. It happens, as regards the evolution of Montagnais birch-bark work, that the question is not directly pertinent, since the sugar maple is now so rare, or entirely absent, in their territory as to be almost unknown as a source of food supply. If, then, birch-bark buckets and other types of containers are to be regarded as inventions of maple syrup makers, the idea must have become diffused
to the northern area apart from the syrup industry itself, or, looking at the question from another angle, the Montagnais could have wandered from the sugar making zone and applied the bark vessel craft to other purposes. Yet it should be noted that Le Jeune\textsuperscript{15} refers to the Montagnais of his time, 1634, as obtaining a sweet juice in small quantity from a tree they called michtan.

While ignorance of such questions of origin will be inevitable for some time to come, we cannot overlook the consideration of allied techniques in ornamentation of surfaces, encountered in other areas of North America, which embody similar preparation by carving and designing. The reference on this point is to the decoration of painted and incised rawhide parfleches in the Plains area.\textsuperscript{16} Spier defines the areas and types of decoration of these rawhide trunks and envelopes as constituting an underlying element in the art development of Plains culture. If we assume as much for the birch-bark decoration of the forest area, the comparison and evaluation of the two provinces of art may ultimately lead us somewhere. There is much similarity in the construction as well as in the technique of decoration in both types of containers, the general form of the folded parfleche trunk, while not common or universal in the birch-bark area, being represented in envelopes of bark in some groups of the forest zone.

Aside from the principles of construction there is sufficient coincidence in the character of the raw
material, hide and birch-bark, to challenge the attention of the specialist in the evolution of industry. The absence of rawhide or parfleche containers in the area where birch-bark is used economically, and the absence of birch-bark containers in the Plains area where rawhide is used, would suggest that somewhere in the evolution of these utensils there have been common historic factors at work producing two typologies diverging from an earlier handicraft— influenced by the conditions of the plains-hunting and the forest-hunting regions respectively. It would be premature at this time to attempt treatment of the coincidental features of both crafts, but in the techniques of carving figured outlines of design and removing the outer layer of the rawhide surface to produce a design in low relief we have something resembling the positive and negative carving and etching in birch-bark decoration. There is, moreover, something identical in the geometrical designs of the northern forest tribes and those of older parfleche ornamentation on the plains which may reasonably be regarded as an old phase of design conception going back to common sources. The homology between the two techniques in question, though apparent both in processes of decoration and in patterns, yet requires more detailed description of parfleche decorative methods—the tools, the measuring, the formation of patterns—than we now have, before conclusions can be drawn. Attention is also directed to the ornamentation of the upright
posts supporting the man's back-rest in the Plains area. On many of these the bark is cut away leaving a positive design; a technique quite similar to that applied to birch-bark in the forest zone. It is sufficient to suggest at present that the scraped and painted decorations of the Plains and the scraped birch-bark decoration in the forest area are both nearer to the foundations of art in their respective districts than the forms of design in porcupine-quill and beadwork in both areas, where, in the later periods of art, these techniques of embroidery have superseded painting.

**TYPES AND CONSTRUCTION OF BIRCH-BARK CONTAINERS**

Three major and two minor constructional forms of bark containers, and the lines of the patterns from which they are cut, are recognized as types by the Lake St. John Indians. These are denoted by Roman numerals, and are given their native designations both in the Lake St. John and the Mistassini dialects, abbreviations LSJ and M being used respectively.

**TYPE I.** *Bustč'la'gən* (LSJ); *bustcia'gən* (M): “container,” “to put things in.” Generally referred to as the birch-bark basket in literature, though it seems hardly proper to classify the birch-bark craft as basketry. It is the most completely finished and most widely uniform of the types made by the forest
tribes ranging from the Atlantic coast of Canada to the Yukon. In the eastern woodland area it is often ornamented with etched designs. The majority of those made by the Lake St. John Indians invariably have both sides, the cover, and often the ends well filled with figures. The designs on both sides may be alike or different as appears in the plates. Frequently they possess lids fitted by a collar and attached by a line of leather to the side or to the thong by which they are supported when carried or hung up.

They range in size from those holding but a few buttons or trinkets (two inches in height) to the large trunks for clothes—and, in rare cases, for food—capable of holding almost half a bushel (two feet in length and one foot in height). The latter receive the special designation *mi'ctəbustc'la'gən* (LSJ): "big container." Pls. xv, xvi, xvii.

The most usual dimensions are 12 to 14 by 10 to 12 inches, and the principal form characteristic is that the bottom is rectangular with the sides tapering inward, making the top opening smaller than the base of the vessel. The Lake St. John forms do not show such high tapering sides as do those of some bands in Ontario.

It may be noted that not all of the bands of the Labrador peninsula use these bark vessels, for none have been obtained from the populations east of Seven Islands and Moisie river, on the Gulf of St. Lawrence coast, or north of Lake Nichikun, which
can be regarded as of authentic or habitual manufacture among them.

A variety of this type of container is the simpler article intended for the reception and storage of bear or caribou grease, berries, meat or other foods, the function of which differs from that of TYPE I intended for personal effects only. This variety is called *mi·gwənə'gwi·* (LSJ), denoting a food container without a cover (pl. xviii, d). In this container the rim hoop is lacking and the mouth space is narrowed by bringing the edges of the two long sides almost together, so that the opening may be closed by a fastening thong tied to each side, or by a simple section or flap of bark laid inside over the contents beneath the tie-strings.

The probability of this type of container being the technical predecessor of the *bustə'la'gən* has already been commented upon. Its simpler construction points to this position, while its lack of usual decoration and a much wider distribution throughout the snowshoe-hunting area of the continent supports such an assumption from the theoretical angle.

**TYPE II.** *Məkʷəce'wi·la'gən* (LSJ); *məgʷəce'wi·yəgən* (M): “feast dish or pan”; occasionally, when smaller and lower in height and used as a family or individual food tray, denoted as *wuckwi'·wi·lagən* (LSJ): “bark dish.”

Of special significance is the term *nuwi·la'gən* (*nula'gən*) LSJ; *nuwi·ya'gən* (*nuya'gən*) M: “my dish,” applied to this form of meat dish or basin.
In the words of the natives this is the spiritual way of referring to the food dish, implying that it is regarded as a ceremonial utensil whose use is connected with the prayer processes involved in securing and consuming food supplied through spiritual agencies. The decorations on such articles are usually made by command of the successful hunter who compensates his spiritual helpers by honoring them with representations of their forms upon the sides of his bark containers. So we find that the figure of a beaver or a fish appears upon the meat dish of one who, in response to prayer or revelation, has obtained the creature for his larder. The so-called floral figures also perform the same devotional function. The subject of spiritual symbolism in the Labradororean area has been dealt with in another study to which the reader is referred. 17

It should be noted in this connection, also, that the bark dish is occasionally given as a spiritual souvenir by an aunt, a mother, or a godmother to a girl to bring her the blessings of health and long life. In one such case, a specimen from the Escoumains Band of the lower St. Lawrence, 18 the inner bottom of the dish bears an inscription in Montagnais, written in ink or pencil, mentioning the names of the giver and receiver with a few words of benediction suggestive of Catholic influence. The occurrence of votive inscriptions in the bottoms of bowls will undoubtedly appeal to the student of human institutions as a case to be weighed out with
a view to determining its validity as one of diffusion
or independent development. Inscribed bowls, to
cite one instance, are characteristic of the Semitic
peoples of southwestern Asia. The distance be­tween the two areas of occurrence would seem to be
insurmountable were it not for the obvious links
forged through Byzantine and Roman Catholic in­stitutions having their termini in the two areas
under consideration for this particular feature.

For those who are interested in details, the inscrip­tion is given together with its translation:

etctohwa'gont pi'com kamillt' ume'lu uckwi-la'gon
nitikuna'ucin P'ilameni's. muk tce'tci. tce's'i-tuk
ume'luets' mi'cini'tcets' tce'cpit's pi'kupila'mwa'ne.
ume' kamill'kuyan' e'cpits' kalapua'tci: mi'na'stagan
ni'kami'na'ctan. tceletla'kuts' kami'lagan e'tit'.

TRANSLATION: On a certain day of the month I
have given this nice bark dish to my god-child,
Filamen [Philemon], for you to think of me in
remembrance kindly, of me who writes this, until
the time when it wears out. This is what I have
given to cherish as long a time as possible for house­keeping, like a thing you take care of lest it break.
It belongs to you to save, the same as she who gave it.

The first word of the above text refers to a date
which should be there, but which is lacking in the
inscription. Its author evidently did not know the
date of the event. The Montagnais, when in
the bush, keep an account of the days by making pin
holes in a little book furnished by the priests
(tci·te'k'hi·gən: "pin-book"), and if they have missed marking a day, the count is lost.

In size the dishes or pans vary from those having a diameter of three or four inches to those fourteen inches across the top. In the case of the deeper basins of this form, the depth may be from nine to twelve inches (pls. xvi, n; xix; xx, c, e).

The bark pans or dishes, like other container constructions, are usually formed by making four triangular cuts at the corners of the sheet of bark resulting in a somewhat rectangular basin. The pattern in pl. I, f shows this. There is, however, a modification of the common form in which the triangular cuts number eight, which when turned up and sewn produce a basin or pail more rounded in its flat plane, like a straight sided, flaring top bowl. The pattern for this construction is given in pl. I, g, and specimens are shown in pls. xix, a, b; xx, a. Bearing the designation of meat pails, these forms are somewhat distinctive in character for the Montagnais, it would seem, and are built up from the idea present in the pattern of the trays and pails shown in pl. I, f.

**TYPE III.** Buste'lagən kawa'wi·wi·yats (LSJ): “round containers.” This is the cylindrical, sometimes oval box of bark with either rounded or oval fitted top and bottom (pl. xx, b, d). The bottoms in specimens from this area are never of wood, but of a section of bark sewn in the orifice. They frequently have fitted covers. These are property
containers, not being used to hold food. They furnish a tempting surface area for art expression and, hence, are invariably ornamented. Sometimes nests of six are made of graduated sizes to fit one inside the other. The round or oval box does not seem to have such a wide distribution to the north and west as the others, hence the question of its range and development is pertinent.\textsuperscript{20}

Made in the same form as the preceding but smaller in size, sufficient in capacity to contain the beaver "scent" or castoreum\textsuperscript{21} carried on trapping excursions by the hunter, and also made into match boxes, the small cylindrical oval or round-bottomed box is of common occurrence. The attachment at the side is either by spruce root sewing or by the morticed lock fastening. The bottom is invariably made of a section of wood held in place with tacks or wooden pegs. The mouth is closed by a wooden plug having a toggle button, and sometimes a leather thong, for its attachment by suspension to the hunter's belt (pl. xxI, \textit{Group A}).

