



Gilbert L. and Frederick N. Wilson
Papers

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Hidatsa
Basket-making (Hidatsa) (1)
a short description of the weaving of a basket
by Mahidiweash, with my assistance
F. H. Wilson

The Hidatsa-Mandan baskets have a striking appearance, and as they are different in construction from any we had seen prior to visiting Ft. Berthold, it seemed advisable, on our trip in 1912, to obtain some information regarding their methods of basket-making, and to observe, if possible, the actual weaving of a basket.

In this way we hoped to ~~get~~ obtain practical information regarding their ~~methods~~ various steps in basket-making and some insight into the general technique.

This seemed to us of more value than just to have an oral description of a basket, and how it was woven.

Knowing that Mahidiweash was a basket-maker, my brother arranged for me to assist her in weaving a basket, so that I could have

some first-hand experience of their methods, while he noted the progress by record and photography. While assisting her, I observed everything that seemed pertinent, and made notes and diagrams.

x x x

The subject was new to me, so that I undoubtedly missed many ^{things} significant to any one familiar with the subject as a practiced art; and there are many points that may not be given in their exact order; but every effort was made to diagram and describe the different stages of the work as they occurred.

x .

The notes and diagrams following, in conjunction with my brother's description, will give a good general idea of ^{the} Hidatoa ~~basketry~~ methods of weaving a bark basket.

x x x x x x

This type of basket described here, is called a "square" basket and is woven of ^{bark} splints.

There is a skin basket which ~~uses~~ has the same sort of framework, but which is covered with skin or rawhide. (Museum specimens)

They also make a round basket, This, however, is woven of roots, and is round and flat. — more like a shallow dish or bowl. It is not so common. (Museum specimens)

So, when speaking of baskets in general, it is the square or carrying basket that is usually meant.

x x x x x x

This basket ~~described~~ described here, was woven as an exhibition piece, and, ~~all~~ for that reason has a different design on each of the four sides, to show ~~the~~ different styles of ornament, and is a little larger than those in ordinary use.

x x x -

As basketry was an art practiced only by the women, I came in for a good bit of chaffing on the part of visitors who came in while the weaving was in progress!

Mahidiwash did not seem to have in mind any distinct divisions of the work of making a basket beyond these two: 1 - Collecting the materials and making the frame; 2 - weaving the white and black splints or strips on the frame.

However, for greater clearness, I have divided the progress into five steps or stages, as follows -

- 1st Step - Collecting and preparing the materials
- 2^d " - Assembling the frame-work.
- 3^d " - Wrapping or weaving the white strips or strands about the framework. (This establishes the body of the basket, and forms a foundation or background for the black pattern or design, which is then woven in ~~with~~ ^{with} the black splints.)
- 4th Step - Weaving the black splints into white background. This ~~gives~~ ^{makes} the design, and also completes the main body of the basket. (Included in this is the diagonal weave at the rim, which is a part of the sides.)
- 5th Step - The finishing work. This consists in binding the eight standards or posts which are attached to the rim and project above it; and in weaving the designs at the four corners formed by these standards. Final trimming - cutting off all loose ends. Attaching the head-strap.
shoulder or

Step 1 - The materials for this basket had already been collected and prepared, so that all I was able to do was to observe the material and listen to her description.

These materials consisted of several withes or sticks of willow (max'oxishe) wood, to form the frame-work of the basket; of box alder bark (wide'-i-dä-di-ke) for the white splints or strands; and of willow bark, which is colored or dyed by the use of clay, for the black strands.

(A note says elm bark was sometimes used for the colored splints).

The willow sticks are selected so that, when stripped of bark and trimmed, they will be about $\frac{1}{2}$ or $\frac{5}{8}$ of an inch in diameter, and fairly uniform throughout their length. They are cut about 5 ft. long to allow for trimming.

The alder and willow barks are taken from trees that are about the size of a man's wrist, and are stripped from the tree in widths of from $1\frac{1}{2}$ to 2 inches, and in lengths of from 4 to 6 ft.

These bark strips are allowed to dry for 3 or 4 days, as then they do not warp or discolor. The willow barks are then treated with clay, to color them, as described later.

To make the frame^{work}, four sticks are taken for the bow-frames, and one stick for the rim or hoop, Fig 1 - N, U, N', U', ¶

(N and N' are the nether bow-frames or bow-feet, and U, U' are the upper bow frames. (Fig. 7))

This is the method: - for the nether or rounded bow frames, two of the green sticks (N) are bent as at N', fig 1, and each tied with a cloth or bark strip to hold it in shape until set. N' - fig 1.

The sticks used for these nether bow frames she said should be cut a little longer than those for the upper frames to allow for their extending below the basket. (Refer to N, U, fig 1.)

(While this may be a general rule, all of the bow frames in this basket are about the same length F.W.)

measures
→

The frame parts that extend below the basket are called the bow-feet, and when the basket is set on the ground hold it up and keep it from becoming soiled. (See frame Fig 22.)

The two upper bow frames are selected so as to have a strong middle section,

and are cut ~~so~~ as in U-fig 1, bent at the places ~~marked with~~ ^{designated by} arrows, and then tied with two strips of cloth or bark. (Fig 1-U')

Cut and bent in this way, gives a rather flat base to the upper frames (U), and a rounded base to the nether frames (N).

The frame could now be assembled, but there are still some preliminaries. The first of these is to determine the depth of the basket.

Taking a nether (or rounded) bow frame (U), Mahidiweash makes a mark with charcoal at the ~~place~~ ^{place} where the curve begins. (Fig 2-a). From this point she measures up on the stick four palm widths, grasping the stick hand over hand - and marks this upper point, Fig 2-b.

She then cuts a string this length (Fig 2-a-b) and uses it ~~in marking the~~ ^{in marking the} other side. These ~~marks on~~ each frame ~~is~~ tested in relation to the other, as in Fig. 3, cut or trimmed

to the same size, and all frames tested or compared. (Fig 4.)

x x x x x

(?) The stick for the rim is now bent into the form of a hoop, its ends fastened together loosely, and tested for ~~right~~^{correct} proportion by taking an upper bow-frame and laying it across the rim so that its base lies against a section of the rim. Fig 5. If the upper marks on the standards come at the hoop, the hoop is of the right dimension.

The rim is usually ~~made~~^{some} what oval; ~~with~~^{it is made ~~thus~~^{so}} to give the basket a greater width (side to side), than depth (front to back) (Fig 6)

After establishing the proper size for the rim she whips or ties the joint with four wrappings of sinew as in Fig 6. This joined section of the rim is always placed at the back of the basket. It is not so noticeable here, and strengthens the basket at a wearing point.

The rim is now marked at the center of this joint, and a string or buckskin thong laid along the hoop until the opposite side is reached. (Fig 6-1) A tentative mark is made and then a trial of this measure the other way round, the center found, marked, and the string cut to fit between these points.

This gives the half measure. The string is doubled (Fig 6-2) to get the quarter measures, and these are marked, then cut in half and doubled (Fig 6-3) for the eighth measures.

All these points are marked, especially the eighth measures, as the ~~are~~ "corners" of the basket come at these points. (Fig 6-a, b, c, d)

x x x x x

Step 2 - We are now ready to assemble the frame work. The upper and nether

70
Fig 7.

bow-frames ~~should~~ ^{are} be fastened together so that the lower markings on the two sets of ~~standards~~ shall ~~come~~ close together. When this is done the upper marks come on a line around the basket. Fig -

Taking a nether and an upper bow-frame,

they are held or laid together and tied with a simple tie — in old times of sinew. She showed two ways of holding the frames to do this, the best way being as in Fig 8 and the alternate way in Fig. 9. The upper frame being tied to — is now turned crosswise of the nether frame, Fig 10, and the second upper frame is attached in the same manner. Finally the ^{second} nether frame is attached ~~as indicated in~~ Fig 11.

The ties were made in the order shown in Fig 11 = 1, 2, 3, 4.

As the ~~two~~ frames are fastened rather loosely by this first tie, a second or anchoring tie is made at each joint. This tie is ~~shown~~ ^{illustrated} ~~depicted~~ ^{pictured} in Figs 13 - 14.

The advantage of this tie is that it has more of a binding effect; prevents slipping of the frames, and makes the basket firmer.

* — * — * — * — *

To complete the assembling of the frame she now attaches the hoop. Holding the joined frames with the standards upright (Fig 15)

and with the longer or nether bow feet extending from front to back, the hoop is placed within this series of uprights and attached to them at the marks already made on the upper parts of the standards. This is done with a simple temporary tie and the standards are so fastened to the rim that each set of two standards shall come close to, and on either side of the $\frac{1}{8}$ marks already made on the rim. Fig -

(As the bow feet always extend from front to back, ~~there are only~~ and the rim-joint is always placed at the back, this leaves but two choices for front or back - Experience is the only guide here as it all depends on the set of the frame.

The back can only be at side A or at side C.

Fig - 18)

After ~~the~~ the rim is attached to all the standards (or vice versa), they are adjusted at the rim so that the $\frac{1}{8}$ -measures, Fig 6-a, b, c, d. shall come halfway between the two standards in each set.

Fig. 16.

A simple tie is now made about the two

Step 3 - as the next thing in order is wrapping or weaving of the white strips to form the body of the basket, Mahediweash takes a bundle of the splints of Alder bark and goes down to the Missouri River to wash them. She takes a large handful of these dried strips (Fig 19) and anchoring them by means of a slip noose, the loose end of which she holds in her mouth (Fig-20) she lets them float in the water working them about for 15 or 20 minutes, until they are soft and pliable. They are then taken into the house, washed again in clear water, and laid out on a cloth near the worker.

As the splints for weaving are usually about $\frac{3}{8}$ ~~of~~ of an inch in width, she takes these strips of bark that have been washed, and cuts them lengthwise, with a pair of shears, to the proper width.

In older times this was done with a knife, so \therefore a strip of bark turned or folded over, and cuts ^{of correct} made at the center, at ~~correct~~ widths.

Fig 21 - a.

Holding the strip between the knees, with the loose

standards halfway up from the rim to hold them, (Fig 16-a) and a binding or permanent tie is made to give the rim and standards greater solidity.

Fig 17. The whole frame is now gone over and such adjustments made as are needed to give it the correct shape.

at this point it will be helpful to refer to diagram 18. This is a view looking at the top of the frame. ~~It will~~ ~~help~~ ~~explain~~ ~~some~~ ~~of~~ ~~the~~ ~~foregoing~~ ~~description.~~ ~~and~~ It will be necessary to refer to it, as the basket parts are ~~here~~ designated by letters which will be used hereafter to identify them. This is considered as being carried - side C ^{resting on} the back, and viewed from above.

- A - The face of the basket
- B - Right side of basket
- C - Back of basket (and part resting against back of carrier).
- D - Left side of basket.

"a, b, c, d" are the "corners" of the basket.

N, N₁ - The nether frames.

U, U₁ - " Upper frames.

H - The rim or hoop

x x x x x x

Baskets

end trailing thru and held by the left hand, the knife was inserted at these cuts and the bark split lengthwise.

Fig 21-b.



She cuts quite a number of these white splints, since each splint for ease in handling can not be more than 5 or 6 feet long, and in consequence, will only go about the basket a couple of turns - more or less.



Being now ready to wrap or weave the white strips the frame is held in the lap with the back (C) and the bottom toward the worker. Taking a white strip with the inner side of the bark toward her she says "Always start on the left in either foot at the back - never anywhere else, and always end at the top on the same standard. This keeps the number of white courses even all the way round." She then takes a simple turn about the standard as shown in Fig 22.

Whether this was tied or not I do not know, but think not as the strand is crowded into the space where the two standards join.

At this point in my notes & sketches there is some confusion - one sketch shows the

start as having been made as indicated and another as having been made on the right bow foot as in Fig 23. The probability is that she started the weave as given in the rule, and for some reason changed it. ~~to~~ Certainly my examination of the basket ~~makes it~~ shows the white weave to have been started as in Fig 23. Whichever place was used, this start brings the initial white strand on a line with the base of the upper frame V.

See end of we
I have examined two other baskets and as they start in different places, can only say that this is a general rule to adhere to if possible. ~~But~~ There can be no doubt that they were never strictly governed by ^{their} rules.

After making this first turn or hitch, the white splint was carried to the left, over the next standard, around it, and again over to the left. ~~As~~ it was carried over this second time it was pulled tight and pressed down hard with the thumb to make it firm and tight and to bring it back into line Fig. 23.

(mahidweash says - "the white weave is always carried around the basket to the left." Apropos of rules, I have one in which the white weave is carried to the right! F.W.)

~~The pressing down at the turn on each standard~~
 as the wrapping or weaving proceeds around the basket, always to the left, each succeeding ^{round} ~~course~~ or course is carried above the one preceding, Fig 24, and so on successively up the standards in a slow spiral, until the final course is reached 2 or 3 inches below the rim. Fig 25

The final splint is then anchored with a turn or hitch to the same standard as the one on which the weaving started. To hold it firmly she makes a tie of sinew around the hitch. Fig - 26.

In carrying these courses of splints around the basket, it is necessary at intervals to introduce by splicing, new splints to continue the weaving. This splice is made only at a standard. The new splint is cut a little thinner & narrower at one end: holding the strip with bark side toward one, a cut is made on the upper edge of the splint near the point. Fig 27.

Turning the splint, so that inner side is out, it is laid diagonally across the previous splint

at the post or standard nearest the end of the splint.
 Fig 28-a. The cut end of the splice ⁽²⁾ is then turned over and down, back of splint first splint (1), so that the turned down portion shall rest against and along the standard. Fig 28-b. Pressing down with the thumb to hold both splints against the standard the two splints are given a turn about it and carried over to the left, Fig 28-c & d. Continue then with the weaving as previously.

Fig 29 shows a splice made at the bottom of basket.

check The white weave on this basket was carried up for 33 turns or courses around the basket, and finished by an end hitch as described.
 on what frame?

as the designs on the four sides are all different an extra strand was ~~wadded~~ added at the top to make the design symmetrical.

x x x x x.
 The white weave or groundwork is now finished and the basket is set away to dry. Before beginning the black weave all loose ends of the white weave are trimmed off ^{close} at the standards where the splices have been made Fig. 28-d 2.

x x x x x x x x

Step 4 - We continue our work - commencing the black weave. Taking some water in her mouth, she sprays the white strands to make them pliable. With the bodkin (Fig 30) she tightens the white strands by pushing down on them at the places where the turns come on the standards, and ~~pressing~~ ^{working them} towards the bottom of the basket.

The black splints are placed beside her in a pan of water and are taken out as needed and the water squeezed out, to keep them from discoloring the white strands. Keeping them in water makes them pliable and easier to work without breaking. Each black splint as it is taken out is ~~pointed~~ given a point as this facilitates weaving.

all black weaving is done upwards (from the bottom to the top) and the basket is turned in whatever position needed to do this. never done otherwise.

She now takes a black splint and starts the weave on side A. The bodkin is introduced at the bottom, and, separating the alternate white splints, Fig 31, is carried up its full length and is then turned on edge to open up the splints. Fig 32-b.

The black splint is now carried up this far alongside the bodkin, which is then advanced.

In this way the black splint is carried up to, and about 6" past, the hoop or rim.

The center of this front section or rim is ^{now} found, thus; she takes a thong or string and measures from standard to standard, then doubling the string finds the center and marks it.

The center strand is now tied to the rim at this point. Figs 33³⁴ ⁽³³⁾ this figure shows the skips made in the black weave. - This center strand determines the major part of the pattern and all weaving of the black is done in relation to it, and all counts made to either side.

Mahidiweash wove the front "A" and I merely observed the general progress and tried to "get the hang" of it.

All the ^{other} black strands as woven, were carried up to about 6" above the rim and allowed to hang loose. Fig 35.

The design was worked out by trial of several strands each side of the center ~~strand~~, and after it had been determined the weaving was done to the left completing the design ^{on that side}, and then carried out in reverse to the right, Side A. Fig 36.

Figure 34-a-b-c shows ways of making this tie, a with a single and b-c with a double turn.

She gave this rule "Always weave first to the left, then to right."

The first or center strand Fig 33 was carried over and under 8 white strands alternately, under 3, over 1, under 3, over 1, under 1, over 1, under 3, over 1, under 3, over and under 5, and under 3.

As the design progressed on either side the loose ends were grasped above and below (as in Fig 37) and squeezed to tighten them, and then the strands pressed toward the center from either side, using the bodkin, to bring them close together. Fig 38.

~~The~~ ^{Throughout} ~~weaving~~ all the weaving, the bodkin was used constantly, not only to separate the strands, but also to keep them pressed in toward the center to make the weave close and tight.

As stated, the black strands were left hanging loosely at top and bottom, while weaving the sides, and if for any reason the basket was put away, they were gathered into loose knots.
(Photos may show this)

When again resuming work, these knots were untied and dipped in water to soften, and water blown by mouth over the whole basket, for like reason.

As the bottom of the basket is somewhat

narrower than the rim, the black weave covers or fills this main section of the face, as it is carried up from the bottom. This leaves a narrow extra section between the main section and the standards on each side ~~of the face~~, that must be filled out to complete the face. See A, B, C, D.

These sections are designated on the plates as Extra. Here shorter black strips are introduced from the inside, and near the bottom, or wherever necessary to continue the pattern, brought thru to the front, and then woven ~~in~~ as if continuous. In each case a short end is left hanging loose on the inside at the bottom end of this splint.

Sometimes a longer strip is used, one end brought thru, woven up to the top, then the longer loose end at the bottom is doubled back, brought thru and carried up beside the one just woven.

x x x x x

These extra sections in face A, being ~~completed~~ ^{woven} and the design completed, the basket is turned on its side ^{Fig 39} hoop to the left, and the black finishing weave is carried across to form the edge or border of the basket.

Each strand is brought up over the front of the hoop, down, back, under, and again to the front and forward in front of the next

taking a couple of turns about the post and the hoop where they meet. The loose ends are then carried into the diagonal weave to the right or left of the post as required. This given as a standard pattern and is reversed to bind the companion post. There are two or three variations but I have drawn the simpler one, and have simply made drawings of the bindings on all posts and traced them as well as I could.

At each corner the binding for the right hand post is designated P_1 and for the start and P_2 for the finish. P_1' and P_2' indicate the binding for the left hand post. a, b, c etc refer to the extra strands. The weaving at the corners was not finished according to a set pattern and then left, but was changed or reweaved several times, as circumstances required, to complete each portion of the weaving.

See Figs

x x x x x x

The binding of the posts $d-1$ and $a-2$ completes face A , and the basket is ready for us to continue the black weave on the opposite side. The sides are always completed in pairs as this makes the black weave continuous. Thus side C becomes next in order,

The basket is sprayed and the white strips again tightened with the bodkin. Reversing the basket (bottom up) she counts tens from each side of the black strips and finds the center strand.

She then carries it under the base of the upper bow frame^U, across the basket at the bottom and ~~under~~^{under} the base of the opposite bow frame^U, ^{basket} considered in its natural position.

Turning the basket, she then weaves the black strip up ~~on side C~~ from the bottom, on side C, as was done on side A. She uses the bodkin as before, ~~and~~ carries this center strip up and above the hoop. Finding the center of the hoop, she ties this strip to the rim at this point.

On this side the order of introducing the black splints was 1, center strip, 2 - 1st to right, 3 first to left, 4 - ~~2nd~~ to right and ~~5 - 2nd~~ to left, and so on - 7 strands the same as on side A, but from there on the design was different.

X X X X

At this point I took up the weaving, and following her directions, completed side C,

Fig. 47⁽⁴⁷⁾ finishing it in the same manner as side A, with post binding. Fig 44-c-2, Fig 45-b-1.

This done, side B was next in order, and the same procedure was gone through, not forgetting to keep the basket moist at all times.

After completing side B, (Fig ~~48~~⁴⁸), 4 Posts at a-1 (Fig 43) and b-2 (Fig ~~45~~⁴⁵) the black strips were carried across the bottom in a simple diagonal weave based on a triple skip. ~~Fig. 47-a~~

In weaving the bottom I did not use the center strip but ~~began~~ at the left, and wove straight across to the right, as this pattern is always woven from left to right. (Fig 49-a)

Side D, Fig ~~49~~⁵⁰, was carried out in the same manner as all the other sides and finished by binding the standards, ~~Fig 49~~
~~Fig 42~~ } C-1, Fig 44 and d-2, Fig 42

~~The last of the finishing work in step 5,~~
 In the black, ^{on sides C+D} weave, the strips often failed to reach around the basket and still allow for the weave at the edge. In this case the black strip was spliced as in Fig. ~~49~~⁵¹
 The ~~splice~~^{new piece} was fastened to the original splint by two ties of sinew as ~~shown~~^{shown}. This splice

was made ~~so~~ as to bring it into the body weave or else at the rim.

x x x x

The last of the finishing work (step 5) is to weave the corners (a-b-c-d). This was done by bringing ~~the~~ black strips thru (from the inside) at the bottom, and ^{then} weaving up, as usual.

These strands were usually carried up and over the rim, doubled back in front of the strand ^{just} woven, and then down alongside the first.

There were two designs for the four corners.

I have made drawings of these showing one ^{example of} each of the corners ^{designs} and the scheme of the other two. Figs 52, 53. The strands are ^{numbered} in order of weave - and dotted lines show both the course of the strand and the loose ends. After weaving these ⁴ corners all loose ends

on the basket are trimmed off close to the weave, but not too close, except those on the outside of the diagonal weave. These were allowed to dry and then cut off close with a knife.

Then after trimming, at the places where the splices and twists are made, on the standards, the white strands are pressed down hard with the bodkin to make ~~the~~ ^{everything} smooth + firm.

The very last thing is to ~~attach~~ attach the carrying-strap. This is a rawhide band of about 2 ft in length, and $1\frac{3}{4}$? in. wide. The two ends of this are pierced and a thong of rawhide or buckskin drawn through each.

These thongs are then tied to the rim, between the standards at corners b and c.

Fig 54 =

x v x x

The basket is now complete. While weaving, the basket was passed back and forth ~~during~~ to give instructions and ~~to give~~ help, and to ~~show~~ make corrections. This was rather confusing, as I was trying also to make notes and diagrams.

Mahidiweash would also talk along giving facts and information, and as these had to be translated the various episodes were not always synchronous.

Sometimes she would talk of other things, so that I did not always get things recorded in their exact order of procedure. As there was

much changing or improving of the weave, it was ~~impossible to~~ ~~could record~~ ~~all~~ ~~everything~~ ~~I wanted to~~, but I believe that ~~these~~ ~~are~~ here ^{are} all the essential facts, and that these ~~will~~ give a ~~practically complete description~~ ~~of~~ ~~a~~ ~~fair~~ ~~idea~~ of Hidatsa basket technique.

Facts and rules about baskets
and weaving -
by Maxidi weac.

(27)

The wood used in the frame work of a basket is of willow (Matoxishe) This wood is light and strong.

The bark from this tree was also used for the black ~~weave~~, splints or strips used in weaving the design, and it was colored or dyed ~~by burying it in~~ ^{with} clay. ~~She~~

In the summer this was done by taking the ~~cut~~ bark out to a clay bed (a slough or marshy place where alkali was found) and burying it. She took us to such a place and showed us some that she had in preparation. But mostly, as she says,

"we colored the black bark in winter." ~~when I want~~

~~She says~~ She takes some of the clay that colors bark and puts it in a pot near the stove or fire, softens it with water and buries the bark in this.

"It must be watched carefully ~~so that it will not~~ ~~spoil~~ not to spoil it - if left too long ^{the} bark gets rough and rots. The length of time ~~required to color it~~ ^{keep it in the clay} depends pretty much on the weather - if good, it takes less time, if not, takes longer, but the average time is about 7 days. This ^{state of the bark} is determined however, more by examination than by the length of time. ~~She~~ "look~~s~~ at the bark and if it feels just right, take it out, as it spoils if left too long."

The white strands or strips ^{are} made from the bark of the box alder. (widē-'i-da-dī-'kī)

Sometimes baskets were ~~made~~ entirely of the willow barks. These were brown and lasted a long time.

These all-willow baskets were woven with an all-over ~~pattern~~ diagonal pattern based on a triple skip. Fig 49.

(I did not determine whether these brown baskets the barks were only partially dyed ^{or} whether they were ~~simply~~ ^{in the natural state} as they came from the trees and the color was merely ^{dried as usual before using} the result of weathering. (F.W.) Fig 49. (in pattern.)

x x x x x x

Baskets were seldom made of a depth greater than from the inner crook of the elbow to the finger tips or the knuckles, as it was not easy to work in the designs, if deeper.

The baskets ^{were} usually woven with the same ~~designs~~ ^{one} design on all ^{the} three sides that are visible when the basket is carried. The back (the part resting against the carrier's ^{a back} shoulder) was usually different. ~~As~~

although
sometimes all
4 sides were
alike

~~was generally based on the triple skip. This was~~
the back ^{was} not seen much ~~it was~~ a simple design was used, generally based on the triple skip.

This was easier to do and made the work go faster. The back only was different from the other 3 sides, never all sides different.

In the principal designs, ^{one} always worked from center to left then to right ^{at} the back and ^{the} bottom, in the diagonal pattern, always worked from ^{the} left to ^{the} right, "Never any other way".

In weaving the black design, each face as it is being woven is held in its normal position. Each side faces one and the black strands are woven always upwards to the sun. This is the general rule and she was particular on this point.

when ~~white~~ weaving with the black strips, ~~they~~ ^{they} were ~~always~~ kept in water in a large wooden bowl (16" to 18" dia) or some other vessel, and were taken out as needed.

As they are taken ~~out~~ ^{from} the water, ~~should~~ ^{must} be squeezed out of them. This should be done carefully, or else they will discolor the white weave.

"Some workers are careless about this and their baskets are not so nice as the others"

At all times in the weaving the strands, black and white, should be kept moist ~~and pliable~~.

"We often used a small wooden bowl or a large horn spoon to hold the water that we would take in our mouths to blow over the parts already woven. ~~This kept the strands~~

~~Blowing~~ One should blow water over the woven places ^{quite} often so that the strands would be pliable, ~~and~~ not break"

→ x x x x x x
Baskets should always be woven in the shade to prevent drying too fast. The best place was "like in old times" in the earth lodge for there it was always cool and a little damp.

x x x x x x
Baskets should never stand in the sun. If they get dry ^{or} warped, spray them all over with water and put in a shady place.

x x x x x x

The designs were worked out using skips of
1 - 3 - 5 or 7 etc as needed. Figs ^{A. B. C. D.}

x x x x x x x

The barks for baskets were ~~cut or strip~~ ^{taken from trees} about the size of a man's wrist. If the tree was larger the bark was too heavy, if smaller, ~~it~~ ^{it} was too thin.

The frame parts were evidently selected "by the eye" for size and uniformity, and were of a size ^{to} in relative proportion to the size of basket wanted.

~~The frame parts were used~~

For the ordinary sized basket the frame parts were about $\frac{3}{8}$ " to $\frac{1}{2}$ " ^{inches} in diameter. The length depended on the size ^(depth) of basket.

The white strands were about $\frac{5}{16}$ " to $\frac{3}{8}$ " in. in width and the black strips $\frac{1}{4}$ " in to about $\frac{5}{16}$ ".

x x x x x x

The netting bowstitch N, N, ~~must~~ ^{extend} always ~~the~~ from front to back of the basket. This is ^{the} invariable rule - See Fig or photo.

Observations on Learning Basketry
 Moxidiweac

Among our people, when we wanted to learn how to weave a basket, we had to pay to learn, for all those who were basket-makers "had the right" to make them and to teach others, ~~as they had~~ ^{and} ~~paid~~ ^{to learn in} their ~~turn~~ ~~thing~~ ~~away~~.
 (This "right" constituted a monopoly and could be acquired only by purchase.)

"We always knew what to pay - it must be something valuable. In old times we paid a woman's robe and belt, a dress of blankets, or a dress of calico and something valuable as an ornament.

"Sometimes when we wanted to learn we took a good tanned robe, ~~took~~ ^{went with} it to the basket-maker and said, 'you show me how to make a basket'.

"Then if the basket maker did not have materials on hand, she would take the pupil into the woods, show her the kind and size of trees, just what parts to use, ^{and} how to cut and prepare them, ~~sticks and frames~~.

"She would then show her how to make a basket.

after this [^] The pupil would ~~then~~ go home and try to make one & if she could not do it, she would come back and pay again, this time with dried meats and foods, a whole arm full.

"I do not know why it is that we do not teach

everyone, ~~except~~ that if you don't want to, you don't.

And anyhow, we wanted to keep this ^{privilege} ~~right~~ to ourselves, as it gave us the right to get gifts, and if everyone learned and did not pay, then we would not get anything.

(The inference is, that ~~people~~ either one had to buy ~~the~~ baskets from the basket makers, ~~already~~ made or made to order) or else, if ~~you~~ ^{you} wanted to make one you had to pay ~~one~~ ^{another} who had the "right" to teach ~~you~~ ^{you}.

~~I did not clear up this point, and failed to verify it. (F.W.)~~

~~The latter point is clear, but whether baskets were bought just as we buy them, ^{generally} I did not find out. (F.W.)~~

"When I learned basket making, I did not pay anything to learn as my teacher was a "relation" and staid in our lodge. This was 40 years ago — I am now 72 years old (1912). ^{and my teacher was Lone Woman.} (My notes have the relationship thus, Lone Woman, Calf Woman's Mother, is sister Indian custom.)