The scent boxes are termed \textit{wi·cənau'mi·uc} (LSJ); \textit{wi·cənau'mi·ut} (M): "scent holder," and are ordinarily four or five inches in length with a diameter of an inch or an inch and a half. They are not decorated. The size employed for matches depends upon the kinds of matches used, ranging about a three inch dimension. These are more frequently ornamented with scratched designs. The match
box is called by a translation of its name into Montagnais, *tci’mənmì:uc* (LSJ); *tci’mənmì:ut* (M).

**TYPE IV.** *Tci’pkwela’gan* (LSJ): "folded dish." The principle underlying the construction of this form is that the bark is folded, not cut. The section of bark from which it is made is rectangular, the four corners being bent into a V shape by double folding which brings the four sides up to form the walls. The opposite narrow ends are then held fast and the folds locked by sewing them with spruce roots, or by fastening with wooden skewers. It is made on the principle of the modern cardboard oyster container. Here also is evident a simple, hence early, method of construction. The folded containers are seldom decorated in any way; their use is limited to the storage of food, grease, and berries, or, as pans or buckets for culinary purposes, we find them serving, when more efficient articles are not to be had, for boiling food. Vessels of this type are made hastily and discarded, since they are not durable, and do not figure as permanent domestic property. They are often constructed of the outer bark of the tree, another indication of their primitive character. They never show covers (pls. xviii, f; xx, j).

The pattern for the manufacture of the folded vessel is shown in pl. 1, d. It might be added, as something worth noting, that although widespread among the Wabanaki and Montagnais-Naskapi divi-
sions, the containers show no variation whatever in shape or construction.

**Type v.** The simplest type of birch-bark container is the single-folded length of bark sewn across two perpendicular sides. It is called *cikwu'nmì·ut* (LSJ): “comb case.” As its name implies it is a receptacle for the hair comb, though sometimes cards or other flat objects are kept in them. The sewing may be with spruce roots, babiche, or thread. Decorations are usually seen on the better ones. They also frequently have attached to one end the dried tail of a porcupine which serves as a cleaner for the comb (pls. xx, f, g; xxI, *Group B*).

The cut out patterns made for the construction of Montagnais containers of the different types shown in pl. i, bear the designation *wulckwe'mcigon* (LSJ); *wi·y9ckwe'mckhi·g0n* (M).

The high-ended dishes which are characteristic of Mistassini construction are made by a pattern of different proportions from that of the Montagnais, as is shown in pl. i, c. The Mistassini dishes of this exceptional form (pl. xx, c) are called *te'ti'pwi·yagòn*: “curved end dish.” The high ends are likened to the dashboard of the toboggan, as the name implies.

**MATERIALS OF CONSTRUCTION AND PREPARATION**

The Lake St. John people employ no other material than birch-bark for their containers. The sewing is done only with spruce roots, split and
divided and used in natural colors which vary in shade according to the length of time they have been allowed to soak in water where they acquire a certain extent of coloration from the vegetable stains present. Deliberate dyeing of the roots for sewing is not practised in the area, except in specimens secured from the band at Escoumains, and in two or three from Lake St. John. One specimen from Lake St. John had a rim wrapping of soft, shredded bark, basswood or cedar, suggesting the habit of the Algonquin and Ojibwa. Hoops of maple are invariably present on the larger and more durable specimens.

There are no indications whatever to show the practice of decorating the rims or sides of containers with porcupine-quills, although it has been occasionally mentioned by travelers in the general region of the Gulf of St. Lawrence, as occurring, woven or imbricated, in the root wrapping of the upper edge. Several specimens from the Escoumains Band showed red- or purple-dyed lengths of grass in this position which may point to an earlier use of quills.

The reinforcement of the rim of bark vessels by sewing a strip of bark beneath the hoop, as observed in the work of the Algonquin, Ojibwa, and Athapaskan, does not occur in the handicraft of the Montagnais—one specimen only, to the author’s knowledge, being the exception.

A word or two is called for regarding the tools used by the Montagnais in making articles of bark. Be-
sides the axe, wooden wedges and knives employed in removing the bark from the tree, there are the special tools required for the cutting and trimming of the sheets of bark to be made into containers. Chief among these is the crooked knife with iron blade and curved wooden handle, the *sine qua non* of all handwork of the northern forest tribes. These utensils are, however, made of materials obtained from the traders. This does not mean that a sharp edged chipped stone implement will not do the same work, for the author has seen it demonstrated dexterously as a practical operation. The Indians still adhere frequently to the use of a bone perforator for making the holes through which the spruce roots are run, in the sewing process, for binding on the hoops and making the stitch perforations at the sides of the vessels. The bone perforators are occasionally decorated with notches and incisions made with a file (fig. 1).

**FIG. 1.** Perforator made from moose bone (LSJ).

**DECORATION OF BIRCH-BARK CONTAINERS**

Familiarity with the cutting of birch-bark sheets into constructional pattern outlines would breed in the native mind the ingenuity required to create
such an invention as the decorative cut-out pattern proves to be. Both patterns are functionally parts of a single process, producing not only the domestic utensils themselves, but the means of their beautification. This is an intrinsic reason for associating the designing faculty with manufacture, both together being entirely possible as achievements of even very crude native culture. To illustrate the

FIG. 2. Cut-out pattern for cover of bark container (LSJ).

point, take for instance the rejected ends of the rectangular sheet of bark from which patterns shown in pl. I, a, b, are cut clear.

The level base and symmetrically curved outlines of these ends have the general form of the symmetrical double-curve cut-out bark patterns—often a far cry from the simple originals—observed in parts of the ornamentations on baskets and containers shown in pls. II, a-k, o, q, x—cc; III, g—l; VII, d; IX, h, j, k, l; and in figs. 2, 3, but especially those in
While the cut off ends are, to be sure, waste material, the trimmings and discards, as they lie about the ground in camp where bark vessels are being constructed nevertheless appeal to the eyes of the children who habitually gather them for playthings and hoard them as pretty treasures until the curious figures become familiar images in their juvenile consciousness.

The two sources, then, from which the design figures arise in the experience of the younger female children are to be traced to the play motive of bitten patterns and to the outlines of varied form in cut-out patterns of bark work in general. The child who plays with these figures soon becomes the adult artisan who makes out of them things of use and beauty in the literal sense of the term. Both aspects of the purposes of craftsmanship evolve out of famil-
iarity with the same material. We do not need to repeat mention of the constant reliance of the Indians of the northern forests upon the rind of the indispensable birch tree for the materials of their native industries. Aside from the precepts of sheer theory, observation of the details of daily habit and pastime among living groups are worth a great deal when they illustrate the problems we seek to solve. Hence it must mean something to have witnessed even the trivial incident of a child playing near its mother in camp, surrounded with a litter of bark and root scraps, going about its play with a handful of these scraps mingled with bark play-figures of leaves, animals, and what not, all equally fantastic and mysterious to the eyes of their tiny possessor. Indeed, a collection of cut-out playthings taken from a camp of Indians in the bush would include in its miscellany as great a number of scrap rejects as of actual figures.

But these are not ordinarily collected in making up material for exhibit in our museums, and so, unless the circumstances are recorded in notes and given due significance, the association between play and deliberate purpose remains obscure in the development of theory. It is not so obscure, however, to the field observer of experience, and this consideration must have a bearing upon the question as to whether or not the decoration of birch-bark vessels and containers among the forest tribes of the north could have had its development inde-
pendently of the influences brought to bear upon native life in the hunting camps by the urbanly organized early French colonists.

With his own background of observation and experience in mind, the author is inclined to agree with Barbeau concerning the influences of early French decoration on the artistic endeavors of the northern Indians, but he is not as yet convinced that these same aesthetic tendencies, or that all the designs produced, are derived from alien influences subsequent to the coming of Europeans—particularly in view of the cited references to figures of leaves and plants in the periods of first contact.

There are two recognized methods by which figures may be produced upon the dark surface of the bark.

A. Designs are made by laying the cut-out design pattern upon the surface to be decorated and scraping away the surrounding area of dark substance, leaving the design to stand out dark against a light background. These are designated positive designs, suggestive of the terminology of photography, since it is the background that has been acted upon in the production of the image; the background light, the figure dark.

Montagnais birch-bark decoration is almost exclusively the effect of this process. The name it bears is mi'cini'kwuta'gon (LSJ): “design cut out” or “engraving”; and also micina't'hi'gon: “marked by scraping away,” a more suitable term.
b. Designs are made by scraping them into the dark coating of the bark, as one would do in carving. The figure produced is then shown in lighter colored lines or spaces amid a dark, untouched background. These are designated as designs in the negative.

The Montagnais, however, consistently avoid using this method of figuration. When questioned, the only reason given is that it is not satisfactory for their purpose. Contemporary art tradition has ordained the method of procedure, and it will remain for speculation to assign a reason for it. Perhaps theirs is a more advanced art technique. There are no separate designations for the two processes in Montagnais.

In half a dozen examples, however, the Montagnais artisan has chosen to combine the two processes, making the principal figure of the decoration by the positive method, and establishing another figure within the first by scraping away the inner area to form an enclosed outline figure inside the negative design. Illustrations of these specimens are shown in pls. xv, c; xvi, a, k; xvii, g, h, l, and the designs are reproduced in pl. viii. The Montagnais artist when asked for native names indicates this process by defining the marking or scraping as being done inside or outside the design.

It need hardly be pointed out that the two techniques correspond to the processes of carving. Method A is equivalent to carving in high relief, while method B corresponds to low relief.
In subsequent study of decorative techniques in the area of birch-bark ornamentation, it will be found important to determine the prevalent notion of workmanship in this respect. The two methods undoubtedly have good reasons for their existence as preferred systems in the tribes where they occur, and it would seem that there might be some principle of stratification in their relative history and distribution. So far as observation of museum material, combined with field inquiry, permits a general statement to be made, it would seem that the negative process holds sway in the northwest among the Athapaskan groups, while in the Quebec area the Algonquin divisions have developed the positive method, some of them practising both in designing their bark objects—as observed in some regions of Ojibwa and Saulteaux occupation. Others, like the Montagnais, follow the positive method except for the rare cases of the mixed technique just noted, while still others in the Wabanaki region south of the St. Lawrence carve their bark decorations exclusively in the negative, the Penobscot and Micmac showing typical examples.