"I did not ask to learn, but Lone Woman thought she was getting old. So one day she asked me to go to the woods with her to help peel bark for baskets.

Still she did not say anything about my learning, but when we came to the timber she showed me the right kinds & size of trees for bark — and how to peel off the ~~the~~ barks — for baskets. When we came back we dried these barks or splints, ~~and~~ Then she took me out and showed me

Baskets

not only
~~both~~

how to bury the ^{willow} splints in clay to color them black, ~~but~~
also how to watch them to see that this was done ~~properly~~ ^{right}

" He told me about ^{wetting} dampening and cutting the white ~~barks~~ ^{bark} or splints.

" I learned in the ^{earth-} lodge. This was the best place, as the lodge was always cool and damp, and the barks would not dry out so quickly. Then too we could be more secluded out of the way and not so many people could see what we were doing.

" If people ~~come~~ ^{did} come in, we just went off by ourselves, to some other part of the lodge.

" at the present time (1912) there are on the Reservation ~~about~~ 10 basket makers as nearly as I can recall. I will give their names and the kind of basket ^{each} they makes. On this side of the river at Independence —

- Round basket { 1 - Mikikash -
- { 2 - Calf-Woman.
- { 3 - Leader

- Square basket { 1 - Maxidiweac
- { 2 - First Sprout (her mother ^{Indian} custom)
- { 3 - Pretty Woman
- { 4 - Young Beaver
- { 5 - Miki Kash (Hides + Eats)

Across the river at Elbowoods —

- Square Basket { 6 - Eagle Woman
- { 7 - Parents up.

These are all old women except one and I do not know who their teachers were."

x x x x x x

I asked her to name the parts of the basket, and they were given to me in this order, possibly in the order of their importance.

- 1 - Adui-dē-da Basket mouth.
- 2 - Awa-i-adats ---- The feet bows - the bow frames especially the nether frames that rested on ground.
- 3 - Itsë-éti, - The whole bottom part.
- 4 - Adu-iki-ikuha - Strap side basket - back
- 5 - Adua-shi'kē-detsai - Like horns. Parts of standards projecting above rim.
- 6 - ~~The basket is~~ midu'kishe - The basket itself was called midu'kishe, Pottery holder - why she did not know.

Baskets -

Measurements of this basket are —

N-right - $40\frac{3}{4}$ "

N-left - 40 "

U-back - 40 "

U-front $39\frac{1}{2}$ "

Hoop - 64 "

Basket Making

- F. N. Wilson -

(1)

The Hidatsa-Mandan baskets ^{have} ~~are of such~~ a striking appearance, and ^{as they} are different in construction from any we had seen prior to visiting Ft. Berthold, it seemed advisable, on our trip in 1912, to obtain some information regarding their methods of basket making, and also to observe if possible the actual weaving of a basket. In this way we hoped to get information of a practical nature ^{about} ~~regarding~~ the various steps in basket-making and some insight into the general technique. This seemed to us to be of more value than just a general description of a basket.

Knowing that Maxideweac was a basket maker, my brother arranged for me to assist her in weaving a basket, ^{so that I could obtain} ~~thus obtaining~~ some first-hand experience while he noted the progress by daily record and by photographs. While assisting her ~~to also~~ ^{everything that seemed pertinent} I observed ~~as much as possible and as far as it~~ ^{was possible and as far as it} ~~was possible~~ ^{and} made notes and diagrams.

The subject was new to me, so that there are probably many points that are not given

in their exact ~~sequence~~ ^{order}, but every effort was made to diagram and describe the different stages of the work as they occurred. The notes and diagrams ~~that~~ following ~~them~~ in conjunction with my brother's description, will ~~give~~ ^{the Hiddeas} give a good general idea of the methods in use among ~~them~~ when weaving a bark basket.

x x x x x x x x x

The type of basket described here, is called a square basket, and is woven of bark splints.

They ~~also~~ ^{make} a skin basket ~~in use~~ which is ~~quite~~ similar. The framework is the same ^(but instead of using splints instead of bark) but it is covered with rawhide, and has a ~~more~~ ^{rather} conical shape.

(See museum collections)

There ~~is~~ ^{is} also ~~weave~~ a round basket. This, however, is woven from roots, and is round and flat, more like a shallow bowl or dish.

(See museum collection)

So, when speaking of baskets in general, it is the square basket carrying that is usually meant.

This particular basket, ^{that I am describing,} was woven as an exhibition piece, and for that reason all four sides were given a different or variant design to show the different styles of ornamentation, and ~~it~~ ^{it} was made a little larger than those in ordinary use. As basketry was an art indulged in only by the women, I came in for a good bit of "chaffing" on the part of visitors, while ~~helping~~ learning to weave!

altho Maximilian did not indicate that there was in basket making, any more than the two general divisions of making the frame, and of weaving; I have, for greater clearness, divided the ~~process~~ into 5 steps or stages, as follows —

- 1st step - Collecting and preparing the materials
- 2^d " - Assembling the frame-work.
- 3^d " - Wrapping (or weaving) the white strips or strands about the framework. This forms the foundation of the body of the basket and serves as a background for the black ~~weave~~ ^{pattern}, which is ~~then~~ woven in with black strips or splints.
- 4th " - Weaving the black splints or strands over, or into, the white background to ~~make~~ ^{make} the pattern, or design, and to complete the body of the basket. Included in this is the diagonal weave at the rim, which is a part of the sides.
- 5th step - The finishing work. This consists in binding the eight standards, which are attached to the rim, and project above it, and in weaving the design at the four corners formed by these standards. Final trimming - cutting off all loose ends. Attaching the shoulder or head-strap.

Step-1

Baskets

(4)

The materials for this basket had already been collected and prepared by ~~Mahidiweah~~ before

They consisted of several withes or sticks of willow (*maxowishe*) wood to form the framework of the basket; of box-elder bark (*wide-i-da-dekii*) for the white splints or strands; and of willow bark, which is colored by the use of clay, for the black strands.

(note. Elm bark is sometimes used for the colored splints)

The willow sticks are selected so that when stripped of bark and trimmed they ^{will} shall be about $\frac{1}{2}$ or $\frac{5}{8}$ of an inch in diameter, and fairly uniform ~~thru~~ ^{thru} out their length.

They are cut about ~~5~~ ^{long} ft. ~~length~~ ^{length}, to allow for trimming.

The alder and willow barks are taken from trees ^{that are} about the size of a man's wrist, and are stripped from the tree in widths of $1\frac{1}{2}$ to 2 inches, and in lengths of ~~5~~ ^{from 4 ft to} or 6 feet.

These bark strips are allowed to dry 3 or 4 days, as then they do not warp nor discolor.

The willow barks are then treated with clay to color them, as described later.

~~Step 2~~ To make the frame, four sticks are taken for the bow-frames, Fig 1 - N, U, N', U' and one for the rim or hoop.

(N and N' are the nether bow-frames [bow-feet] and U, U' are the upper bow-frames or standards.)
See also Fig - 7

This is the method: - for the nether or rounded bow frames, two ^{of the} ~~of the~~ (green) sticks ~~are~~ ^(green) as at N , are bent as at N' Fig 1 - ~~N~~, and each tied with

And ~~the~~ ^{each} tied with a bark ~~strip~~ or cloth strip to hold ~~it~~ ⁱⁿ shape until dry. Fig 1-A-a.

→ ^{place here}
 The ² upper bow-frames ^(B) are selected so as to have a strong middle section and are then cut as in Fig 1-B, bent ^{at points marked by arrows} and tied with two strips as in Fig 1-B'. This gives a ^{rather} flat base to the two upper bow-frames. ~~and~~ ~~and~~ a rounded base. ~~Fig 1-B'~~
 (The ^{two} nether ones ₂ have

these ~~nether~~. The sticks for the nether bow-frames ~~had been~~ ^{were} cut about six inches longer than those for the upper ^{Fig 1-A-B} to allow for ^{their extension} projection below the basket. ~~They~~ ^{the} are called bow-feet and when the basket is set on the ground, hold it up and keep it from becoming soiled.

(2) - ~~As~~ The frame is now about ready to be assembled but there are ^{still some} ~~a few~~ preliminaries ~~before this can be done~~. ^{The first} is to determine the depth of the basket. Taking ~~the~~ ^{at} the nether or rounded bow frame ~~Buff~~ ^{maxidiweac} makes a mark with charcoal on the frame at the point where the curve begins. ^{Fig 2-a} Using this ~~as~~ ^{to} start ^{from}, she measures hand over hand ~~grasping~~ the stick ~~four~~ ^{four} hands (or palm widths) up on the stick and marks this point ~~XXX~~.
 Fig 2-b

She then cuts a string this length, Fig 2 - a, b, and uses it to mark the other side. These marks on each frame are then tested in relation to the other frame, as in Fig. 3, cut or trimmed to the ^{equal} size, and all frames tested, or compared Fig. 4. (H) bent into a hoop, ~~and its ends.~~

The stick for the rim is now fastened together loosely, and tested for correct measure, ~~This is done by taking~~ the upper bow ~~frame~~, and laying it across the rim so that the base lies against one side of the rim. Fig 5.

If the upper marks on the standards come at the hoop, it is of the right dimension.

The rim is usually somewhat oval, with a short and a long diameter. This makes the basket a little wider (side to side) than it is deep (front to back).

(Fig 6.)

After determining the proper size for the rim she whips or ties the joint of hoop with four wrappings of sinew as in Fig 6. This joined section of the rim is always placed at the back of the basket. It is not so noticeable here, and strengthens the basket at a wearing point. The rim is now marked at the center of this joint ~~Fig 7~~, and a string or buckskin thong laid along

the hoop until the opposite side is reached. (Fig 6-1)
 a tentative mark is made and then a trial ^{of this measure} ~~made~~
 the other way round, ^{the} center ~~is found~~ and marked
~~and the~~ string ~~is then~~ cut to fit ^{between these} ~~two~~ points. ~~to find~~
 This gives the half measure. String is doubled (Fig 6-2) to
 get the $\frac{1}{4}$ measures, and these marked; then
~~cut~~ in half and doubled ^(Fig 6-3) for the $\frac{1}{8}$ measures.

all These points are marked, especially the $\frac{1}{8}$ measures
~~a, b, c, d Fig 6~~
~~marking between the quarters~~ as they ~~form~~ the
 points marking the corners of the basket
 (Fig 6 - a, b, c, d.)

X Step 2 -

~~Step 2~~ - We are now ready to assemble the basket.

The frames are to be fastened so that the lower
 marks on the two sets of bow frames shall
 come together. When this is done the upper
 marks will come on a line around the basket.
 (Fig —)

Taking a nether ~~bow frame~~ and an upper ^{bow frame} they
 (~~so that the smaller and larger ends shall pair off~~)
 are held or laid together and ^{held} tied with a ^{simple} tie -
~~made~~ + in old times of sinew ^{the} ~~fastened~~ when you

There are two ways to ^{hold} do this, Fig 8
 shows one way - Fig 9 ^{the} other.

The upper ^{bow} frame is ^{being tied} turned ^{now} crosswise of
 the nether frame and the 2^d upper ^{bow} frame

Fig 10 -

is attached in the same manner. Finally
 the 2^d netter-frame is attached as ~~shown~~ ^{in diagram} indicated
 by dotted lines, Fig 11

These ties were made in the order shown in
 (Fig 12) 1-2-3-4)

As the bow-frames are ^{fastened} rather loosely ~~by this first tie~~ tied together
 a second or anchoring tie ~~was~~ ^{is} made at each joint

This tie is illustrated in its several stages

Figs (13 + 14 -)

The advantage of this tie ^{is} that ~~it~~ ^{it} has ~~of~~ more
 of a binding effect; prevents slipping of the frames,
 and makes the basket firm.

To complete the ~~assembling~~ ^{assembling} of the frame, we
 now attach the hoop. Holding the frames with
 the standards upright, ^{Fig 15} the hoop and with the
 longer or netter bow-feet extending from front
 to back, the hoop is placed within this series
 of uprights ^(with the joint of hoop at part selected for back) and is attached to them
 at the points marked on the upper part of

each standard. This is done with a simple temporary
 tie, and the standards ^{are} so fastened to the rim
 that each group of two standards

shall come close to and on either side of the $\frac{1}{8}$ marks already made on the rim. Fig. 15 —

After they are all tied they are adjusted at the rim until ~~all are~~ these $\frac{1}{8}$ measures ^(a-b-c-d Fig 6) come half way between ~~the~~ two standards in each group. Fig 16.

After a binding or permanent tie is now made at each standard to hold it tight to the rim.

Fig ^{VI-1} — and then a simple tie is made about ~~the~~ each two standards, and a little above the rim — This is to ^{further} steady the frame ~~for then~~ while working. Fig ^{VI-2}

A simple tie is ^{now} made about the two standards ~~about~~ half way up from the rim to hold ~~the~~ ^{them} ~~measure~~ and ~~then~~ a binding or permanent tie is made to ~~give~~ the rim and standards ^{greater solidity} ~~more firmness~~ ~~make~~ and ~~strength~~ (Fig 17. (seventeen))

The whole frame is now gone over ^{and such} ~~and such~~ adjustments made as are needed to ~~make~~ ^{bring} it ~~into~~ correct shape ^{of adjustment} ~~for use~~.

x x x x x .

Step 3 - As the next thing in order is the wrapping or weaving of the white strips to form the foundation for the body of the

Baskets.

(10)

basket, Maxidiweac ^{takes} a bundle of the strips of alder bark and goes down to the Missouri to wash them. These strips have been dried: She takes a large handful (Fig 18) ^{anchoring them} and by means of a slip noose, the loose end of which she holds in her mouth, ^{Fig 19} she lets them float in the water working them about for about 15 a 20 minutes, until they are soft and pliable. They are then taken into the house washed again in clear water, and ~~the~~ laid out on a cloth near the worker.

The splints for weaving are usually about $\frac{3}{8}$ of an inch in width ^{so} she takes the original bark strips and, with scissors, cuts them lengthwise to the proper width. (In old times this was done with a knife. A strip of bark was ^{turned or} ^{over,} folded and cut ^{Fig 20} made at the center, ~~at~~ proper widths. Holding the strip with the knees and with the loose end trailing thru & held by the left hand, the knife was inserted at these cuts and the bark split lengthwise. Fig 21) ^{Fig 20}

She cuts quite a number of these white splints, since each splint, for ease in handling, is not over 5 or 6 ft. in length, and consequently, will go around the basket only a couple of turns, more or less.

Being now ready to weave or wrap the white strips, the frame is held ^{lying} in the lap with the back (C) ^{and the bottom} toward the weaver. Taking a white strip ~~the~~ with the inner ^{side} ~~part~~ of the back toward her, she takes a simple turn around the post or standard on the left of the back (post: side C) ~~Figure~~

"Always start at the nether bow leg on the back, never anywhere else, and always end at the top on the same standard." ~~Keeps~~ This keeps the number of strands or courses the same all the way round.

I do not know if ~~she tied~~ this turn was tied or not but as it was crowded into the space where the two standards joined at the bottom, it may not have been necessary. This initial splint was started ~~just above~~ at the lowest point on the standard and on a line with the base of the upper bow-frame. After making this first turn

Fig 22 — (~~Figure~~)!

After making this first turn, it was carried to the left, over the next adjoining standard, around it, and again over to the left. As it was carried over this second time it was pulled tight and pressed down hard with the thumb to make it firm and bring it back in line.

Fig - 23

carry + start

Baskets.

This pressing down is done at each standard, to bring ⁽¹²⁾ ~~the~~ the strand back in line with the rest of the course.

As the wrapping or weaving proceeds around the basket, (always to the left), each succeeding round or course is carried above the one ^{already made} ~~preceding~~ and so on successively up the standards ~~until~~ in a slow spiral until the final course is reached, about $2\frac{1}{2}$ ³ inches below the rim. Fig 25
2 or 2 1/2

This final splint is then anchored with a ~~single~~ turn or hitch to ^{the} same standard or bow-frame as the one on which ^{the weaving} started. ~~Fig 26~~

To hold it firmly a tie of sinew (we shake) about the hitch. Fig. 26.

In carrying these courses ^{of splints} around the basket, it is necessary at intervals to introduce new splints which ~~and this~~ is done by splicing. The ^{white splints} ~~are~~ spliced only at a standard.

The new splint is taken cut a little thinner & narrower at one end - Holding the strip with bark side toward you - a cut is made on the ^{upper} ~~right~~ edge of the splint near the point. Fig 27

Turning the splint, so that inner side is out, it is laid diagonally across the former splint at ~~the~~ ^{the} end of splint ~~of~~ the posts or standards nearest ^{the} ~~the~~ end of splint.

Fig (27-a)

The cut end of the ~~new splint~~^{splice} is then turned over ~~an~~ and down back of the one being spliced, so that this turned down portion shall rest against, ~~the~~ and along the standard^{Fig 27}. Pressing down with the thumb ~~the new~~ to hold both splints against the standard the 2 splints are given a turn about the standard and carried to the left, ~~Fig 27-30~~^{Fig 27-30} continuing with the new splint as ~~before~~ previously. (Figs 27-d)

32? The white weave ~~was~~ on this basket was carried up for 32 turns^{or courses} about the basket, and finished by a hitch (~~according to rule~~^{as described}) to the left bow-frame.

(?) ~~As~~ ^{of the four sides} the designs were all different, ~~and~~ ^{and} that one side ^(D) required an even no of strands, an extra white strip was added to ~~this side~~ ^(at top) later on. [at top] FW.)

~~xxxxxx~~
The white weave or groundwork is now finished and ~~and~~ ^{being} ~~as a~~ ^{and} Saturday, the basket is set away to dry, ~~and work resumed on~~ ^{Monday}.

~~xxxxxx~~
Before beginning the black weave, all loose ends ~~of~~ the white splints are trimmed off close at the standards, where ^{the} splices have been made and ~~pressed down hard with the bodkin at these points.~~ Fig 27-d4b.

Step 4 - ~~We~~ ^{We} continue our work, ^{continuing} ~~we are now ready for~~ the black weave.

Taking some water in her mouth she sprays the white strands to make them pliable. ~~The black splints are~~ with the bodkin the white strands are now tightened by pressing (or pushing) ~~on the white strands~~ close ^{beside} the standards, working towards the bottom of the basket.

x x x x x x

The black splints ~~are~~ kept beside her in a pan of water and are taken out as needed and the water squeezed out, to keep them ~~from~~ from discoloring the white strands. ~~Keeping them in water~~

This makes them pliable, ~~and~~ easier to work, ~~with prevents breaking.~~ and they are less apt to break. all black strips are pointed as this facilitates weaving. Fig

~~Taking~~ She now takes a black splint or strand and starts the weave on side A - Fig 28?

The bodkin is introduced at the bottom ~~and~~ ^{and by} separating the alternate white strips, is carried up ~~its~~ full length and is then turned on edge to open up the splints

Fig 30 - b

The black splint is carried up this far alongside

the bodkin, which is then advanced and the black splint carried up to, and about 6" above the rim.

31? Fig 31 The center of this front section of rim is ~~then~~ found ^{thus}. Taking a thong or string ^{the} measures from standard to standard; then, ~~by~~ doubling the string, ^{finding} the center, and marks ^{it}.

32? Fig 32 This center strand is now ^{tyed} fastened to the rim at this point. Fig 33 a+b shows the tie.

All ^{black} weaving ~~is done~~ in relation to this center strand and all counting ^{of strands} ~~is made~~ ^{to} either side. This strand really determines the main ^{motive} of the design.

As Maxide weave the front A, and I merely observed the general progress and tried, as we say, to "get the hang of it."

All the black strands were introduced at the bottom and carried up about 6 ins above the rim and allowed to hang loose. Fig 34

The design was worked out by trial of several strands each side of the center, and after ^{it} ~~the~~ design had been determined, the weaving was completed to the left to fill out ^{left} side ~~it~~, and then carried out in reverse to the right to complete side A. Fig 35

Rule - always weave to the left, then to the right.

The first or center strand was carried over and under 8 white strands, ^{alternately,} under 3, over one, under 3, over 1, under 1, over 1, under 3, over 1, under 3, and over and under 5 alternately, ~~and~~ ^{under} 3. Fig. 35a

As the design progressed, the loose ends were grasped in the band to tighten and the strands pressed toward the center by use of the bodkin.

Fig 36

Fig 37

while weaving, the bodkin was constantly used ~~to~~ not only to separate the strands, but to keep them pressed in toward the center to make the weave close and tight.

The black strands were left hanging loose at the top and bottom and if ^{for any reason} the basket was put away, these were gathered into loose knots.

(see photos) again when resuming work, these knots were untied and ~~the~~ dipped in water to soften, and water blown from the mouth over the whole basket.

As the bottom of the basket is narrower than the rim, the black weave covers ~~the~~ ^{or} fills the ~~main~~ section ^{and is} carried up from the bottom. This leaves a triangular ^{or extra} section

on each face that must be filled out, to complete it.

See Faces A, B, C, D.
Fig.

These spaces come close to the standards. Shorter black strips were ~~then~~ introduced ^{from the} inside near the bottom or where ^{made by the strips brought through,} necessary, and then woven in, just as if a ^{splint.} continuous. In each case a short loose end ^{is} left at the lower part of each splint. Sometimes a longer strip ^{is} used, ~~the~~ one end brought thru, woven up to the top, then the looser end, ^{at bottom,} doubled back, brought through and carried up beside the one just woven.

x x x x x

Both sides of these extra spaces being woven and the side of face A completed, the basket is turned on its side ^{with} the ^{hoop} to the left, and the black finishing weave is carried across to form the edge ^{or border} of the basket.

This is done by bringing each strand over the front of the hoop, down, ~~and~~ under, and back again to the front in a diagonal. (Fig. 38) as each succeeding ^{vertical} strand is brought ^{over} in this way, the diagonals are woven ⁱⁿ at the same time, and the edge finished at once. Fig. 39

However, as the rim is curved, the black strand is sometimes carried twice around the hoop to fill out the extra space. Fig. 40-a-b-c

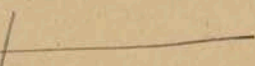
^{extra} diagonal was occasionally needed to fill out as at Fig. 40-d

Step 5

With the border finished, the basket is now ready for the ^{1st part of the} finishing work; namely, the binding of the posts or standards ~~to~~ the rim at the ~~holding~~ corners a, b, c & d. (Fig 42)

She begins at post 1 corner "d" ^(Fig 42) the left hand standard on the front. Holding one end of the black splint in her mouth, she wraps the post, (beginning at the white strands) ~~up~~ to the hoop taking a couple of turns about the post and hoop together where joined, ~~together~~.

The loose ends are then carried into the diagonal weave or into the finishing weave at the corners. ^{Those from the left hand post going to the right, and those from the right to the left.} There were some variations which I did not get,

but in Fig 41  can be seen what is called the standard binding. To show the different treatments, I have made drawings of the corners showing all the bindings, and how they are tied into the weave. ~~50-51~~

^{x x x x} (A and A-2 Figs 42-43-
This binding of the standards completes face A, and the basket is ready ~~for continuing the~~ ^{to} continue the black weave ~~the other sides~~ on the other sides. These sides are always completed in pairs (opposite sides) and this makes (c) the next side to work on.



Reversing the basket Fig 44 — ~~the~~ it is sprayed and the white strips again tightened with bodkin.

Counting tens from each side of the black strips she determines the center strand then carries it under the base of the upper bow frame, across the basket at the bottom and under the opposite

bow frame (considered ^{in its} ~~from~~ natural position of ~~the~~ basket) and then ~~introduces~~ ^{weaves} the black strip, ^{on side C,} from the bottom, as ^{was done} on side A, using the bodkin and

carrying the center strip up above the hoop as before. Determining the center here, she ties this ~~black~~ strip to the rim as in side A. (Fig 33)

The order of introducing the black strands was as follows. 1st, center strip; 2^d, 1st strip to right; 3^d, 1st strip to left; 4th, 2^d strip to right, and so on — 7 strands to correspond the same

as side A, but from there on the design was different. From this point I took up the weaving alone and followed her direction, completing side

C and finishing it ^{in the same manner as} ~~like the other~~ side A. (Fig 46)

~~Side C at Fig 46.~~ The side B was next in order and the same procedure gone through, not forgetting to keep the basket moist at all times.

After completing side B, Fig 47 — (onto — Fig 43-a-1 and Fig 50-b-2)

the black strands were carried across the

bottom in a simple diagonal weave based on a triple skip. ~~At this~~ Fig 48-b ~~the center strip but~~
 In weaving the bottom I ^{did not use} began at the left, ~~and~~ wove straight across to the right, as this pattern is always woven in that way. The whole bottom was ~~woven~~ ^{doubled} at one time. Fig 48.

Side D, ^{Fig 49} ~~woven~~ ^{carried out.} in the same manner as all the other sides, and the finishing done by binding the standards. B-1 - D-2 Figs - 50-42

Step 5 - The last of the finishing work is ~~the~~ ^{to} weaving ~~of~~ the corners. This ~~is~~ ^{is} done by taking black strands and bringing them thru at the bottom from the inside, and weaving as before. These were usually ~~carried~~ ^{carried} up and over the rim doubled back, ~~and~~ ^{carried} in front of the strand woven, and then ~~back~~ ^{down} ~~woven~~ ^{woven} alongside the first. Figs 51-52-53-54

In weaving sides C & D the strands often fell a little short, in which case they were spliced as in Fig ~~the~~ ~~the~~ After the corners are woven all loose ends are trimmed off ^{close to} ~~inside~~ the weave but not too close, except those on the ~~outside~~ ^{outside} of the diagonal weave. These were allowed to dry and then cut off close ~~with knife.~~

In weaving sides C and D, the black strips did not always reach clear around, and for this reason ~~they~~ some were spliced with an extra black splint, and fastened together with two ties of sinew. Fig. This was done in such a way as to bring the splice into the main weave or at the rim.

x x x x x x

~~The last thing at the woven part~~ after trimming, the ~~woven part~~ is finished by pressing down ~~hard~~ and making flat all the white strands ^{where the twist comes at the corners on the standards} at the corners. This is done with the bodkin.

x x x x x

The carrying strap is a rawhide(?) band of the right length. The two ends are pierced and a thong of rawhide or buckskin inserted in each. ~~These are~~ then tied ~~between the~~ to the rim between the ^{standards at} corners b and c. Fig.

x x x x x x

→ The basket is now complete. While weaving the basket, it was passed back and forth as it was found necessary to give instruction or help. This was rather confusing, as I was also trying to make notes and diagrams at the same time. She would also ~~make statements~~ ^{talk along} giving facts or information, some of which did not always refer to the matter in hand, so that I did not always get everything recorded in order or in just the exact procedure. There are many little points that could be clearer, but I think this account gives the essentials and will furnish one with a ~~very~~ very fair idea of Hidatsa basket technique.

Basket Making

(1)

As the Hidatsa - Mandan baskets are of such a striking appearance and of a ~~form~~ ^{construction} different from any ~~one~~ I had seen before visiting Ft. Berthold, it ~~was~~ ^{seemed} ~~arranged~~ ^{advisable} ^(on our trip in 1912) to obtain some information regarding their methods of basket making and also to ^{obtain} ~~get~~ ^{practical} hints ~~that were~~ ^{regarding} their ~~own~~ ^{methods or technique}.
~~Attending~~ ^{My brother arranged} ~~with~~ ^{Buffalo} ~~the~~ ^{woman} for me to assist ~~her~~ ⁱⁿ weaving a basket and thus to obtain a little first hand experience, while he took down ^{by} ^{daily} record of the process and photographed various phases of ~~our~~ progress.

The subject was ~~so~~ ^{so} new to me that there are many points of procedure that are probably not described in ~~just~~ ~~the~~ exact sequence but ~~to~~ every effort was made to diagram ^{and describe} the different points ~~as they~~ of construction as they occurred, ~~and~~ the diagrams ^{and notes} that follow taken in conjunction with my brother's description will at least give ~~me~~ ^a ^{good} general idea of the methods in use among them when weaving a bark basket. This type of basket ~~is~~ ^{is} described here ^{and} is called a square basket ~~and~~ ^{is} woven ~~from~~ ^{from} ~~very~~ ^{wide} bark strips as distinguished from the round baskets which ^{are} woven from roots ~~and~~ ^{are} ~~smaller~~ ^{being} ~~and~~ ^{flatter} and from the skin basket (museum sample) ^{being} ~~smaller~~ ^{and} ~~flatter~~ ⁱⁿ ~~shape~~ ^{shape}.
(2x ample in museum colls)

attempted
(later)

Baskets -

(2)

The ~~of~~ ^{procedure} ~~of~~ ^{steps} in basket making ~~is~~ ^{may} be roughly divided into 5 steps or stages.

1- ^{selecting & collecting} ~~Assembling~~ the materials. Sticks for frames and the bark prepared for use.

2- Assembling the frame. This consists in measuring, cutting & fitting of the four frame sticks and the rounded hoop or mouth part.

3- ^{wrapping the} weaving the white strips to form the body of the basket and the background or ~~strip~~ ^{sides} for the design which is black.