Reverting to the facts at hand we observe the Montagnais preparing their winter bark for decorative treatment by moistening the dark surface, sometimes swabbing it with a wash of boiled willow bark so that the coating will be softened and more easily scraped away with the knife blade. The term *kacka'c'higon*: “scraped off,” is usual in the Lake
MONTAGNAIS BIRCH-BARK

St. John vernacular applied to the process; but a more exact designation for the act of producing designs by scraping is *i·tc'na't'hi·gonu*. To define the design-producing art another phrase should be included in the native terminology, *ma'ta'u mici-na't'hi·gon*: “design or figure marking by scraping.”

BITTEN PATTERNS

The custom of producing ornamental figures by biting impressions into folded sections of thin filaments of birch-bark prevails in an unbroken distribution throughout the region inhabited by the hunting tribes of the birch-bark area of northeastern America. It is recorded for the Ojibwa as early as 1860 by Kohl, by Densmore, and discussed as a possible source of origin of Algonkian designs by Spier.

The most pertinent and perhaps one of the earliest references to bitten bark patterns in the area under consideration appears in a letter from Rev. P. Thierry Bechefer to M. Cabart de Villermont, indicating, among a list of objects sent to the latter, “pieces of bark on which figures have been marked by the teeth.” Much significance is likewise to be given to the mention of bitten designs among the Beothuk by Howley from information he secured first hand in 1866 from an old woman who personally knew Shanawdithit, or Nancy, the last living Beothuk survivor. Quoting his informant, Howley says: “She would take a piece of birch bark, double it up
and bite with her teeth into a variety of figures of animals or other designs, i.e. to say when the bark was again unfolded, the impression thereon would be such." Howley adds in passing that he had seen a Micmac Indian perform the same feat: "He would select a piece of thin clear inside bark, which was soft and pliable, then fold it several times tightly. By some peculiar way of manipulating his teeth, he would leave their impress in the bark, upon unfolding which the figures were distinctly recognizable." 30 And again, referring to Shanawdithit: "She would take a piece of birch bark fold it up, and with her teeth bite out various designs representing leaves, flowers, etc." 31 The italics are the present author’s.

That we have here unquestionable evidence of the aboriginality of bark-pattern-biting, even of such designs as leaves and flowers, as well as animals, in the northeastern area, is clear. The Beothuk woman, Shanawdithit, during her few short years of life with white people—she was captured in 1823 and died in 1829—represented the one link of friendly communication between Europeans and her culturally uncontaminated tribe. She is the same who drew the birch-bark utensils featured in the Howley volume, but which, perhaps because they were drawn small, are undecorated in the illustrations. The isolation of the Beothuk, even from contact with other tribes, helps the argument for the probable antiquity of the trait.
The process is known to the Montagnais as *mici'ni·kat'we'win* (LSJ): "design biting." The custom forms an art pastime among all the tribes whose art activities have been described. It is not a strikingly prominent native performance from the point of view of the casual investigator, but rather one of those unformulated traits of ethnology of the families of Indians in this region, who pass most of their life in the bush, where few other diversions are to be found. Around the camp fire or stove, amidst the litter of refuse where birch-bark fragments occur, the children and women may be observed deriving mild entertainment from their skill with the teeth. It is distinctly a feminine avocation, and an art in which old women, who have but a single incisor or canine fang left from nature's dental equipment, excel.

Thin, transparent sheets of bark are folded once or twice on perpendicular planes and compressed between the opposing tooth crowns, the bark being turned according to fancy while the biting progresses until a figure is thought to be complete. The sheet, taken from the mouth, opened and, held up to the light, exhibits the wonderful creations of blind skill to the expectant and delighted eyes of the crowding audience. The performers are usually bashful and, with the customary modesty of the talented, deny any ability to continue. Next, the children try to imitate the more accomplished performances, and before the little party tires of the art, a hundred of the amazing transparencies may have been produced.
Most of them will be lost before many hours, but some find their way into the treasure-troves of little maids who will try to copy them later in the hope of acquiring the control that some of the more talented matrons possess. Some of the transparencies are indeed intricate; mazes of dotted curves, scrolls, lines in diamonds, triangles, even human and animal forms. There are some at Lake St. John who can produce bitten impressions of hunters with snowshoes, paddles, canoes, tents, as well as groups of foliage, shrubs and trees, in fact anything within the bounds of imagination. Here is the school of universal art in the bush. The pupils are all enthusiastic, none is indifferent, the teachers are loved and admired aunts and grandmothers whose eyes twinkle with merriment as they turn and bite the sheets of bark paper soon to be opened up to disclose new and unheard of marvels of invention.

In the history of art anyone who discounts the importance of so trivial a source of culture influence is, to the author’s mind, a gallery theorist who sadly needs to live with his people about their hearths. One with bolder courage might even go so far as to link design by biting with the origin of floral decoration in native art of the northeast, and call it the initiation of the design evolution which has resulted in the phytomorphic art decorations at times so curtly dismissed as European imitations.

There is a certain subjective belief in the minds of the Montagnais women in regard to the creation
of bitten transparencies. As one woman said, it is not only hand and eye that creates designs, but the hand and teeth as well. The soul-spirit, it is added in explanation, is the source of talent or ability which enables the individual to produce conceptions of beauty by either means. A more liberal translation of the terms by which these ideas are expressed in the language would be that they are accomplished by the inner man and executed by the tactile organs of the body. It seems, in short, to constitute a real creative art impulse and technique. And of striking importance is the truth that no dimensional limitations exist; straight lines, curves, leaves, flowers, compositions of endless variety all flow naturally and freely from the process. Again, why does not some investigator of the subject ask that we look inward in native culture for plausible sources of invention of design rather than outward across the chasm that separates them from the strange cultures of Europe?

We come now to consider the connection existing between the bitten patterns and the decorative processes in vogue among the people as we know them. It is probable, from various sources of testimony, that at some time in the course of design history in the north the figures produced by biting impressions in the birch-bark tissue have had association with practical art representations in the making of bark vessels. This is not the procedure, however, within the span of recollection among the Montagnais, for,
as we shall see, the actual designs in prevalent use are worked out by means of the cut-out patterns. The bitten representations are, nevertheless, regarded as experimental and source-stages in the progress of decoration; they are looked upon as exercises in art expression and as suggestions which, when tested and approved, are to be worked into cut-out patterns.

None of the bark decorators questioned seems to rely upon the bitten outlines for their major patterns. All know the method and are skilled in biting out figures, but they indulge in this procedure chiefly as a pastime and to discover what chance, or, perhaps, better, what the blind outlets of inspiration may disclose to them. Whether the connection between the biting technique and bark container decoration is early or late we do not know definitely. While the connection is vague, it would be no more so than that between the sketch book and the finished picture or sculpture of the modern artist which embodies the results of quantities of experiments in outline and composition. So while the biting of outlines forms a branch of art expression in itself, the practice is understood to belong somewhere in the series that ultimately ends in the finished ornamentations upon the surfaces of bark utensils. Indeed, if the bitten patterns did no more than to develop the repertoire of the artist they would constitute a phase of the art discipline of these tribes.
One could divine a connection between free-hand sketching, by the negative or scraping-in process, and the bitten patterns, as standing in contrast with the cut-out patterns and the positive or scraping-away process. Upon arguments of technical evolution from simple processes to more mechanical ones, the latter would be the advanced stage, in which Montagnais art finds its place.

**CUT-OUT PATTERNS**

Design markers cut out of sheets of birch-bark are the patterns directly applied in the decoration of birch-bark receptacles (pls. VI; VII, e; IX, h, j, k, l; figs. 2, 3). Except for the free-hand incised (negative) designing, most surface ornamentation among the Montagnais is accomplished by these patterns with the scraped-away (positive) technique. The cut-out patterns are called **wuckwi·wola's·e·gan** (LSJ): "birch bark cut out." The strip of bark chosen is thin enough to bend over once, or twice, in some instances, so that when the free margins have been cut into an outline they are opened out horizontally to form a doubled and symmetrical figure. This is the predominant method in vogue among the Montagnais. In a few cases the pattern may be folded twice on perpendicular planes, which, when cut on one edge and opened out, produce a quadrupled figure. The single outline figure in stiffer bark is also used by some workers (pl. XII, a, b) who then
repeat the figure by turning the pattern right or left, or up or down to double the design in those directions. The subject of design building by these methods of composition is treated later. Procedure varies somewhat according to the preference and stylicism of individuals.

In using the patterns, the cut-out is laid upon the surface to be decorated, the themes being selected according to the space to be filled and the sense of fitness of the design for the vessel to be decorated. The outline of the pattern is then traced by a thin line with the point of a knife. The surface of the dark bark coating, having been moistened to soften it, is next scraped away with the knife down to the light under surface of the bark, leaving the figure of the pattern transferred directly upon the side of the vessel—a process known to the art world as sgraffito. This is the method for the single pattern. If the design is to be doubled from a simple cut-out pattern, the outline is scraped in and the pattern turned, as observed previously, upon the bottom axis, up or down, right or left, to make symmetrical, opposed figures, or, carrying the duplication farther, is oriented in fourfold to fill larger, squarish spaces. The quadrupled figures are more suitable for the cover decorations of the containers, and may be seen in the illustrations.

These cut-out figures are now to be discussed from the detailed notes recorded by the author through many visits among the Montagnais, and
from observation of their birch-bark industry over a period of years.

THE SCOPE OF DESIGN MOTIVATION

The overwhelming majority of Montagnais bark containers bear ornamental figures upon their surfaces. Utensils embellished for the sake of beauty, which, of course, with these people has religious significance as well, are designated as *wewecta'u* (LSJ). The term denotes being “dressed up,” an equivalent to our conception of the terms “art” or “decoration.” The Mistassini also employ the term *acpugwa'deo*: “flowered,” which applies to the general decorative work of both people similarly, in view of the conception they entertain that the ornamental figures are so predominantly plant characters—phytoglyphs.

Let us now consider the pattern elements and their composition through various stages of complexity from simple lines and band ornaments to the elaborate curves and intricate clusters of elements which are built up in some figured groups into designs having the appearance of complete trees and plants. No matter what form may be suggested to the European mind by the outlines of symmetrical curves, the Montagnais have the one general classification for all, plant growths. Whatever the original symbolism may have been, if it was ever any different from that of the historic period, the caption
of plant and tree nomenclature has supervened and become, in historic times, the tradition of symbolic interpretation.