4- Weaving the black strips to form the design on the sides of the basket (and to make the basket ~~strong~~ ^{strong} - and the diagonal or finishing weave at the rim.

5- ^{finishing work} Binding the parts, or standards, and weaving the corners - final trimming.

- ① The materials for this basket, had already been selected and after we had explained what ~~was wanted~~ ^{we} we proceeded at once to the cutting and assembling of the frame which consisted of four frame ^{parts} or bows and of a hoop which when bound to these frames formed the mouth of the basket.

The frame part, or standards green sticks - hard
Willow - or maholishi
Bark for white strips box alder - ~~not~~ ^{willow?} ~~alder,~~

- ③
- ① - Sticks of green wood - to bend easily - bark off (about 6ft?)
 Strips for white of willow (mohoboko) bark - inner. For 6ft long.
 " " black of box-elder - already treated (dlayalchali?) to color.

2 - Takes ^{Frames estimated} sticks ~~measures~~ by eye for strong ^{section} ~~portion~~ & cuts to make the two superior bow-frames, cuts as in (fig) and then ties with bark withes as in (fig) and allows to dry a set. For nether bow-frame bends and ties as in (fig) ^{excepts} after drying takes ~~upper~~ ^{and measures up height as in (fig)} bow frame, ~~then~~ ^{then} makes marks with charcoal just above cut places, ~~then~~ ^{then} clasps sticks with hand touching charcoal mark - placing one hand above ^{the} other (as boys do in cutting sides with ball bat) measures four palm widths on stick and marks again. Then cuts string this length for ~~the~~ ^{the} measures on other frames - The longer or rounded nether frames are marked where the upper part of the curve begins (as in fig)

The hoop or mouth part is made from a (1/2 in?) stick which is as nearly uniform in thickness as possible. This stick is bent into a hoop and the ends cut so as to fit easily and are tied with sinew. (Fig) To determine if the hoop is of the proper size the upper frame is laid against it ~~and~~ (fig) and ^{the hoop} adjusted so that the marks on upper part of bow legs shall touch the rim or hoop, as in (fig -)

The next step is to ~~fasten~~ ^{fasten} the bow frames together but first they are tested as in (fig -) to see that the marks are the same all round.

Tied section forms back - the part against back when basket carried marked at center chord - not round - 16 1/2 front back - 12 1/2 side to side.

(5)

The entire frame is now assembled by attaching the hoop or rim. One downy or the uprights of the two frames or standards are placed so that ^{those of} the ~~neither~~ two frame shall come close to the eighth marks made on the rim and the ~~uprights~~ standards of the upper two frames shall come close to the $\frac{1}{4}$ marks. ~~These for~~

The ^{upper} marks on these standards, as shown in Fig II-5 indicate the point of attachment for the rim, which is then tied at each standard with ~~is placed within this group of standards and~~ fastened with a binding tie. (Fig VI-1)

The standards are ~~then~~ ^{now} adjusted so that ~~the~~ the ^{each pair of two} $\frac{1}{8}$ marks a b c d are about halfway between ~~and~~ ^{and} ~~are then tied~~ ^{are then tied} ^{a little} above the rim with a simple tie ^{to hold them} ^{rigid} ^{while} the other standards are fixed and also to eliminate too much play when the white strips are wound around them.

The whole frame is now gone over and such adjustments made as ^{are} needed to make it symmetrical.

(3) As the next thing in order is the wrapping or winding of the white strips to form the body of the basket. Buffalo Bird Woman takes the already prepared strips of alder bark and immerses them in the Missouri river.

6) She takes a bundle of these strips such as one could hold comfortably in the hand and by means of a binding noose ^{to anchor it} the ~~end~~ ~~end~~ of which is held ~~by~~ the teeth, she washes these strips ^{in the river} and softens them until pliable. These strips are of the inner bark ^{of the box elder} and are an inch to $1\frac{1}{2}$ " in width. After this preliminary washing they are ^{taken into the house} again washed in clean water and laid on a cloth near the worker. ~~As these~~ ^{women} strips are usually about $\frac{3}{8}$ " to $\frac{1}{2}$ " wide she cuts the original strips lengthwise with scissors, on former times they were cut with a knife. Holding a strip between the knees with the loose end trailing thru and held by the left hand, the knife was inserted ^{in the strip} close to the knee at the correct width and the cut made toward the left. (Fig. IX-1)

a quantity of these must be cut as there are from twenty to 30 (or more) rows ^{or courses} of these strips wrapped ^{depending on size of basket} about the frames. As the splints are not over 5 or 6 ft in length for easier handling one strip lasted ~~only~~ for a couple of complete turns about the basket.

Step 3 - The basket is now ready for the white strips or foundation weave. The frame is held on the loap with the back (C) toward the weaver. a strip is taken and a single turn is made about the left netter bow frame ^{or two feet} commencing starting at a joint just above (?) the

(7) the tie holding the bow panels together and on a line with the cross part of the upper bow frame? Fig. —

"The weaving always starts at the back of the basket at the left bow-foot (rather bow-frame) never anywhere else." (P.B. woman.) (Fig. —)

After making this first turn (the splint or strap is carried to the left and a single turn made about each standard in succession. The splint is carried over (to the left) around, under, and back over the splint again and at this point is pressed down hard with the thumb (Fig. —) before proceeding to the next standard, (always to the left)

As the weaving proceeds around the basket, each succeeding ~~splint~~ ^{round} or ^{course} is carried above the ~~one~~ ^{turn} already made, and carried up the standards in a slow spiral until the final turn or course is reached, ^{about 3 in from top} when ~~it~~ is tied or anchored to the same bow foot standard on which weaving commenced. Here a simple titch is made as at (Fig. —) and it is further strengthened by a simple tie of sinew. (Fig. ~~1~~ - 3)

In carrying these strands around the basket it is necessary to introduce new splints at intervals (splints being only 5 or 6 ft long) and this is done by splicing. This splicing is done only at a standard. The new piece is pointed at the end as shown in (Fig. ~~1~~ - 2). With bark side of splint toward me a little cut is made near point on upper edge.

8. This end is then placed ^{inner side of bark toward one end and} with cut portion lying against splint that is being spliced with the ^{cut} end turned over ~~the splint~~ and down behind it. It is then pressed down tight with thumb and the two splints ~~then~~ are given a turn about the standard and as shown in (fig VII-2) ~~The splicing is given more of a joint than the other, or natural end of splint.~~

The white weave on this basket was carried up for 33 turns about the basket and finished as already described at the left low foot standard in the back. (For some reason an extra splint was woven in on one side, ~~possibly 2~~ ^{possibly 1} turn at the top - possibly on account of the design, Fig) (Figs - VII-1-2-3-4-5) show the method of splicing.

The manner in which the courses run around the basket is shown in fig - and the finish of the splint end is given in (figs IX 1 + 2)

The white weave or groundwork being finished
The basket is put away to dry or set. (white weave cubed Sat - work resumed on Monday)

After drying - water was sprayed over the white splints ~~to wet~~ (by blowing from the mouth) and after they had become pliable, the basket was ~~(fig -)~~ ^{was used} reversed and held bottom up and all the splints ~~washed by the~~ ^{worked by the} tightened by working with the lodkan (a stick) - pushing

⑨ also trims all loose ends and pressed down the white strips at corners so as
to make firm where spliced
the splints toward the bottom by pressing down close
to the standards. This made the groundwork tight &
firm. The black weave is started on the front side A (fig. —)
3^d step - Taking a black splint ~~which~~ which
has been pointed (as all black splints are) fig. 1a
The lodkin is introduced between alternate white
splints carried up its full length then turned ^{crosswise} so
as to open up the splints (as the batten is used in
hand weaving of rugs). The black splint is
then carried up ~~and~~ this far and the lodkin
again used to carry black splint ~~up to~~
and a little above the hoop (about 6" above) ~~of~~
The center of the hoop is found by ^{measuring with} ~~using~~ a string
or string, between the standards ^{there} doubling this string
(for the half measure) and marking ^{the center} ~~the~~ hoop.
This black ~~center~~ splint is then fastened to the
hoop ^{at the center mark} and all weaving is done ^{counting} from this splint.
- As P.B. Woman wove this section A (front) I simply
observed the general progress and did not note any
particulars. She wove commencing at the bottom
~~carrying~~ each splint up above the hoop about 6".
The design was worked out by trial of several
straps each side of the center splint until the
design was determined and then this ~~whole~~ ^{scheme} design
was carried out to ~~fill~~ the left to fill the front
and then repeated in reverse on the right.
(She said this was the usual way).
Rule always weave to left then right

(10)

The center strip ^{going up} was carried alternately over and under 10 ~~of the~~ white courses, under 3, over 1, under 1, over 1, under 3, over 7 under 10 as shown in (fig —)

As the design progressed the black splints were grasped at the loose ends, ^{fig 3} close to the white courses and pressed together to while the bodkin was used to work them in toward the center from each side. (fig —)

This ~~gave it~~ ~~was~~ ~~done~~ ~~by~~ ~~the~~ ~~weave~~, and made a strong firm basket.

So all the weaving the bodkin was constantly used not only to separate the courses or rows, but also to press both the white and black strands toward their respective centers to keep the weave close and tight.

The black strands were left hanging loose at both ends and ^{as} after the main part of the design had been woven and ^{all} were gathered into loose knots. ~~This part was~~

and all done for that day
The next day these loose ends were untied and dipped in water to soften and water blown from the mouth over the whole basket to make pliable.

As the bottom of the basket is narrower than the mouth, a space triangular in shape was ^{then} left on either side between the part completed and the standards.

Shorter black strips were then introduced ~~into~~ the bottom from the inside (leaving lower end loose) and carried up to conform with the design until the space to left and right was filled. ~~The~~ (Fig —)

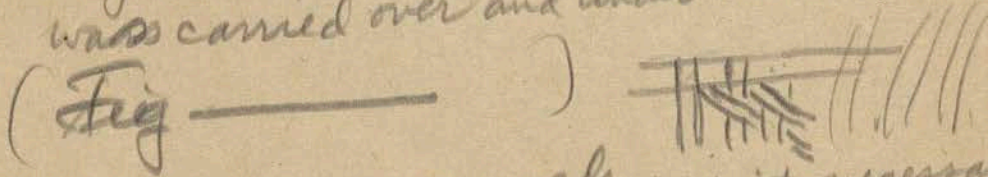
Sometimes a longer strip was used and after weaving the first half the lower end was doubled back and brought thru and up to complete the design.

(5) step

The basket was now turned on its side with rim to the left and the black finishing weave was

(11)

made at the top or rim. This was done by carrying the black strand over ^{and under} the rim, and bringing it back on a diagonal, down and to the right. Each succeeding diagonal was carried over and under the vertical strands alternately.




The hoops being ~~curved~~ made it necessary to take a double turn now and then so as to fill out the weave solidly. (Fig ———)

(5) The face and binder weave, being now completed - the next step (5) was to bind the posts or frames at the corners. This was done ^{with} for better appearance and to make the basket tighter at the rim. Holding a black strip in her mouth she started the wrapping of the posts at the left of the side A, the wrapping of the posts at the left of the side A, ^{inner post} cor. d - ~~post~~. This strand was wrapped about the post or ~~frame~~ standard commencing just above the white course and carried over to the left, under and back and so on until it reached the rim where it was given turns about the ~~hoop~~ and the looper end ^{of the strand} then carried ~~up~~ diagonally into the weave at the rim. ^{The end held in the mouth is} ^{carried by the right hand} ^{method of}

Fig ——— illustrates the ~~standard~~ wrapping and is the normal or standard way of doing it except that it is reversed at the right hand post. There are variations that come about due to accidents of space or weave and while I shall make no attempt to show variations, ^{Fig 2 - 3 - 4} show ^{the} ~~standards~~ and how the ~~wrappings~~ were made.


(12) The diagonal weave at the rim and the wrapping or binding of the left and right posts completes the face A. and the basket is now ready to continue the black weaving. ~~the basket is now reversed~~ ^{the counter} ~~ten~~ ^{ten} from each side and ~~finds~~ ^{thereby} ~~from~~ the center strand of the black strips. ~~Other white strips are again lightened~~ then the center strip is carried over the upper bow-frame and carried across the bottom of the basket and over the corresponding (upper) frame on the side (C). The black strand is then woven ~~as~~ on side A. carrying it up to and fastening it to the center of the hoop on side C., where it is tied as before. The order of introducing the black weave is then as follows 1st strand center 2^d strand 1st to right of center, 3^d strand 1st to left of center, 4th strand 2^d to right, 5th second to left and so on, 7 strands the same design as in side A. From there on the design was made different. I took up the weaving at this point and followed directions as given to me. The side C was finished in the same manner as side A. Fig ———

Side B was next woven, ^{in the same manner} and ^{the} splints were kept moist and pliable as before and ends left loose as on the other sides. Side B' (Fig ———) being finished the black strands were carried across the bottom in a simple weave based on a triple skip (Fig ———). Here the center strip was not carried across first but beginning at the left, the whole bottom

(13) was woven at one time, ~~beginning~~ Each strand was carried completely across (using the bodkin) ~~and~~ a ~~twisting~~ toward the right until the whole bottom was filled. (as in Fig )

Due to some irregularity ~~of~~ the 4th side had an even no of white strands, and P. B. woman started the design, making it different. Following her directions I finished this side ~~in the same manner~~ ^{as the other side} ~~as in the case of the other side~~ ^{as in the case of the other side} ~~in the same manner~~ ^{as in the case of the other side} The basket was passed back and forth as was found necessary to show me points about the weaving. She herself did most of the binding of the posts. This alternating from one to the other, interrupted by my making notes and diagrams, was rather confusing and there are many little points that ~~would~~ ~~have~~ ~~been~~ ~~helped~~ ~~parts~~ ~~clearer~~ ^{but} ~~the~~ but even the every minute detail has not been given I think this gives a fairly clear idea of the Hedatra basket technique.

Finally ~~commencing~~ ^{commencing} at Corner (a) a finishing design was woven in at the corners taking one ^{more} black strands and commencing at bottom carrying to the top and around the hoop and back as circumstances dictate. In figures 1-2-3-4 - the different methods are shown - The ^{character of} design remained the same in all.

In weaving sides C and D the black strands were often a little short and in this case they were spliced as in Fig  This was done to bring the splice in the body of the basket or at the rim.

(14)

Facts and rules about Baskets and weaving - given by Mahudiweash

The wood used in the hoop and frame work was of Mohoheshe or willow. This wood was light and strong.

White The black strands or splints were made from the bark ^{of the same kind of} willow, and were colored by burying it in clay. In the summer this was done in the sloughs or marshy places where alkali found.

(1) But as she says - "we colored the black bark in winter. She takes some of the clay that affects the bark, and " puts it in a pot near the stove or fire, softens it with water and buries the bark in this. It must be watched carefully not to spoil it -

If left in too long bark gets rough + rots.

The length of time depends pretty much on the weather - if the weather is good it takes less time, if not, it takes longer. The average time is about 7 days. But this is determined more by examination than by length of time. She looks at the bark and if it feels just right, takes it out, as it spoils if left too long."

The white strands or strips are made from the box alder (wide-i-da-di-ki)

She says that sometimes baskets were made entirely of the willow bark. These were brown and lasted a long time. In this case the design was usually the same all over - based on a triple skip. (I did not determine whether the brown color was due to partial dyeing or was due to action of light) (Fig)

Rules - by B. B. Woman.

Baskets were seldom made of a depth greater than ^{the distance} from the crook of the elbow to the finger tips as it was not easy to work in the designs, otherwise.

Basket designs were usually the same on all three ^{vintle} sides ~~vintle~~ - never all different.

The back (that part resting against carrier's back) was generally a simple design ^{as it was not seen much} based on the triple skip and this made the work faster.

→ Sometimes it would be the same as the other three. In this design always worked from left to right - never from center as in others.

While weaving ^{the} black strands, they were always kept in water in a large wooden bowl (16" to 18" dia) or some other vessel and were taken out as needed. When taken out they should be carefully squeezed. If this isn't done they will discolor the white weave. Some workers are careless about this and their baskets are not so nice.

"We often used a small wooden bowl or dish or a large horn spoon to hold the water that we would take in our mouths to blow over the ~~weave~~ parts to ~~keep soft~~ already woven".

Strands black or white must always be kept damp and pliable so as not to break.

(16)

Baskets should always be woven in the shade to keep from drying too fast. The best place was, as in old times, in the earth lodge, for there it always ~~kept~~ was cool and a little damp.

Baskets should never stand in the sun. If they get too dry, spray them all over with water and put in a shady place.

The designs were always based on a skip of one - 3 - 5 - 7 etc.

$\begin{array}{r} 345 \\ 3 \overline{) 1035} \\ \underline{9} \\ 10 \\ \underline{9} \\ 10 \\ \underline{9} \\ 10 \end{array}$	$45'' = \begin{array}{l} 3'' - 2'' \\ 3'' - 2\frac{1}{4}'' \end{array}$
--	---

The barks for baskets were taken from trees about the size of a man's wrist - If the tree was larger the bark was too heavy - if smaller, too thin.

The frames parts were evidently chosen ^{by the eye} for evenness and were of a size to correspond to the size of basket wanted, and were about a half inch in thickness, although there was no standard used.

In the principal designs, ^{always} worked from center to left then to right. On the diagonal patterns, ^{on} back a bottom of basket from left to right. ~~never any~~
"Never any other way"

Supp. Baskets

(3)

The present basket makers on the Reservation (1912) were given as follows, also the type of basket each ^{one} made.

" On this side the river at Independence -

- | | | |
|--------------------------------|---|---------------|
| 1 - Mä'kikash | - | Round Basket. |
| 2 - Calf-Woman | - | Round " |
| 3 - Leader | - | " " |
| 1 - mahidewash | - | Square " |
| 2 - First Sprout (her mother) | - | " " |
| 3 - Pretty Woman | - | " " |
| 4 - Young Beaver | - | " " |
| * 5 - miki'kash (Hides + Eats) | - | " " |

Across the River at Elbowoods -

- | | | |
|-----------------|---|-----|
| 6 - Eagle Woman | - | " " |
| 7 - Paints-Up | - | " " |

" These are all old women except one, and I do not know who their teachers were."

The parts of the basket are named ~~as~~ ^{is} with somewhat in the order of importance.

- | | | |
|------------------------------|---|--|
| 1 - adü' - dē' - da | - | Basket mouth |
| 2 - Awa - i' - adats' | - | The feet - bows - The ^{bow -} frames
Especially the two nether frames that rested on ground. |
| 3 - Itse - eti | - | The whole bottom part. |
| 4 - Adewski - ikuha | - | Strap side basket. (back)
(iki strap) |
| 5 - Adua - shi' - hē - detsi | - | "Like horns"
The frame parts projecting above rim. |
- The basket itself was ~~so~~ called Medu'kiske -
"Pottery holder" - why is not known.

Fred-

~~I was up for a few minutes
and used some of your tools~~

~~Thanks~~

~~Again~~

(1)

On Learning Basketry.

"Among our people ^{and we} ~~in old times~~ when ~~we~~ wanted to learn how to ^{were} ~~make~~ a basket we had to pay for the privilege as all who ~~were~~ ^{made} baskets had the "right" to make them and to teach others. (This "right" constituted a virtual monopoly and could ~~only~~ be obtained only by purchase.)

"We always knew what to pay - it must be something valuable. In old times we paid a woman's robe and belt, a dress of blankets, ~~or of calico~~ and a dress of calico and something valuable as an ornament.

Sometimes when we wanted to learn we took a good tanned robe and brought it to the basket maker and said, "You show me how to make a basket." If, ~~then~~ she did not have basket materials at hand she would take the pupil into ^{show her the kind and size of tree and just what part to use and how to} the woods, cut the materials, and show her how to make one - The pupil would then go and try to make one and if she could not do it, would come back and pay ^{again} this time with dried meats and foods, a whole arm full.

I do not know why ^{it is that} we do not teach anyone and everyone - just that if you don't want to ^{do so} you don't. ^{to ourselves} We wanted to keep this privilege, ~~as~~ as it gave us the right to get gifts, and if everyone learned and did not pay, then we ~~would~~ ^{could} not get anything.

Sap, Baskets

(2)

The inference is that one had to buy baskets from the basketmakers just as we would order work done or buy an article from the store - This point is not clear but obviously if only a few had the right make basket, and teach for myself ~~then~~ the art not ~~at~~ ^{was} everyone could obtain or ~~make~~ baskets except by purchase

when I ~~wanted~~ ^{learned} basket making I did not pay anything to learn as my teacher was ^a related ~~to~~ and staid in our lodge.

My teacher was Lone Woman (This was 40 years ago. I am now 72 years old.) Lone Woman - Calf Woman's mother in my sister Indian Custom. 1912

I did not ask to learn, but Lone Woman thought she was getting old. So one day she asked me to go to the woods with her to help her peel barks for baskets. Still she did ^{not} say anything to me about learning - and when we came to the timber, she showed ^{me} the right ^{kind} sizes of trees for barks and how to peel off these barks for baskets. ^{also the right sizes of strips of splints for frame parts.} When we came back we dried these barks or splints and then we took out the willow ~~strips~~ ^{strips} to the clay beds (alkali beds) and showed me how ^{to lay them in the clay} to color them, and how to watch these strips to see that they were colored properly, and she also told me all about wetting and cutting the white strips or splints.

I learned in the lodge - This was where we always learned, as the lodge was cool and damp and the barks did not dry out so quickly. Then too it was more out of the way. Most so many people could see what we were doing, and if people did come in, we just went off by ourselves, to some other part of the lodge.

While Maxidwac ^{Baskets} seemed to make no

To make the procedure a little clearer, ~~Basketmaking~~ may be roughly divided into five steps or stages.

Step 1 - Collecting ~~the~~ and preparing the materials.

Step 2 - Assembling the framework.

Step 3 - Wrapping or weaving the white strips or strands about the frame to form the body of the basket, ~~and also~~ to serve as a background for ^{the} pattern which ^{then} is woven in with black strips.

Step 4 - Weaving the black splints or strands ^{over or} into the white background to give the pattern or design, and to ^{complete} ~~finish~~ forming the body of the basket. ~~Included in this~~ ^{is} the diagonal weave at the rim, which is a part of the sides.

Step - 5 - ~~Finishing the~~ ^{Finishing} work - This consists in binding the eight ~~standards~~ ^{standards} which are attached to the rim, and project above it, and ~~for~~ ⁱⁿ the weaving of the design at the ⁴ corners formed by these ~~projecting~~ ^{projecting} standards. Final trimming - cutting off all loose ends. Attachment of shoulder or head-strap.

Place above

~~But~~ ^{that there was in basket making anything} altho Maxidwac did not indicate ^{and} more than the 2 general divisions of ^{making the frame} ~~gathering materials~~ and ~~then~~ of weaving; I have ~~divided~~ ^{divided} the procedure into 5 steps or stages for greater clearness. as follows

~~Step~~ 1) The materials for this basket had already been collected and prepared.

These materials consist of ^{several} withes or sticks of makoxishe wood to form the frame work of the basket ~~and~~ of box alder (~~welide~~) bark for the white splints or strand, and of willow (mohohishe) bark which is colored by the use of clay, for the black ~~strands~~ strands. Elm bark is sometimes used for the colored splints.

The willow sticks are ^{selected} cut so that when stuffed of bark and trimmed they shall be about $\frac{1}{2}$ in in diameter and fairly uniform thruout.

They are cut ^{to} about 5 or 6 feet in length, ^{to allow for trimming.}
The alder and willow barks are taken from trees about the size of a man's wrist, and are ~~stripped~~ ^{and} stripped from the tree in lengths of 5 or 6 ft, and ^(in width of) about $\frac{1}{2}$ to 2 inches ~~in width~~.

~~The willow strips are color~~
These bark strips are allowed to dry ^{3 or 4 days} as then they do not warp ^{or} discolor. ~~The willow~~
barks are ^{then} treated with clay to color them, as described later on.

~~In cutting the~~ Fig

To make the frame ^{as shown in Fig 1 - A-B, A'-B'} four sticks are taken for the bow-frames, and one for the rim. ^{and the upper bow-frames}
A-A' - are the ~~the~~ ^{the} ~~lower~~ ^{lower} frame ^{and} the upper bow-frames ^{two}
This is the method - ^{two}
For the nether or rounded bow-feet ~~two~~ ^{two} sticks of the sticks are bent as at Fig - I-A', -

Baskets

(reset) (5)

a cloth or bark strip to hold it in shape until dry
Fig 1-N'.

The sticks ^{used} for the nether bow frames are cut a little ~~shorter~~ longer than those for the upper frames (Fig 1-N-U) to allow for their extension below the basket. ^{see}
They are called the bow-feet and when the basket is set on the ground, hold it up and keep it from becoming soiled. (See frame - Fig 22.)

The two upper bow frames (B) are selected so as to have a strong middle section and are cut as in Fig 1-U, bent at the points marked by arrows, and tied with two strips of cloth or bark. Fig 1-U'. This gives a rather flat base to the upper frames (U) and a rounded base to the nether (N').

The frame is now about ready to be assembled, but there are still some preliminaries. The first is to determine the depth of the basket.

Taking a nether or rounded bow frame, maximum makes a mark with charcoal on the frame at the point where the curve begins. Fig 2-a. Using this to start from, she measures up on the stick four palm widths, by grasping the stick hand over hand and marks this upper point. (Fig 2-b.)

Baskets.

Fig 2-a, b.

(6)

She then cuts a string this length and uses it ^{as a measure} to mark ^{on each frame} the other ~~side~~ ^{frame}. These marks are then tested in relation to ~~each~~ ^{the} other ^{frame}, as in Fig 3, and they are ~~therefore~~ trimmed to the same size, and all frames tested ^{now} ~~fastened~~ ^{fastened} together ^(Fig 4). The stick for the rim is ~~now~~ ^{in the form of a hoop,} loosely and tested for ~~proper~~ correct measure.

This is done by taking upper bow foot and laying it across the rim so that the base lies against one side of the rim ~~and the uprights or standards lie across it.~~ (Fig 5)

If the ^{upper} marks on the standards ~~are~~ ^{correct at the point} ~~are~~ the hoop ~~is~~, it is ^{of} the right dimension.

(The rim is usually ~~a~~ ^{a little} oval, with ~~a~~ ^a shorter and a longer ~~diameter~~ ^{diameter}. This ~~is~~ ^{it is} makes the basket ^{a little} wider than ^{it is} deep. (Fig 6))

After determining the proper size for the rim she whips or ~~wraps~~ ^{ties} the joint with 4 wrappings of sinew. (Fig 6 ~~a, b, c, d.~~)

This joined section of the rim is always placed at the back of the basket. ~~Here~~ ^{It} is not so noticeable here, and strengthens the basket ~~where~~ at a wearing point.

The rim is now marked at the center of this joint, (Fig 7-A, X) and ~~then~~ a string or lickskin thong ~~is taken and~~ laid along

Tattoo

"But he just looked, - watching it, so the other fellows said "Hey!" to make him take the pipe - still he just watched the Eagle's feet ~~which~~ ~~and~~ then they passed the pipe to him.

"He was watching ~~it~~ to make sure, but he saw just the feathers and the feet.

He alone saw this ^(and) that is why they called to him - he had just come back from the hills.

"So Road maker tattooed Poor wolf clear down to the hand - taking all year to do it.

There were two others that started being tattooed ^{at the same time} also, and Road maker said - "If you are brave enough to let me tattoo you down your breast and back and arms, then I will put my god on your hand, and you will be brave and strong. But Poor Wolf ^{was the only one who} ~~only~~ had the claw put on his hand."

~~Poor Wolf got his name this way -~~
On a war party there was one who was named Bob-tail or Short-tail-Wolf - Poor Wolf was not (so named) as yet, ~~then~~ but he roasted some buffalo guts and gave them to Bob-tail Wolf. Now Bob-tail Wolf always looked thin, and because of this they called him Poor Wolf."

"So, ~~then~~ he said - "I am glad that you ~~give~~ give me this roast of guts, so I give you a name - turn around - I am not fat and you call me Poor Wolf, therefore I call you Poor Wolf, just the same ~~that~~ ^{as} you all call me."

"They all laughed, and this is the name he has kept all his life. These were all young "wolves" and the leader, Old Wolf.

x x x x x

"after he had been tattooed Poor Wolf never did any more woman's work. He stopped doing such things, and became a brave man. He afterwards married a young woman, but as she had not learned how to do ^{the} things ^{belonging to} woman's work, he showed her how to ^{taught her to} do woman's work.

"Poor Wolf became ^{very} brave and struck two enemies - a first strike each time (the highest honor).

Heretofore, when ^{the} people saw him doing ^{woman's} work, they were afraid that he might become like a certain class of young men you have heard or read about. They knew he wasn't so, but because he was such a good young man, they were afraid of his becoming something else."

This ended ~~the~~ ^{the} account of Tatoonig, and I then asked Hairy Necklace to explain to me about these young men that "want to be like a woman" or that "have the heart of a woman" but he said this was something that he could not tell me, he being my "father" by adoption, but that a band brother could ~~tell~~, and that Wolf Chief being such, to ask him. This I did not have opportunity to do, so it has had to remain obscure.