In the formation of designs some regard is shown for the natural setting of plant life and for the relationship of its parts. We have, for instance, in the base or pedestal of the upright branched figures the representation of the ground from which vegetation grows. The vertical line in the center of the design represents the trunk or main stem of the growth, to which the branches and leaves, and often the fruit are added—always symmetrically. The trees or plants are occasionally shown in groups of varying size and outline. In such instances they represent the forest. On one specimen illustrated, an ornamental border near the top symbolizes the display of the firmament, pl. xvii, c.

The varying degrees of completeness in the representation of features of the natural landscape are shown in the series of drawings. In only a few cases do the Montagnais apply specific names to the types of vegetation outlined. We find certain figures designated as “spruce” or “fir,” while occasionally a specific identity may be given some plant pattern, but only, as far as the author has found, by the maker of the pattern. Another woman upon seeing the figure will give it the general identification of plant life, saying that she does not know what the designer had in mind. Individual play of fancy is ever present.
From the simple to the complex patterns the range is wide. The latter are constructed by building up the whole figure through the combination of simple patterns on opposite sides of a center which is either imaginary or marked by a line or base. Ovals, as leaves or stems, are placed here and there in symmetrical balance, until the space to be decorated is filled to the approved taste of the artist; and, then, if the question arises, the whole thing is dismissed with an interpretation of its being a portrayal of a natural scene with vegetation. The details are suggestive, not defined. Some of the workers who have been questioned as to the specific interpretation of the figures appeared perplexed for a moment how to answer. They were not working, evidently, with a definite realistic pattern in view. To them the composition seemed a figure of beauty, not a technical drawing. The impression conveyed by such compositions is that of the familiar horizon, the earth, the forest with, perhaps, a few details attempted, the sky, and frequently some random attempts to outline animals in the general scope.

The indivisible elements, or integrals, forming those out of which the doubled and the complex figures are composed, are shown in pls. x; xi, a–p. Among them we recognize some that are so simple as to be of native origin almost anywhere in the world, and some which can be seen at once to be derived from European figures, for instance the *fleur-de-lis* and the heart, not to mention those whose
beginnings appear to have been inspired by the ubiquitous playing-card.

Figures of doubled or quadrupled symmetrical formation are shown in pl. xii, and the details of building up these patterns by laying together and turning the simple elements have been previously treated. The most advanced achievements of Montagnais designers in birch-bark decoration are illustrated in such a full range series that little remains to be said explanatory of them.

The author was struck by the much greater frequency of animal representations among the bark-working groups to the westward—the Ojibwa at
Lake Timagami and the Algonquin of Timiskaming—than among the Montagnais. The bird figure is as frequently seen in the Montagnais bark work as any other life figure. In their pictography this figure is the partridge. Aside from the representation of the partridge, the loon comes in for attention in one specimen (pl. xx, f), and the other animals of the chase, the moose, the bear, the beaver, and, in one instance, the salmon, are reproduced in pls. vii, i; xi, q–x.

The percentage of animal reproductions is, however, low among the Montagnais despite it being part of their religious ritual to place the image of the animal upon the bark dish in which the meat is served. Through this custom the blessings of dream revelations are acknowledged, and the spirit is compensated for the animal having given its body to the hunter. The influence of the priests to suppress native votive practices may be accountable for the decline in animal representation on dishes and containers made in recent generations, and for the corresponding stimulation of the more "innocent" plant and nature motives in the growth of art tendencies among the women through this period. As touching this point, it may be observed that the Mistassini, more remote from interference by the clergy, retain with more lively spirit the tradition of votive animal representation.

As regards the use of the human outline in decoration, it should be noted that so far only one specimen
has been observed in the Montagnais collections bearing a motive of this type (pl. xi, y). The figure in question portrays two women holding hands engaged in a dance around a table. This parallels Algonkian art in several other areas. The Montagnais, so far as questioning has disclosed, apparently have no specific or general code of reasoning to account for the avoidance of human figures in their decorations.

An insight is gained into the conceptualization of the animal figures as likenesses of spiritual entities in the native mind through an analysis of the terms by which these images are denoted. The final element, -k·an denotes the spiritual form of a living creature, and designates "likeness, form, image" with the idea that it constitutes a part of the living original. When affixed to the term denoting human being, it signifies "a sculpture, a statue," or, as was explained, "the visible spiritual form of a being." Thus, pale'cik·an (LSJ), pi·e'cik·an (M) is "likeness of a partridge," name'ck·an (LSJ, M): "form or likeness of a fish," and so on. They are virtually zoöglyphs possessing animistic qualities.

**Pattern Elements and Their Composition**

We now come to consider a few particulars relating to the elementary form-patterns. The category of figures which may be regarded as elements appears to be small in view of the wide variation displayed in the finished compositions. Of the latter there seem
to be scarcely any duplications. Yet from such simple fundamentals as oblongs, triangles, ellipses, and single-curved bars are built up a galaxy of forms. It will be shown in a paragraph or two following, how the Montagnais artist constructs the figures of varied complexity using the fundamental outlines just mentioned as basic material.

A word or two, however, seems called for to explain the absence of other elements that strike the vision as so characteristic of the designs of the northern bands of the so-called true Naskapi, whose medium of expression lies in painting on caribou skin instead of in carving the surface of birch-bark. Among Naskapi painted designs, and the beadwork of all groups of the combined Montagnais-Naskapi divisions as well, the parallel line decoration is a favorite, not only for marginal areas but as major designs. Even in districts where their incidence is not usual—as among the Lake St. John Indians—these figures are known everywhere as decorative symbols, being termed micinaha'ban (M): "marking or writing by lines." The line element in the native term is literal, and is applied to strings of leather or cord as well as to drawn lines that represent them. As such they are likewise vaguely regarded as symbols, but this does not seem to disguise the simple fact that their origin is embraced in the idea of technique.

The importance of the leather line in northern industry is paramount. Its form in parallel positions has furnished this concept of motivation in art,
and this is recognized by the natives. Still another simple motive, the dot, is lacking in the decorations habitually used in birch-bark. This, too, has a general occurrence throughout the area, among the Montagnais and Mistassini being known as *pale'omeckənu* (LSJ), *pi·ye'omeckənu* (M): "partridge tracks" or "bird tracks"—going as far east, to the author's knowledge, as the Atlantic coast on the Gulf of St. Lawrence. Its non-appearance in birch-bark ornamentation is due, probably, to the difficulty in making dots on the bark by means of the knife. These particulars are mentioned to show that the fundamental properties of decoration occur throughout the Montagnais-Naskapi area, and further to bring out the fact that their absence in any particular technique, as in the case of birch-bark decoration, is due to technical considerations rather than to a limited local distribution of designs.

The elements mentioned above, the rectangle, the bar or block, the triangle, the curve, and the ellipse or oval (pl. x) that are made to integrate into complete figures in Montagnais bark decoration are sufficient, in the natives' esteem, for the purposes desired. The rectangle, which is itself a modification, by broadening, of the simple line, and the triangle are linked in their genesis; while the same affinity holds true of the curved line, curved broadened line or bar, and the ellipse or oval. Nevertheless, for purposes of description these lines and
their derivatives are the pattern elements with which the artists work.

The rectangle or block may stand alone or in a series to form a barred design (pls. x, a, b; xi, b), or two of them placed at an oblique angle to form a chevron, which in the symbolism of the maker is called an "elbow" (pls. x, d; xi, e, f, g), or set at right angles in a series to form zig-zags (pls. vii, j; x, e; xi, a). Thence, two opposed rows of zig-zags will ornate a series of diamonds (pls. vii, e; x, f). The block-rectangle, bar, or narrow line, all being fundamentally the same disregarding thickness, can be recognized as the formative element in a number of figures in which it is not at first so clearly apparent.

The triangle itself is to Montagnais decoration a fundamental pattern whether or not it is a secondary glyph derived from alternately set oblique lines and filled in (pls. x, g–m; xi, c, e, j, k, l). The angular lines of the triangle seem not to be so frequent in designs of the Montagnais as in those of some others in the north. In the series here illustrated, however, we observe triangles juxtaposed in any position. They are shown in a linear series with points in the same or in opposite directions (pl. x, m); two may be juxtaposed point-to-point to form the hour-glass figure (pls. x, j, l; xi, k, l); or base to base to form the lozenge (pl. x, k), or a star (pl. xi, j); or four of them may be orientated to compose a cross (pl. x, c) of the so-called German type, *tci'pi:atok* (LSJ): "spirit or ghost wood." In another varia-
tion, produced by the addition of a crook at one extremity, the triangle assumes the figure of a partridge or, as it may be interpreted, one of the larger game birds, the loon or the goose, the latter having a remarkably wide distribution in the north.

The ellipse or oval is again the basic part of a series of pattern constructions whose relation to the curve is similar to that of the triangle to the oblique line. Developments of the curve and ellipse derivations are also shown on pl. x. This pattern has a definite symbol value to the Montagnais artist, the "leaf," *nipi'c* (LSJ, M). It is also termed *wa'pəγwun*: "blossom or flower." It typifies, indeed, vegetation in general. Two leaf figures chevroned represent the "shoot" of a plant or tree (pl. x, p), three of them triangulated give the trefoil or clover (pl. x, q), while four of them orientated constitute a variation of the cross figure (pl. x, r). By splitting the ellipse lengthwise and arranging the results into a linear series, we have the basis of a scalloped line with curves either on one side or on opposite sides (pl. x, u, v, w).

Next, the single curve, either with or without the lobe at its extremity, is important (pls. ix, a–i; x, n–t). Here the symmetrical doubling gives the double-curve motive, about which enough has been said to demonstrate the figure as being a primary fundamental of Algonkian art over an exceedingly wide area in eastern and northern North America. There seems to be, in truth, scarcely a limit to the
possibilities of combination in handling the curve by the processes of doubling, tripling, and orientation. The double curves, as are other forms of bracketed and grouped curves, are called *kawawakʷc̓tə̱s*: "curve double."

In the group of figures shown reduced in pl. x, the progression has been arranged from simple lines and curves into triangles and ellipses. These are complimentary figures, and the varied positions in lines, repeated, reversed, inverted, tripled, and oriented, are referred to in the preceding discussion. The foregoing is by no means all theoretical, but is derived from many discussions of figure formations with the natives and from explanations and rough sketches supplied by the author’s informants.