In the reports (G.S.W. - 1915 - Pt. 2 - page 571) there is a reference to men of this class and they seem to be called "wiati", and Mathews defines the word in much the same way, and implies what is generally understood, I believe, and that is, that these individuals are sexual perverts and that the practice of sodomy is indicated. Even if ~~I~~ ~~had~~ the opportunity had ~~been~~ ^{been given} to question Wolf Chief I don't know how much I could have learned ~~not~~ ^{of} how much ^{value} it would have been ~~advantageous~~ ^{to learn it}.

They themselves feel reluctant to speak of it and it is not a pretty subject to approach.

There never seemed to be many of this class in any one tribe.

I have a friend here in Mpls., → Mr. DeWitt Hare who is a Granton Sioux, and I asked him if he had ever heard of such a class, among his people.

He said that there were very few if any in his tribe, but that he had heard that it was quite common among the plains tribes, especially among the Omaha, Ponca, Osage, Crow, Blackfoot.

He said that among his people they were called *Winkta*, and that this class, just as among the Hidatsa, did woman's work, dressing skins, making tents, doing quill and bead work, in fact excelling in these arts at times; and that among the surrounding tribes they lived apart, associated more with women, and even wore women's dress. And in common talk they were always referred to as "she".

He said that ~~that~~ ^{by many,} among other ~~tribes~~ people it was considered quite an exploit or honor to have had relations with one of these, and that in speaking of it they would say - "I have been with a real woman".

He said that one man riding out on the prairie one day saw one of these at some distance, and that he rode toward "her" but pretended not to see her, and that "she" kept dodging about trying to hide being coy & bashful,

and that when he came up to her he pretended to be looking for her and cried when she rose up in an agitated manner - "O - there you are Black Eyes!"

Once some Indians came up to visit ~~them~~ ^{at} his people (the Yanktons) and ~~that~~ among them was "American Horse" ^{Ponca or Omaha} who was quite a big ^{chief} ~~man~~. When he was soon to leave them, the ^{Yankton} chiefs had arranged to have a feast for him in three days, but ~~th~~ and had told him and announced the feast, but ^{later} ^{part} that a blizzard came up and raged for two days. So they came to him and told him that ~~it~~ ^{the feast} would have to be called off as the weather was too dangerous, but he said not to worry and then entertained them, and told them all about his having had relations with one of this class, "a real woman", four times. To have done this four times and then to tell about ^{it} would always bring a change of weather. Sure enough the next day the weather changed and they had the feast. (Even though his daughter was present he did not feel ashamed to tell it, but considered it something to be proud of. Among many tribes, he said, it was a thing to boast about.

Purchases 1912

Among the articles collected ~~for~~ this year are two saddles. These are authentic old models and had been in use in Hairy Coats' family for many years.

The Buffalo Hunting saddle. A-IV-1912

Hairy Coat told me about the ~~Buffalo~~ hunting saddles and gave ^{me the} history of this one.

"This buffalo-hunting saddle was made between 30 and 40 years ago (1912), and was used in about the last buffalo hunt. This form of saddle was in common use in our tribe, - other tribes used hunting saddles also but they were not of this shape.

This particular saddle was made for my boy because when out hunting buffalo he was thrown from his horse and it went away and was never seen again.

This was "Bird Lying Down's" horse.

In buffalo hunting we always appointed a leader for the whole village & Each day a new leader was appointed for that day's hunt.

On this last hunt "Son-of-a-Star" was the appointed leader and the hunt took place south of the village. This saddle was used on three such hunting trips for buffalo and was not used in more because by that time all the buffaloes were gone.

After this big hunt three or four more buffaloes were killed by my men in the south country (near Dickinson).

This last big hunt was in 1880 or thereabouts (when Good Bird was 12 yrs. old) and only a few buffaloes were found later.

We packed very little meat on these saddles, usually only one cow-hide was taken and the ribs from each side of the animal.

This type of saddle was very good to use in chasing buffalo as it is light and does not load the horse so heavily and

a horse must go fast to catch a buffalo.

I like to use this light saddle; some people learned to hunt without a saddle, but I never did and always used one, as I found it better.

This one was made of buffalo leather and is stuffed with antelope hair. The part underneath, which goes next the horse, was ~~made~~ of buckskin, but as ~~that~~ this ~~was~~ ^{was cut up} to make moccasins, it has been replaced with cloth. ~~The~~

The part holding the stirrup straps is of finished buffalo hide (dried-hide as he described it) but the stirrup straps are of leather got from the white man (white man's leather)

The stirrups are of Ma-lo-hi-she wood, and ~~were made by~~ "Not-a-Woman" ~~They~~ are covered with cow-hide as they were made not so long ago.

"Not-a-Woman" made them as she is a stirrup maker.

These
 - Stirrup makers are like basket-makers and there were not many ~~of them~~ ^{who} ~~and they~~ had the right to make them. So we always hired stirrup makers to make ~~stirrups~~ ^{stirrups} for us. "Not-Woman" has made a few pairs of stirrups.

The pay was usually a robe or blanket and ~~we generally give~~ ^{was given} ~~it~~ ^{in the manner of} ~~as~~ ^{a present} to the maker ~~as~~ a present.

x x x x x

Purchases - (5)
The Pack Saddle (A-III-1912)

" The pack saddle was made by No-Tears who made the frame and fitted the horns.

Both the front and the back of this saddle are made from the antlers of a black tail deer.

Insert here

The cover was put on this saddle by "June-berry Blossom" the wife of No-Tears, and was made of green buffalo hide for this made a strong tough cover."

In making the saddle-horns the front and back were ^{cut} a little different ~~usually~~ from the antlers of the black tail deer and ~~were cut~~ ^{it was cut} for the front, as shown in diagram No 1, and for the back as in diagram No 2. Sometimes Elk horn was used ^{for the front and} and was cut as in No 3.

" This ^{pack} saddle is 50 years old (1912) and there were lots of buffalo at that time.

A fastening was not needed on the saddle

"when packing fresh meat, as we put a half-hide over the saddle first and then on this + placed the meat at either end of a raw-hide strap with the meat hanging about 2, or a ^{little} below the horse's belly.

We did not take the whole carcass but only the choice portions. We cut out the tongue leaving the head, and took the ~~quarters~~ ^{ribs or quarters} and discarding the hoofs. The larger portions we put on in pairs of equal weight. The small parts first, then the quarters, and last the ribs and backbone — the meat of one buffalo to a horse. Then we covered the meat with the other half-hide.

The legs were used to obtain bone grease
 XXX - note!! x x x (or marrow)

After loading the pack horses they were driven home and each hunter usually took along two or three horses for packing. The buffalo runs fast and one hunter could not kill many.

It was the man's part to kill and cut up the meat, but the woman's part to dress and cure

the meat, and to tan the hides.

Bluid meat we fastened to the saddle, making a bundle ~~on~~ each side and attaching to the horns by raw-hide thongs.

An extra bundle was put over the saddle with a cinch over all, fastened to the cinch-rings on each side.

Also, sometimes in moving, we tied a travois over the meat bundles, anchoring it to the front saddle horn. There should be a tail-piece to this saddle so that in packing meat it would not slip, going up and down hill."

xxx note — Here they brought out a joint and a bottle of bone grease ~~taken from~~ it. They said this marrow was taken from bones found buried in the sand for a long time. Many bones were ~~often~~ found in the sand along the Missouri River and these were found this summer (1912) These bones may be ^{from} cattle but they think they are buffalo bones. (Purchases)

Wolf Chiefs' Feather Charm.

My father gave me the short ^{eagle's} feather that ~~was~~ ^{was} in the feather case. (Purchases)

Once, when he went into the hills to see a "vision", there came a cloud as if for rain. As it came closer to him, he saw an eagle, and this eagle taught him mystery songs, which he learned.

Then, later, he gave me this feather - ~~to keep it sacred.~~

This came about, so; - ^{time} Once, in war, I came too close to the enemy - as close as fifteen paces, and the enemy shot at me, so that the smoke covered me, but I got away.

My father was frightened at this, and, for my protection, gave me just this feather.

~~The eagle was sacred to him so he gave me this feather ^{so that I should honor it} to keep it sacred, and ~~that~~ it would protect me.~~

As the eagle was sacred to him, he gave me this eagle's feather that I might keep it sacred, ^{that} and it would protect me from danger.

Arrow-making

(1)

When I asked about where the arrow tools were kept in the lodge, Hairy Coat made some comments on arrow making.

He said that in tightening up the wood for an arrow shaft, ~~that~~ they used a rib with ~~about seven~~ ^{of about seven} ~~of~~ ~~of~~ holes graded from large to small and the arrow-maker often used a buckskin holder for the shaft, about a foot long (sometimes long enough to cover arrow), and that after it was slipped over the arrow a small stick was put cross wise of this holder and bound round with a thong. The thumb and knuckle pressing against this cross piece made it easier ^{on the hand} to work the arrow - one did not get so tired. (fig. # —)

x x x

Arrows were measured from thumb-tip to shoulder joint (head of humerus) and ~~when~~ the point added made it longer. If a man had a long arm he usually took off two finger-widths from the length of the arrow.

x x x x x

The arrow was worked at the small end

first, either thru the second hole or any it would fit and then worked about to tighten the wood. You could tell if this was ^{being accomplished} ~~done~~ by the crushing sound. Then shaft was worked thru the small holes (any one it would fit) for the entire length, ~~and~~ After this was done ~~the~~ ^{arrow} was very crooked, and then it was put thru the larger holes and worked back and forth to straighten it.

These holes in the ribs were out quickly. Our ^(Hidatsa) arrows ~~were~~ had 3 wavy marks mm cut on them and the shaft was beaver at the feather.

Bird-Lying-Down's Lodge
Lodge Variation.

I had noticed a special form of lodge owned by Bird-Lying-Down, and as not-a-woman (Hairy Coats' wife) said that her oldest mother, Good Paint was the one who had built an ~~earlier~~ one like it, at Old Ft. Berthold, I asked her to describe it. Description follows.

"I was about 21 years of age when this lodge of Good-Paint's was built. I visited it often and know about it. It was built in this way, because, (this was a family of women, and had no shrines) ^{because} they ^{used to} ~~drag~~ things on the roof and in this type of lodge the dogs could not go up on the roof and destroy these things, as they could on the ~~older~~ ^{usual} form of lodges.

"The Atute posts were cut with a groove or channel about 5 in wide, and 4 in deep. (cut [#] —)
The first thing that a builder must do in putting up Atute posts is to put in the door sill first. Then one can space off the posts evenly — not get them spaced badly.

If one does not do this, the spacing is ~~is~~ apt to be wrong.

This lodge was small, and I don't remember the exact number of posts, but it had a flat roof with four logs ^{at} the front, and five ^{at} the back, of the smoke-hole. These smoke-hole logs were about 7 in. in diameter (round logs).

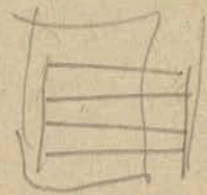
The four central posts were about the same size as in our lodge here, ^(Shell Creek) and were set up first. The cross stringers (at the flat part ^{roof} front and back of smoke hole) were spaced about one foot apart, and two (2) rafters (or Atidutidu poles) rested on the main stringer between these logs, or, if the rafters were small, then three.

The lodge was quartered (as we say) and the small rafter or Atidutidu poles were used at the corner parts, — these corners were never used when going up on the roof — ^{and} the large poles were placed on the sides between these corners.

In this particular lodge the Atutu posts were set up in the usual way and set solidly

But first they were cut with the groove from the top of the post down to the mark showing the depth of post in the ground. In placing the logs in the sections (or between these Atuti posts) we began at the door step, and worked around to the left, finally reaching the door again. As the logs were pretty even they did not have to be reversed each time so as to keep the section even.

These walls were made about eight logs high.



cut #

One person at each end could lift the log and fit it into place in the groove - the end of each log was cut to fit and would set in without further trouble.

First, one end was set into the groove and then the other end was lifted and dropped into place.

With this exception, that the Atuti space was eliminated, the lodge was finished in all other ways just like the regular lodges.

For all lodges the Ataduti poles were cut with a bevel at the heavy end and ^{so} they never slipped nor "came" off. This was done on this lodge.

"The intervals between the logs were caulked with split sticks, and the wider spaces with mud and hay.

The idea for this form of ~~a~~ lodge seems to have originated with her (Good Point) and not with any one else, altho ~~some~~ ^{the} Sioux have ^{a form of} lodges (like Bird-Lying-Down's) built with logs and with a roof.

"But ~~we~~ think they got the idea from us and not we from them. Hairy Coat and I saw one of these lodges at Poplar Creek, Montana, about ten years ago. It was a dance house and was not built right, as there were too many center posts.

"They had used two sets of posts and stringers — ~~were~~ afraid, I guess, that the rafters would break!

We never saw any of these lodges among the Sioux in old times, and never heard of any ^{other} kind of lodge used ^{among} by them — but tipis, altho we came from Devil's Lake.

My Grandfather and 9 or 10 other families had all lived at Devil's Lake, and there ^{you} can still see the ten lodge sites. His name was Little Crow and he had great power. And when he was there.

The village all had meat, as he could call the buffalo.
His spirit (i.e. he, himself) was a Buffalo.

They finally rejoined us (the Hidatsas?).

This first log lodge was, as I have said, made by a family of women - just two women lived there - and it was small.

My mother told me, though, that my grandfather had lived in a white man's log house at the Five Villages after he had gone to Devil's Lake and come back again.

This was a long time ago, perhaps 80 to 100 years, maybe this was where the idea came from.

This lodge, ~~Pond-tying~~ down, was about the size of Wolf Chief's lodge at Independence (about 50 ft diameter or a little larger) and the only ^{other} lodge like it, ^{that I saw} was one at Elbowoods, Old Pogo's, but his was fitted with windows like a log house.

The doorway & entrance was the same as in all lodges.

War Customs
mutilating the Enemy.

Sometimes when enemies came against us ~~and we~~
~~lost any of our own~~, we would try to make
them mad, ^{especially} if we lost any of our own men.

If we could obtain an enemy who ^{had been killed} ~~was dead~~,
we would build a fire and throw the body
on the fire. This made the enemy angry and
they would come against us - fight harder.

Enemies often came to the village
and killed ~~the~~ women working in the gardens,
and stole our horses (~~for~~ this ^{is the} reason we
kept our horses in our lodges - to be sure of them).

Often we would take a wounded enemy
and butcher him just like a beef. We ~~were~~
always feared this might happen to us,
but we always did thus to our enemies
when we had the chance.

Harry Coats' Personal Belief.

(1)

"I have a sacred coat, that I pray to, and my prayers always seem to be answered.