**EVIDENCE OF DISTRIBUTION AND ANTIQUITY**

Apart from the argument based on technique, the question of the antiquity and aboriginality of the carved designs on birch-bark can also be considered from the angle of distribution. In glancing over the available decorative material in collections of birch-bark containers and in decorative schemes in other forms of handicraft, such as bead-, quill- and silk-work in the north, there is a tendency on the part of both Indian artists and students of the subject to assign an earlier existence to geometrical-line, angle, and curve patterns than to distinctly floral outlines. This is particularly true of the pseudo-realistic flower and plant representations.
No doubt whatever need be felt as to the recent historic development and European connections of the latter. In the author’s opinion Barbeau, in his last published discussions, is correct in this surmise. It is this phase of Indian art of the north that has impressed observers with the conviction of recent origin, and which no student of the subject, not even the Indian informants themselves, in most cases, would mistake for the earlier stages of decorative endeavor of people who live in crude economic circumstances amid the Canadian wilderness.

The widespread provenience of the geometric line figures in birch-bark decoration and in the earlier forms of embroidery from the northeastern Algonkian on the Atlantic to the Athapaskan of the northwest, point to their lying in the lowest level of stratification in the historical sequence of design. Close to them in symmetry, and equally prevalent in the east and northeast, are the geometric-curve figures which represent a subsequent step, a second layer of advance both in time and technique. The curve stylicism seems to form an achievement of Algonkian invention, important enough that an attempt be made to give it place in the history of this family of tribes.\(^{37}\)

The determination of period seems to rest upon some obvious major considerations:

A. *The connection with the prehistoric period through the discovery of decorations on bark in archaeological sites.* The finding of such objects in locations
dated to the sixteenth century would settle the question outright in the affirmative as regards geometrical line or curve patterns. But they have not as yet been reported to the satisfaction of students. With this point in mind, however, it must be understood that bark work is extremely perishable when exposed to the elements, and, in most environments, in the soil.

Evidence of the aboriginality of form and structure of birch-bark containers is brought to light in the findings in Newfoundland which have been figured and described by Howley, but these bark relics do not bear decorative carving so far as we are informed. They should be given careful scrutiny to settle this point, for, in the course of time, the designs themselves become indistinguishable on specimens that have seen much use. Polishing incidental to human handling and successive films of grease obliterate all save faint traces of the original scratching.

Nevertheless, for contemporary art of the Newfoundland Beothuk, we have the positive evidence of figures carved on bone ornaments so abundantly recovered in the same sites, and which to our surprise betray outlines falling within the same category as the line-figures distinguishing the art of the Naskapi areas of the Labrador peninsula, and, north of the Great Lakes, in the bark container decorations of present tribes. This is an observation to be underlined in the study of this moot question.
Reverting to the matter of the preservation of bark utensils, we should not fail to consider the element of transiency of their use in the hands of their nomadic and shiftless owners. The easy manufacture of these vessels and their constant service in the bush causes them to be discarded without thought during the sudden moves necessitated by the endless search for productive hunting and trapping grounds. The summer and winter journeys by canoe and sled are destructive to such wares, and replacement in most cases is easier than preservation when they become dry and brittle or show the effects of camp use. The mischievousness of children is another factor to be considered, for we who seek such objects in the field become weary of hearing from grown-ups how this or that specimen had only shortly before been mutilated by children in their play, or been thrown out alongshore and was last seen in fragments chewed by famished dogs for the grease it had absorbed.

As trivial as such agencies may seem, they are real factors in the economic life-history of the northerners. In addition, it is noted for consideration that even good and serviceable bark receptacles are left, over seasonal migrations from the camp, hanging on poles or nearby trees with the expectation of recovery upon return at a later time. This negligence applies as well to clothing, snowshoes, and tools; and in cases of delay or failure to return over an unexpectedly long lapse of time, these remains
decay and are permanently abandoned. The author has collected desirable specimens himself in such circumstances. Thus, in short, we are looking for archaeological testimony to prove the existence of extremely perishable articles back over a period of three hundred years.

B. Testing the antiquity of decorations by the phenomenon of distribution in related outlines over wide areas where the bark industry has been carried on. This leads to a tentative conclusion that the geometrical line patterns and their development into symmetrical curve patterns may date to a period prior to the dispersion of the populations comprising the Algonkian-speaking family. At the present time the decorations falling within these categories are known to be ingredients of art in birch-bark from the Micmac of Nova Scotia westward across the upper St. Lawrence, and north of the Great Lakes to some point as yet not definitely established by ethnological exploration in the extension of the Ojibwa-Saulteaux group. And, again, we find similar styles, with recognized affinities, occurring southward of this area into regions where Algonkian peoples have migrated, or where their systems of art have supposedly advanced by diffusion.

The question remains to be decided whether this diffusion, in that case, has been due to the influence of traders and colonists, or whether it traveled the native trade channels, either by racial migration, by intertribal barter, or by the captivity of women,
independently of the contacts opened up by the whites. It is feared that this point may be approached by students more through the dictates of opinion than by any other avenue. At any rate it will remain an open one for some time to come. Yet, the impression is created by an observation of designs over a wide range of Algonkian art that the roots of connection go deeply enough to be classified as property traits of the people in question, dating from a time before European forces had become primary factors in the evolution of native domestic economy.

Birch-bark seems to be associated with relatively early and culturally elementary craftsmanship. The bearings of Central Algonkian and New England Algonkian principles of ornamentation and style are strong indications of this explanation, in the author's estimate of the problem. To proceed toward a solution we undoubtedly need more published material and more collections from the tribal groups still artistically unknown. The study of Mohegan-Pequot and neighboring southern New England art by Tantaquidgeon is in line with what is required, as is, especially, a chronologically systematized review of Central Algonkian and Iroquoian art. Densmore's short analysis of Ojibwa ornamental principles is a step leading to support the assumptions just considered.

To lay down some premises, accordingly, which oppose the too pretentious theorizations of Stolpe,
tions into native life, resulting in the decline of native art as the native handicrafts disappear.

As the author now interprets the matter, the decorations in birch-bark work of the Montagnais represent the second stage, retaining some attributes of the first, and merging into the third. The bark decorations of the River Desert Algonquin, citing one other case, appear to represent the second merging into the third more completely than is evident with the Montagnais. Through closer contact with the French, the latter have tended to commercialize their art industry in bark, and have, in consequence, more completely assimilated modern conceptions of floral realism.

THE QUESTION OF EUROPEAN INFLUENCE UPON MONTAGNAIS DECORATION

Discussion of the probability of European origin for the exhuberant floral motives in eastern North American Indian art has been the focus point in a number of essays whose authors do not seem to hesitate to form conclusions on the question through the face-evidence of the designs. Few of them have voiced a call to examine additional material for more historical information or for consideration of possibilities of evolution in technological processes within the culture itself. There has been general disregard for the possibility that the origin of historic styles in northern art, whether realistically floral or not,
may have evolved out of materials and techniques belonging within the native culture-complex from earliest times.

The problem of design history has been discussed in terms implying that the floral designs—some only floral, indeed, as they appeal to European eyes—can be explained by a single decree of "law in art development." Should one say, since the floral figures in eastern Indian art of modern times conform unquestionably to European forms, that then the whole system of ornamentation can be defined, without more ado, as being derived from foreign sources conveyed to the New World in colonial times? This is an equivalent in words of the deduction drawn by writers who base their conclusions upon published discussion, and who ignore the conception of inner relationship between techniques of native industry and the developments of creative imagination in ornamentation.

Since the question was first raised by Stolpe in 1894, the suggestion of this scholar that European origin was the only solution of the appearance and spread of phytomorphic patterns in the north and east has been subjected to reconsideration by various authors, but not squarely dealt with until Barbeau's confirmative declaration appeared in 1927. Before venturing to present his own views on the matter, the author would like to quote the opinions of those who have asserted theirs. Quoting Stolpe: 42
Phytomorphic ornaments are, to be sure, not uncommon throughout the whole of America, but their hybrid origin can be proved in a sufficient number of cases to give cause for thinking the unproved cases, or at least most of them, to be of the same origin.

“I cannot help it, but when I see a phytomorphic ornament in America, I think of the influence of missionaries and especially of the early missionary-work of the Jesuits. I trace it in the leafy vines and the roses on the tomahawk-handles of the Algonquin Indians, especially when they occur, as is not seldom the case, together with a heart of the conventional Old World form (the “cooky-heart”) or with the regular pentagramma. I am heretical enough to believe that the rich plant ornaments on some of the earthen vessels of the Pueblo Indians were first nourished into life by the missionaries, but I need not fear contradiction when I call to mind the plant ornaments on the modern calabashes from Mexico, Central America, and West India, not to speak of the modern mate cups in Argentina, etc.”

With Stolpe’s ideas in mind it is not difficult to see where Barbeau, thirty years after, derives a similar notion, to which he gives valid force as a positive argument by announcing the time and circumstances accountable, in his belief, for the introduction of French renaissance art to the Indians of eastern North America. However, before this observation may be quoted in the present report,
which deals only with art representations in birch-bark, it must be granted that his comments apply to the decorations of bark handicraft without his having said so in so many words. Since the bark decorations fall into the classification of motives associated with, if not taken from, the plant world, we may assume that Barbeau's apostrophe, in the quotation to follow, is meant to cover this art technique as well as the various forms of quill, bead, and silk embroidery. It should be pointed out, nevertheless, and noted either as an accident in phraseology or as a piece of canny reserve on his part, that in the first sentence the birch-bark decorations are not specifically mentioned:

"Their decorative embroidery either in the form of bead, silk, ribbon, moose hair, and porcupine quill, is a mere corollary of the introduction of the foreign garments with which they still retain their connection. The floral patterns of our northern tribes, which are abundantly represented in our Museum collections, belong one and all to the French renaissance and peasant art, and were adapted at an early date by the Indians to suit their fancies. The evolution of this spurious American art can easily be traced through all its stages. Sewing and embroidery, as well as other domestic arts, were taught systematically to Indian girls of Algonkin and Iroquois extraction by the nuns in the ancient colonial missions and schools. Besides, the School of Art founded in 1669 by Mgr. de Laval at Cap Tourmente
for the requirements of education and worship, so firmly established the *renaissance* architectural decoration in the colony that it has continued unimpaired almost to the present day in much of French America, from the Saint Lawrence to Louisiana. The floral art of the Indians, interesting in itself, is merely its collateral development. In such published compilations as Speck's *Double curve motive*, possibly not a single design can be traced back to prehistory. They are derived from rococo figures and ornaments of the Francis I period as transplanted to Canada.

"The Hispano-Mexican decorative patterns, angular or geometric, with diamonds, swasticas and hourglasses, had followed the trail. They are still typical of many of the plains tribes north and south of the border. At various points they are blended with the floral *appliqués* of the French *renaissance."  

It should be borne in mind that in these discussions of design origin, no distinction is drawn between the fields of ornamentation. Decoration of utensils constructed of birch-bark, leather painting, embroidery in quills, hair, and beads, and even ribbon and lace designs are implicitly included in the one category, and one common source of origin is sought.

Krickeberg 44 manifests an understanding of the problems of birch-bark construction and ornamentation in his article on northeastern Indian art. He has set a standard for American students to maintain
in his reasonable summarization of the techniques and styles and their possible relationships in art history, equating the probabilities for and against the assumption of European origin for northern art.

Boas has also dealt briefly with the problem of the distribution of type and decoration of birch-bark vessels in northwestern North America. He accepts the evidence of antiquity of the entire craft as a trait of the circumpolar culture complex.

The fundamentality of so simple, useful, and naturally available a substance as bark in the evolution of industry has been amazingly ignored, however, by contributors to the field of primitive and comparative American technology. One exception is Haberlandt who describes the industry briefly—giving it a technical designation, Rindenverarbeitung-Spanarbeit—among the peoples of Scandinavia and southeastern Europe. Its prehistoric age is acceptably established for Eurasiatic cultural history.

The question of degree of influence carried over from European designs upon the growth of decorative art in the whole northeastern region is not to be passed over lightly. In respect to the art history of the Lake St. John Band there is no documentary evidence concerning the nature of early ornamentation to which we can turn for enlightenment. And, in view of the absence of archaeological testimony, the question of the actual possibility of the decorative motives in existence within the last hundred years being native properties before the coming of
the Europeans, will remain open for some time, if not always, in the minds of many art students.

Relying exclusively on early documentary mention and description, we might find reason, were we inclined to be sceptical, to doubt the very existence of birch-bark receptacles themselves as native inventions for the same period. We fail, indeed, to find distinct reference in the earliest narratives to many devices and many ideas and institutions brought to light in recent research, properties that must have originated with the natives and which did not owe their inception to the genius of the Caucasian immigrants. The equation of antiquity and native originality meets us constantly in surveying the elements of Indian culture everywhere in America, and it may be unfortunate for the process of interpretation of culture in which we are engaged, that a trend of thought has become habitual with us to assume with an easy mien a European origin for the many ideas and inventions, resembling those of the peoples of the Old World, found among the native populations here.

The testimony of the oldest Indians of the Lake St. John Band does not carry force for a period earlier than the beginning of the nineteenth century. According to the statement of old Etienne, whose age by the calculations of the Indians and the Hudson’s Bay Company’s factor, Mr. Hamilton, was over one hundred years in 1920, his people at Lake St. John were making the same types of bark vessels with
the same forms of ornamentation when he first remembered things as they were at the close of the last century.\textsuperscript{47} Old Napanee, also a centenarian by the same sources of estimate, held a similar opinion when approached on this important question. During the early lives of these men neither the economic nor the spiritual life of the band had been altered by the intrusions of the ubiquitous race.

A question next arises as to whether there may be specimens either in the hands of the Indians or in collections whose date of manufacture may go back to early times. As to the latter, we have no definite dating for specimens older than the period covered by native tradition; and so far as specimens in the hands of the Indians may be taken into account, their age is a matter to be regarded most skeptically. The Montagnais do not preserve their property at all, as has been previously mentioned. It is constantly being lost or worn out through travel. Birch-bark containers, if not broken in three or four years, become brittle; and, after all, there is no place for preserving heirlooms in a tent inhabited by a family of six or eight periodically on the move. Accordingly, confidence is not to be placed in any estimate of age for the birch-bark containers based upon their condition or appearance. As examples of the deceptiveness of the appearances of age, the richly colored specimens shown in pls. xvi, l–p; xvii, a–e, which any observer might judge to be half a century old, proved to have been made
three or four years before they were collected, by a middle-aged woman, Atan Peta'besh. An allowance of ten years as the maximum of service in the hunters' camps would seem to be almost excessive. The life of the oldest looking specimens in use, browned by smoke, polished by handling, and cracked, must come well within this time period.

Our only material, therefore, to which dating can be assigned rests in museum collections and depends upon the dates of entry in the catalogues. And among these there is nothing from the region in question that antedates the memory of the old Indians just mentioned, going no farther back than to the beginnings of the last century. Estimates of antiquity for this art, then, must rest largely upon deduction.

The author agrees with Barbeau in assuming that Indian artists in North America did graft European decorative patterns upon the development of their art. But he maintains the right to question the surmise, to Barbeau apparently a proof, that the artistic aspirations of women of the birch-bark using tribes in the Canadian forests did not come to realize any principles of decoration for their utensils until they had enjoyed the example of the French nuns. Such an assumption seems to go too far in the right direction. Were we to admit this point of view, we might be asked to assume that the forest tribes even acquired the very idea of construction of the bark containers from Europeans, simply because both
the construction and the decoration of these articles show types resembling those known and used in northern and eastern European countries during the same period. The solution, it would seem, lies in granting credence to the principle of convergent development which has produced superficially identical objects in the economic growth of peoples in both continental areas where the bark of the birch tree has been provided by nature.

The problem of the origin and evolution of birch-bark vessels and their ornamentation appears to have inter-continental aspects. Even a casual survey of the forms and structure of these manufactures, from Scandinavia eastward across Asia and northern America, shows the wide horizon of the bark industry complex. Such a survey reveals, also, the futility of deciding its place in culture stratification until collections are made from the major ethnic groups inhabiting this wide range of forest, and are studied in historical perspective. The importance of this birch-bark thesis in the comparative study of northern ethnology has for some time been recognized and suggested for research by those who promote and conduct the activities of investigators. Within the range of distribution of the canoe birch there is hardly a people who have not drawn upon it for economic service, employing similar patterns in building with it, and, with few exceptions, grasping the idea of ornamenting the surfaces of bark manufactures consistent with their traditions in art.
The techniques of ornamentation vary more than do those of construction, yet there can still be observed a shadowy similarity of conception and execution of design.

As previously observed, bark receptacles are linked inseparably with the maple sap-gathering occupation of the eastern woodlands, in which industry they are indeed quite indispensable as containers, carriers, and storage vessels. And as regards decoration, with the maple sugar season in mind, is it not more of a wonder that the Indian denizens of the sugar camps should have had to wait until the Europeans suggested the maple-leaf pattern as an occupational emblem, than that they originated the motive themselves?

Nevertheless, sugar making cannot positively be associated with the evolution of bark containers in the Montagnais economic history during the period through which this group has occupied its present range, since the tree does not occur as far north as the latitude in which they hunt. If by any development of theory it should be shown that a connection exists between the sap-gathering industry and the invention of bark receptacles, it would have to be regarded as an extension into the habitat of the Montagnais, or else as an art which was natural to them in a more southerly zone and which accompanied their migration into the cold forests.

Containers made of folded or cut out sections of bark form part of the domestic equipment of un-
civilized peoples in other parts of the world than
the circumpolar regions. We observe in collections
from the Australian natives of the islands of the
Gulf of Carpentaria containers of bark folded as are
the Montagnais pails of TYPE IV, and these bear
decorative designs applied with pigment. Cylindrical containers of bark are reported here also, as
well as from Fuegia; while isolated simple techniques
in bark, predominantly of the cylindrical variety,
are reported in sections of Africa and the Pacific.
While there is, however, less reason to question the
continuity of the history of birch-bark constructions
among the peoples of northern North America and
northern Asia, yet uncertainty is inevitable for some
time to come in regard to the growth and diffusion
of primitive bark processes throughout broader
reaches of time and space. 49

NATIVE ORIGIN LEGEND OF BIRCH-BARK VESSELS

We may now consider the momentous question
of the origin of the birch-bark containers as it is
accounted for by the Indians themselves. The
origin is couched in the terms of a cosmogonic myth,
from which testimony of a positive inference of
aboriginality for the birch-bark articles and their
decorations may be deduced by one not averse to
the credulity of such a test. Students of the institu-
tions and inventions of preliterate peoples have
schooled themselves to feel that where cultural traits,
under question for their antiquity, are explained in serious tales accounting for the origin of things in the cosmos, a certain modicum of doubt is removed as concerns their archaic position in the history of traits. Test of this assumption seldom fails to bring support as to its validity. On the one hand, truly archaic traits are invariably referred to in the course of mythical recitations as forming the properties of original culture, while, on the other, innovations in culture, especially those due to association with Europeans, seldom find their way into the explanatory tales of a purely native character.

We find the origin theme treated theoretically from many angles in the literature of folk-lore. The corn-complex in eastern North America stands as an illustration of the test, the same being true of tobacco and the range of social and religious customs. The birch-bark complex now falls in line with these. Thus, to find that the explanation of its inception retains a place in the natural system of thought of the people, and means much in the history of native inventions, is most important to the investigator.

The Montagnais tale in which the inception of birch-bark containers and their ornamental designs is explained is that epic of considerable importance in the mythology of the Montagnais-Naskapi which, in a previous collection of legends from the region, the author has called, *How the Summer Birds Were Stolen and Brought North*. As we shall see in the
abstract that follows, the element of interest pertinent to the birch-bark technique and ornamentation lies in the concluding observations made by the narrator on the outcome of events related in the story.50

The tale of cosmic explanation opens with the theme of perennial winter reigning in the north country. The Man of the North, or the North Wind, personifying the spirit of winter, agrees to share the year cycle with the Man of the South, who personifies summer and vegetable fertility. By common arrangement, explained in a portion of the epic, they divide the year into two seasons, and a way is to be sought by which the warmth of the South, with its birds, trees, and flowers, is to be brought North to share its alternate season with the cold of winter with its bareness and frigidation. A child is crying itself to death for some unsatisfied longing which, upon persistent inquiry, turns out to be a desire for the Summer Birds. A party, composed of various animals, volunteers to go to the South and bring the desired birds. The company of animal-men embarks on its mission and, after overcoming certain obstacles en route, reaches a land in the South where resides a race of people who hold in their power the warmth of summer and the birds and vegetation which are dependent upon it. The birds are confined in cage-containers of birch-bark. By strategic devices, which do not affect the out-
come of the adventure, the North people succeed in luring the guards away from the treasured birds. They invade the premises and tear open the bark containers thus freeing the birds. The subsequent flight of the invaders and their return to the northern homeland ensues. The Summer Birds, with which we are chiefly concerned, now liberated, fly north, and with them the warmth of the South advances, and vegetation springs up in its track. Thus, simultaneously, the annually recurrent northward migration of birds is originated, warmth and vegetation comes to replace cold and snow, and, of particular emphasis in our present inquiry, the bark containers, patterned, as tradition explains, upon those in which the Summer Birds were confined, are introduced to native culture. And next, it is explained, the representations in realistic figures of the epoch-making Summer Birds with their associates, the shrubs and plants, both edible and medicinal, became customary as decorative symbols on the bark containers themselves.

The foregoing abstract gives the substance of the tale and its significance as explained by Joseph Kurtness. The narrative is prominent in the mythology of the area, and is very widely known; but not always is the origin of the physical and cultural properties included in the postlogue. In discussing the explanatory termination of the narrative, the informant pointed out that the sense of the legend was understood generally by the myth-tellers of the
northern Indians to account for the introduction of the bark technique and the decorative devices associated with it, as well as for the seasonal changes from cold to warmth with the cycle of floral and avian advances and retreats.

So much for the evidence bearing upon the antiquity of the technique and its symbolic embellishments. It is hoped that none of the critics of the historical interpretation of the subject, as suggested here, will mistake the purpose in mind in presenting the native reasoning. Its purport is not the elucidation of culture-feature history any more than the solution would suffice for the explanation of climatic history. It has, however, a bearing upon the chronological setting of the birch-bark industry as one of the trait-associations of a complex embracing the varied use of substances derived from vegetable growth and, from them, the development along other lines, such as decoration.

It would seem natural, indeed, had the maize-complex reached north of the St. Lawrence, to find it linked with the legend just referred to, as a corollary to the events related. We would not need to look far away for a version of similar character in which the maize-complex is introduced from the south by a bird-conveyor. Before the significance of this argument can be annulled by the objector, he will have to establish claim to authority by explaining away the archaism of the "theft motive"
in eastern and southeastern mythology as it applies, for instance, to such traits as fire, tobacco, agriculture, summer, etc.

The discussion of plant-culture traits in eastern aboriginal history can not be closed without giving due attention to the history of herbs in medical practice. Lacking definite instances in eastern Indian ethnology of the association of simple band floral designs, either pseudo-morphic or realistic, with the magic of herbal medical practice, it does not insistently follow that such an association could not lie obscurely in the background of the history of these traits. Such a theoretical association, the author ventures to suggest, is almost patent in the data we possess from the Middle Atlantic coast region and southern New England, in the provinces of basket-painting, where the quasi-realistic floral designs prevail on an equal footing with straight- and curve-line geometrical patterns, and where, at the same time, we encounter conspicuous development of medicinal herbology.\(^5\)

CONCLUSIONS

The opinions of those who suggest the European origin theory have been quoted and discussed, somewhat sceptically. As a venture in tracing the derivation of birch-bark decoration in the north, beyond the suggestions implied in the text, it is proposed to
arrange the series, on the bases of types of construction and decoration. Viewed through the array of data, both historical and technical, now made accessible, such an arrangement seems highly plausible. Though the following applies to type sequences among the Montagnais, the classifications may be extended to cover phases of progress in adjacent groups of northeastern North America—those of the Province of Quebec, and the Wabanaki divisions:

1. The earliest type-level of bark containers were cooking and food containing vessels. They were folded, not cut, and were fastened at the ends by root stitching or stick skewers. They lacked the rim-hoop and were undecorated. These would be represented by TYPE IV of the text classification, and by the simple folded envelopes of TYPE V. It is conceivable that these forms would emerge from one of the earliest levels of stratification in circum-polar archaeology.

2. The development into cut and seam-sewn pails and containers, still without rim-hoop—TYPE III—also undecorated.

3. The same forms as the preceding with the acquisition of covers, rim-hoop, and the simplest free-hand decorations in the negative process.

4. (a) Advanced and specialized forms for general domestic uses developed from the preceding types, with rim-hoops and covers. Decorated with bitten, and perhaps later, with cut-out patterns in
band and pseudo-realistic tree and plant figures produced by both the positive and negative processes. **TYPES I and II.**

(b) No change in form or function from preceding types, but stimulation of quasi-realistic floral representation, imitation, in many cases, through the influence of European art introduced after the middle of the seventeenth century. This is accord with Barbeau's theory based upon the establishment of the renaissance art school near Quebec.

5. No change in technique or function, but culmination of the so-called European style of floral designing. Here would be classified the recent forms where departure from earlier style is obvious.

Before the decline of art in birch-bark in the northeast through the supervenience of European goods in native economy, existing collections were made, and the entire series, irregularly distributed among the different groups, has been preserved. Deviations from the earlier proto-historic styles of phytomorphic ornamentation in the direction of French styles are more apparent in the birch-bark craft of the Algonquin than in those of the Montagnais; while in silk and bead embroidery, all groups, from the northeast to the Pacific, have succumbed to European influence.

This is hardly the place to introduce discussions of the associated traits of quill and moose-hair embroidery on birch-bark as they appear in the work
of the Ojibwa, Ottawa, and Micmac, and moose-hair embroidery on birch-bark of the Huron and Algonquin; but as a suggestion of chronology we get the impression that these advanced techniques do belong to a late epoch, which would place them in an historic setting no earlier than the seventeenth century.
NOTES AND REFERENCES


2. Reference to specimens in these collections is by initials; MAIHF, AMNH, FMNH, UPM, NMC, NMD. It should be a source of some satisfaction to students of the subject to know that practically all specimens of the birch-bark industry extant from the Lake St. John Montagnais preserved in these collections, have been used and illustrated.

3. Acknowledgment is also due to the Faculty Research Fund, University of Pennsylvania, Grant No. 50, 1932, for financial support for field work.


8. For discussion of the location, history, and boundaries of the various bands of the region see: Speck, Frank G., Montagnais-Naskapi bands and early Eskimo


11. The sugar maple (*Acer saccharum*) is indigenous to the hardwood forest zone in eastern Canada below Latitude 47°, beyond which lie many of the hunting territories of the Montagnais. Before the great fire of 1870, it was more common south of Lake St. John. No tree is now known in the language by this word, but it may refer to the canoe birch called *wuckwi*, the sap of which is sweet, and when collected and boiled down, furnishes a syrup that the Montagnais enjoy in the spring.

Material culture of the Menomini. *Indian Notes and Monographs, Museum of the American Indian, Heye Foundation, Miscellaneous* 20, New York, 1921 (pp. 164–172).

13. Birch-bark containers are in general use for collecting sap and holding the sap and sugar among all peoples about the Great Lakes except the Iroquois, who employ elm-bark pails and wooden troughs. See Waugh and Morgan references in Note 12.

14. The Algonquin proper of the Ottawa river system, neighbors of the Montagnais, made an abundance of sap and sugar.


18. Three specimens from the Escoumains Band are shown in pl. xix, d, e, f.

19. Wooden bottoms and covers occur in specimens from the Central Algonkian (Ottawa, Ojibwa) and from the Wabanaki divisions (Micmac, Penobscot).

20. A still more primitive construction of the cylindrical container, which might be thought of in connection with the evolution of this type of bark vessel, is that which is made by sectioning a tree. The latter must be of a variety from which the bark may be removed in the form of a cylinder by pounding the surface until the woody interior section can be slipped out. This process was known to the southern New England tribes (Mohegan, Nehantic) the hickory being so utilized. The cylindrical section may be provided with a bottom by inserting and plugging a section or disk of wood in one end of its opening. We may also bear in mind the use of hollowed sections of elm trees by the Indians of the east (Iroquois, New England
Algonkian) to form "barrels" for the storage of grain and for lining springs.

21. Testicles of the beaver killed in the breeding season and preserved by being soaked in brandy.

22. This decorative effect is present in most containers from the Têtes de Boule and Waswanipi. Davidson reference in Note 6.

23. One specimen from the Escoumains Band (pl. xix, c) has a foundation of beach grass for the rim. Another, from the Lake St. John Band, in the National Museum of Canada, has a rim foundation of moose hair bound with twine instead of spruce roots. Irregularities, in both cases.

24. In the McCord National Museum, McGill University, Montreal, is a round birch-bark box decorated on the sides with a mosaic of porcupine-quills, suggestive of Micmac art. As this is the only specimen of its kind alleged to be of Montagnais make, inquiry as to its provenience was made to the curator, Miss M. D. Muir. Her information is that it was collected many years ago by a lady from the Tadousac district, without data (correspondence June 16, 1927). This statement removes it from consideration as a Montagnais creation.


32. The Montagnais employ scissors for their task but formerly the knife edge was used, the cutting being done on a flat slab of wood.

33. In fairness to the question of resemblance of so many of the Indian compositions of this class to European figures, attention is directed to fig. 4, a pattern for colonial
patchwork designing in colored cloth. It would require keen art-form perception to distinguish the variant genius characteristic of the European and Indian pattern creations. It is, nevertheless, there. The figure here shown is an admirable illustration of the whole thesis.

34. It is worth noting that the Naskapi of the northern regions of the Labrador peninsula employ the same decorative emblem but give it the name of “goose.” The relative abundance of the two birds in these respective areas determines the identity of the conventional figure. The author regards it as an extremely ancient one from the fact of its wide distribution within the culture group.

35. Notably among the Delaware, who believe that human representations become animated and develop into malevolent spirit forces.

36. This idea is based upon the concept of the Christian cross as being suggestive of spiritual force. It has to do with the Holy Ghost, and the Montagnais generally have come to regard the figure as a miraculous Christian symbol.

37. A still bolder endeavor along more aggressive lines than those here proposed might lead to the inclusion, within the broader category of double-curve art, of figures appearing in the relics of “mound builder” cultures in the Cumberland-Ohio region. See, for example, Shetrone, H. C., The mound builders. New York, 1931 (pp. 127–38, fig. 70).

38. Howley, J. P., op. cit., pl. 34.

42. Stolpe, H., Studies in American ornamental art. Compte Rendu Congrès International des Américanistes, 10ème Session, Stockholm, 1894 (pp. 80–1).

44. Krickeberg, W., Geschichte des Kunstgewerbes aller Zeiter und Völker, von H. Th. Bossert, Berlin, 1929, II, s. 168 (pp. 178-80).
47. Even though the old man could converse only in Indian, he cracked the age-old saw that when he was young the Montagnais women made more bark containers and decorated them better than they did in later years. If we continue to hear the theme of “things not being as good as they used to be” from the unsophisticated, we may have to believe it.
48. Oval boxes of thin wood and birch-bark, of cut and construction precisely like the round or oval birch-bark boxes of the northern Indians and the Siberians, are commonly found in France and northern Europe. The top and bottom, however, are of wood. It is hardly necessary to mention here the abundant material in museums showing the use of birch-bark throughout Scandinavia in forms similar to several types in North America.
49. Boas, Franz, Migrations of Asiatic races and cultures to North America. Scientific Monthly, xxviii, February, 1929 (pp. 110-17); Primitive art. Oslo, 1927 (pp. 55-7). Boas voices the common opinion of authorities in technology that birch-bark vessel manufacture originated early in the circumpolar culture and migrated with race to its frontiers.
50. Speck, Frank G., Montagnais-Naskapi tales from the Labrador peninsula. Journal of the American Folklore, 38, no. 147, 1925 (pp. 6-8). Working under the Faculty Research Grant of the University of Pennsylvania, the author was fortunate to obtain a more comprehensive version of the legend than had been possible before. This explanatory section is set in italics. The narrative was recorded in the native text, Mistassini. It was recited by a prominent informant, Chief Joseph Kurtness, in response
to an inquiry about the origin of floral designs in the birch-bark decoration of the Laurentian tribes.

51. Miss Tantaquidgeon’s unpublished study of Mohegan decoration (see reference in Note 40) is one case that may be cited as a demonstration.

52. Comparable to parfleche construction in the Plains area.

The author desires to express a real obligation to Professor Loren C. Eiseley for his suggestions of the several references cited in the discussion of bitten patterns, and to Mr. Claude E. Schaeffer, University of Pennsylvania, for his aid in the completion of the manuscript.
PLATES

Unless otherwise noted all the specimens, designs and patterns illustrated in the plates are from the collections of the Museum of the American Indian, Heye Foundation. Wherever possible, the catalogue numbers have been given.
PLATE I

PATTERNS FOR CONSTRUCTION OF BIRCH-BARK CONTAINERS

a. For deep container shown in pls. XV, XVI, XVII, XIX

b. Same with higher arched curve edge on short ends, occasionally squared

c. Mistassini variation of pattern f, Type II, with upcurved (toboggan) ends

d. For seamless or folded container, Type IV. Fold down at a-b, up at c, then lap a over b and fasten by sewing or with skewers

e. For containers shown in pls. XV, XVI, XVII, XVIII, XIX

f. For bark dish or pan, Type II, shown in pls. XVI, XIX, XX, XXI

g. For dish or pan, Type II, variation of f, shown in pl. XX, a

h. For oval or cylindrical box, side and bottom, Type III, shown in pls. XVI, XX, XXI

a, b, c, e, f, g to be bent on dotted lines, toward center, and sewed with spruce roots on corresponding lettering
PLATE II

DOUBLE CURVE DESIGNS
PLATE III

DESIGNS SHOWING COMBINATIONS OF VARIOUS CURVE UNITS
PLATE IV

DESIGNS SHOWING VARIOUS FLORAL PATTERNS
PLATE V

DESIGNS SHOWING NATURAL AND CONVENTIONALIZED FLORAL PATTERNS
PLATE VI

FLORAL DESIGNS FOR BARK CONTAINERS

e.g. Designs for container ends
PLATE VII

DESIGNS FROM BIRCH-BARK CONTAINERS

b, c. Hubbell Collection, Waterbury, Ct.
d. NMC, III c-448
i. Partridge pattern
PLATE VIII

DESIGNS FROM BARK CONTAINERS COMBINING POSITIVE AND NEGATIVE TECHNIQUES

a. Speck collection, see pl. xvi, k
b. 10/1494, see pl. xvi, a
c. g. AMNH, 50.2/1694, see pl. xvii, g, l
e. f. 14/6918, see pl. xv, c
h. Hubbell Collection
PLATE IX

DESIGNS FROM BIRCH-BARK OBJECTS

a–g, i. Elements used singly or doubled as space permits
h, j–l. Cut-out pattern designs
PLATE X  
DESIGN ELEMENTS

Figures from the single bar and the simple curve showing progression in pattern formation by doubling, tripling, orientating, aligning, reversing, and filling solid the design elements. Practically all of the above figures, as primary forms, are found in actual use as decorations on bark containers illustrated in other plates.

c. Bar element orientated to form a quarter-pierced cross design; cover round bark box, Hubbell Collection
PLATE XI

DESIGN ELEMENTS AND FIGURES

a–p. Free hand figures of an elementary character used in composition or as single filling designs

Animal figures from birch-bark objects (LSJ); q, beaver, see pl. xx, h; r, bear, see pl. xxi, Group C; s, moose, see same pl.; t, partridge, see pl. xx, f; u, v, geese; w, loon; x, salmon.

y. From birch-bark container showing two women in dance around a central table
PLATE XII
EXAMPLES OF MULTIPLIED DESIGN

a. Curve element shown doubled in shaded outline repeated three times, side surface, round bark box, Type III (3 1/2 x 6 in.) Hubbell Collection; c, same element orientated to form decoration on cover of this specimen.

b. Elementary pattern form composed of two ellipses and a bar, shown doubled in shaded outline, on sides of two boxes (5 x 7 in. and 5 1/2 x 3 1/2 in.) Hubbell Collection; d, same element quadrupled and orientated to furnish decoration for the covers of these boxes.
Produced by folding thin sheets of bark and compressing them between the teeth. They serve as suggestions for decorations on birch-bark containers, or as designs for bead and silk embroidery.

- a. 19/5763, started to make trees, but trails came out
- b. 19/5764, trees and trails
- c. 19/5765, tree
- d. 19/5767, trees and trails
- e. 19/5774, hunter’s trails
- f. 19/5768, crossing trails
- g. 19/5773, tree
- h. 19/5775, trails, but completing a star
- i. 19/5766, tents and connecting trail
- j. 19/5769, hunter’s trails
- k. 19/5776, tree
- l. 19/5771, tree
- m. 19/5770, moon
PLATE XIV

CUT-OUT PATTERNS USED IN ORNAMENTING BIRCH-BARK CONTAINERS (LSJ)

a. 19/5755, woman
b. 19/5756, man
c. 19/5757, woman
d. 19/5760, tree
e. 19/5761, no name
f. 19/5762, canoe
g. 19/5759, wolf
h. 19/5758, beaver
PLATE XV

BIRCH-BARK CONTAINERS (LSJ)

a. both sides; design (upper) leaf and elbows, (lower) flower or tree; length 7½ in. height 5½ in.; FMNH

b. both sides; 14/6918

c. both sides; 10/1502
PLATE XVI

BIRCH-BARK CONTAINERS OF VARIOUS FORMS (LSJ)

a. both sides, 10/1494
b. 2/8819
c. 2/8821
d. 2/8832, length 8 in.
e. 2/8830, height 6½ in.
f. 2/8834, height 5½ in.
g. flower or tree design, length 6 in., height 4 in. (Speck Collection)
h. 10/1510, length 22 in.
i. 2/8833
j. 10/1490
k. flower or tree design, length and height 1½ in. (Speck Collection)
l. 2/8836
m. 2/8838
n. 10/1487
o. 10/1496
p. meat pail, 2/8858
PLATE XVII

BIRCH-BARK CONTAINERS WITH LIDS

a. AMNH, 50.2/2189, both sides (LSJ)
b. AMNH, 50.2/2767, both sides (Seven Islands)
c. AMNH, 50.2/2196, both sides (upper) pine tree with two fir trees (lower) clover designs, the angular border representing the firmament (LSJ)
d. 2/8824 (LSJ), used by travelling family to transport pet porcupine
e. 10/1495 (LSJ)
f. AMNH, 50.2/2190 (LSJ)
g. AMNH, 50.2/1694, see l (LSJ)
h. AMNH, 50.2/2062, see k (M)
i. AMNH, 50.2/2191 (LSJ)
j. AMNH, 50.2/1693 (LSJ)
k. reverse of h
l. reverse of g
PLATE XVIII

VARIOUS TYPES OF BIRCH-BARK CONTAINERS

a–c. Boxes, top and side views, Type III, NMC, III c–162, III c–176, III c–23

d. Food container or berry pail, height 9\(\frac{3}{4}\) in., length at base 11\(\frac{1}{2}\) in. 15/3307

e–g. Containers, NMC, III c–158, III c–163, III c–211
PLATE XIX

BIRCH-BARK BOWLS AND DISHES

a, b. Bowls, 2/8857, 10/1487 (LSJ)
c. Dish, diam. 7\(\frac{1}{2}\) in., 2/8845 (Escoumains)
d. Dish, diam. 11\(\frac{3}{4}\) in., 10/1370 (Escoumains)
e. Dish, diam. 13\(\frac{3}{4}\) in., 10/1371 (Escoumains)
f. Dish, diam. 10\(\frac{1}{4}\) in., 10/1371 (Escoumains)
g. Dish, bottom and side, diam. 18 in., 2/8855 (LSJ)
h. Dish, bottom and side, diam., 23 in., 2/8856 (LSJ)
PLATE XX

BIRCH-BARK CONTAINERS OF VARIOUS TYPES

All LSJ unless otherwise noted

a. Meat pail with cover, NMC, III c–168
b. Box and cover, height 3\(\frac{3}{4}\) in., length 7\(\frac{1}{2}\) in., Type III, 15/3284 (M)
c. Food tray, side and bottom, used by hunter when eating game, especially beaver, killed after receiving a dream admonition, length 23\(\frac{1}{2}\) in., 15/3283 (M)
d. Box, NMC, III c–17
e. Food dish, diam. 11 in., 15/3296 (Chicoutimi)
f, g. Comb cases, NMC, III c–15, III c–107
h. Drinking cup, NMC, III c–22
i. Vessel, NMC, III c–159
j. Berry pail, Type IV, length 22 in., Peabody Museum, Yale University. This type is also used for cooking.
PLATE XXI

BIRCH-BARK CONTAINERS OF VARIOUS TYPES

All LSJ unless otherwise noted

Group A. Scent, match and needle boxes; l. to r. 10/1484, 10/1483, 10/1486

Group B. Comb cases; l. top, 11/8108, bottom, 10/1481; r. top to bottom, 10/1482, 11/8107, 10/1480

Group C. Oblong and round containers; l. to r. by rows, 2/8842, 2/8841, 10/1491; 10/1493, 2/8840, 10/1489; 13/3008 (Naskapi), 2/8835, 2/8837; 10/1492, 10/1488, 10/1497
PLATE XXII
SPECK—MONTAGNAIS BIRCH-BARK
PLATE XXIII
BITTEN PATTERNS IN BIRCH-BARK (LSJ)
All 16/4924
PLATE XXIV
BITTEN PATTERNS IN BIRCH-BARK (LSJ)
All 16/4924
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