The Sun is what I worship and so does my wife, (this sacred coat had sun symbols painted on it, as ~~shown~~^{shown} in the photo).

"The Sun looks down on everything and sees all I do, so try all I can to do what is right. Once when I ^{was} in doubt about something, I talked to the Sun and said, 'You are now going away from me, and you saw that I did not take this shawl when you came up - when your face was towards me - so now when your face is in the other direction, I ~~take~~ it. You saw that I did not take it at once, and know that I did not want to steal it, but no one has come for it, so ~~now~~ I take it, now that your face is turned away from me.'"

The explanation ~~is~~ that he had left in the morning to make a trip, and had seen a shawl lying on the prairie, but he had let it lie and as it was still there when he returned, he took it to his lodge.

But he kept it on a nail in the lodge so that if anyone came for it or claimed it, that one could have it;

Honor marks for Women
mahidiweash

(1)

Honor marks for women were given for industry,
and were used in the following order of merit.

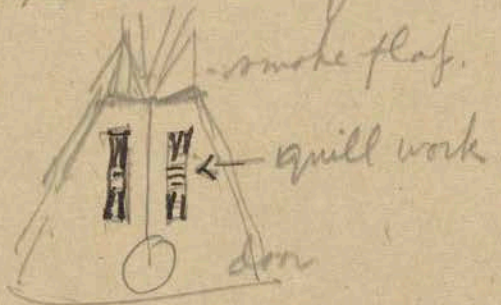
For making 1 robe, ^{and decorating it with a strip of quill work} ^{(like Front Woman's robe,} one could wear one ring —

for two robes, 2 ring, and so on up to 8 or 10.

These rings were like young men's rings, to the knuckle,
and were made of bone or horn — in later times of iron.

For decorating a tent with quill work, ^{one bracelet} ^{or perhaps two —} ^{These were made of deer horn.} ^{sometimes for two tents.} (Fig —)

The men, leader
of a war party —
wear a bracelet.
Saw old horn or
bone bracelets in
skrine, don't know use.



In our day the rings were of brass.

For great industry in making robes, tents and such like, a woman was allowed to wear a decorated belt.

The rings and bracelets were furnished by the maker of the robes and tents herself.

The belt however could only be given by an ~~uncle~~ aunt (band aunt?) as a mark of honor.

She was given one by her aunt — Sage — and the only way to get one was as a reward ^{for hard work — not just a personal gift —} and it could not be bought.

aside from these honor marks for

that is one who finishes hundreds of robes, tents, robes

women's Honor marks.
mahidewash.

Formaking and decorating a robe with porcupine quill work.
(like Front Woman's Robe) - Entitled to wear one ring
for two robes 2 rings, ^{and can wear up to 8 or 10.} etc. like young men's rings to the knuckle
These rings were made, of bone or horn (later of iron) ^{in her time} ^{she says of} ^{brass}
If one makes a tent (buffalo skin) with ^{a porcupine} quill work ornaments
(or gull quill ornaments) ^{see Fig.} the maker was entitled to wear two
bracelets. In old times these were made of horn (deer horn)
but in her time they were of iron.

An honor mark goes to one who shows great industry,
one who is a great worker and finishes hundreds of robes
for robes ~~and~~ tents. Mahidewash said that she
herself had such a mark given to her by her
Aunt "Sage". This honor mark was a woman's
belt, a ma-ipsu-kaashe, and it could only
come to one as a gift - a reward for a great worker.

The rings and bracelets were furnished and worn
by the ~~one who made~~ ^{maker} robes and tents, herself,
but the belt could come only as a gift from
an aunt (band aunt?) and could never be ~~just~~
purchased nor come to one as a friendly gift -
it had to be earned by hard work.

This belt was of ~~beaver~~ skin, ~~and~~ ^{and} $1\frac{1}{4}$ to $1\frac{1}{2}$ "
wide, and after ~~had~~ was ornamented with plain
blue beads - ^{the} design in the back. (Specimen in Museum).
Speaking of the rings and bracelets she said that
a man - leader of a war party - wears a bracelet and
says she saw old bone or horn bracelets in a shrine
but didn't know the use.

Honor Marks for Women
by Mahidiweash.

For making and decorating a robe with a ^{porcupine-}quillstrip
(~~porcupine or in older times, gull quills~~) like that
of on Front Woman's Robe, a woman was entitled to
wear one ring - for 2 robes, 2 rings, etc, up to 8 or 10.

These rings were like young men's rings, and were
made of bone or horn, and later of iron. (But she
says that in her times, these were of brass)

If one makes a tent (buffalo-skin) with porcupine
or gull-quill ornamental strips (see Fig), the maker
was entitled to wear 2 bracelets. In old times these
were made of horn (deer horn) but in later times of iron.

An honor mark goes to one who shows great industry
- one who is a great worker and finishes hundreds of
hides for robes and tents. Mahidiweash had such a
mark given to her by her "aunt" Sage. This ~~mark~~
honor mark was a woman's belt, a ma-ipsu-kaashe
- and it could only be acquired by gift, as a reward
to a great worker.

The rings and bracelets were furnished and worn
by the one who made the robes and tents, herself,
but the belt could only come as a gift (from a
band "aunt"?) and it could never be purchased, nor
could it ~~come~~ be given just as a friendly gift, but
had to be earned by hard work.

This belt was of the same material as most belts
and was $1\frac{1}{4}$ to $1\frac{1}{2}$ inches wide, and often was ornamented
with plain blue beads - the design in the back. (specimen
in museum)
Speaking of the rings and bracelets, she said that
a man - leader of a war party - wears a bracelet and says
she saw old bone or horn bracelets in a shrine, but
didn't know the use.

Honor marks

(2)

Beside these honor marks
for women there was also the use of feathers.
This was allowed only in the case of ^{the} adoption
of a sacred child, and one could wear
up to four of these feathers, but no more
than four. (These could be worn by men or women)
These feathers were worn at the back of the
head and were undecorated white plumes.

For men.

The four series of two lines which run on a
diagonal on the hull boat paddles, are an
honor mark and ~~represent~~ ^{proclaiming} that the owner
was one of four to strike the last
enemy killed. Fig -



A description of Hairy Coats Lodge
at Shell Creek together with
~~plans and drawings~~
measured drawings ^{of the lodge}
by F. N. Wilson

These measurements of Hairy Coats' Lodge were
made in the summer of 1912 ^{during work beginning Aug. 12} in conjunction with
my brother's (G. S. Wilson) work of that year
and are a continuation of lodge studies
commenced in 1908 ^{by} the measuring of
Wolf Chief's lodge at Independence.

In making these measurements ^{and photos} of this
lodge there were many difficulties to be
overcome. ‡

It ~~was~~ was very fortunate that permission
was obtained to study this lodge, for it was
as far as possible kept ^{up} in old style, and was
in fact the only really inhabited lodge that
~~was~~ ^{remained} ~~remained~~ ~~old~~ on the reservation, as Hairy
Coat and his wife staid there throught the year.

~~as far as~~
Permission to measure the lodge was given
only after obtaining the consent of the wife
(owner) and after the purpose of the visit had

been explained to the shrines.

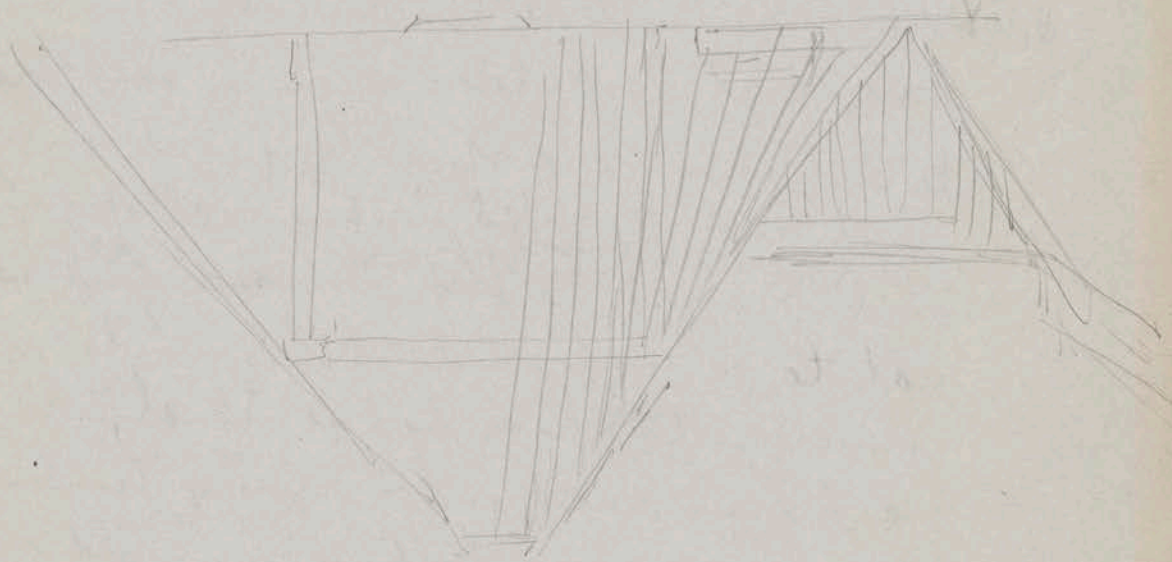
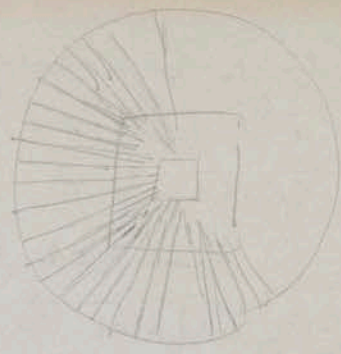
The shrines were then carefully covered with curtains or sheeting so that they would not be dishonored. Having arrived with Good Bird and family at the lodge on Monday Aug 12, we pitched camp and waited for Hairy Coat who was away.

These curtains were stretched across the entire shrine space from posts VII to IX.

(Plate XI) When admitted to the lodge on Tuesday ^{morning} ~~at 10~~,

Hairy coat took down from a shelf on post B a broken piece of pottery put sweet grass in it and lighted with a coal from the fire, placed it before his shrines and prayed to ~~the shrines~~ ^{asking} and asked them not to be offended at this white man's coming into their lodge that, he meant no harm and was trying to learn about Indian ways so that they would not be forgotten. After this prayer he announced that it would be all right, and I then proceeded to photograph and measure the lodge. The prayer was a rather impressive thing as Hairy Coat talked to the shrines with gestures

the



just as he would to a man, and in fact acted just as tho he were speaking to a living "Presence".

It will be unnecessary to go into any very detailed description of the Lodge as the plates carry all information of value and complete measurements.

The plates are numbered serially to follow the Wolf. Chief lodge plates, and conform to the same general scheme of numbering adopted in those plates.

In general all numbering and naming starts at the left of the door and proceeds toward the left round to the door again.

Every post might not have been set up in that order, but the whole trend of their thought and descriptions makes that the logical method to follow. This is ~~not~~ adhered to in all plates except plate XII - diagram 2 in which Hairy Coat ^{designated} ~~makes~~ the positions of things in the lodge according to an order of importance, as near as I could understand.

Having no engineering nor architectural training I had to take my measurements by the simplest means, ~~and considering~~ ^{assuming}, as in ~~the~~ Plates I-VI, that the ground was level. All ^{upright} measurements ~~are that~~ taken from ~~that~~ ground and the drawings are made based on ~~that~~ assumption that ~~the~~ ground is level. This of course makes some slight difference in actual relations of measures but as the differences would be just as apt to be accidental in ~~the~~ ^{cutting} ~~and placing~~ ^{well}, I have not given any consideration to the slight changes ~~involved~~ from the actual.

With wooden calipers and a 75 ft. tape I obtained all the measurements possible.

The measurements across the lodge and from post to post was a very difficult matter, as there were so many boxes, bundles, stores, barrels and other impedimenta that could not be moved. I had to resort to a simple method of triangulation; this was impossible to carry out as completely as I wished so that plotting the lodge was particularly difficult.

in working out the finished drawings.

Plate ~~VIII~~ carries the ground plan ~~plans~~ with the dimensions of posts at their bases, and the lengths of the stringers ~~crosses~~ at the Atuti spaces, together with all the measurements taken to ascertain the positions of the posts and their relations to each other, and the dimensions of the lodge in the different parts.

Plate ~~VIII~~ ^{VII} contains two diagrams. These are a ^{sort of} combination of elevation and section. I have supposed the lodge revolved slightly on its axis and a section taken thru the median line but giving all the central posts their proper ~~position~~ ^{placing}; to show as much as possible of the construction and to give as many measurements as possible.

The "shrine space" of course could not be measured so had to be approximated by averages. The diagram herewith will show the actual line of section; and the two halves of the lodge are from opposite points of view.

Plate IX gives the string-courses for the central and the Atute posts, and gives the measures of the roof or Atitudina poles. These measures are for half the lodge and comprise about ~~60~~ ^(5 or 6) to 65 poles. Of these, several ^(5 or 6) were added to complete the corner at the left.

The measures consist of diameters ^{toward} at the ends, and at the middle portion the lengths of the poles.

The whole scheme of the roof and of the smoke-hole is shown. The Atute space and its poles have been omitted.

A diagram to show method of obtaining ^{projecting} relative proportions of a slanting roof to ~~on~~ plane surface is given above the roof drawing.

6. Diagram 2.

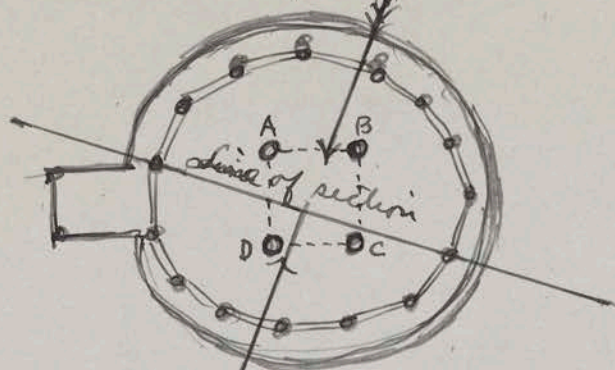


Diagram I

These two diagrams give all dimensions of posts, stringers, spaces, etc, that it was possible to obtain.

~~This manner of presenting~~
The ground plan is shown in conjunction with ~~each~~ the diagram so that the position of the post in the ~~perimeter~~ circle of abutment posts may be easily seen. ~~I have not diagrammed certain features such as~~ This manner of presentation may not be architecturally orthodox, but I think will be found sufficient.

(6a)

Where

Plate ~~X~~ ^{Fig I} comprises a section similar to diagram 1 of the preceding, but has the finks, poles, and slabs for the palisades set in place with a few removed at the ~~turn~~ ^{at the fink} to show it and the poles.

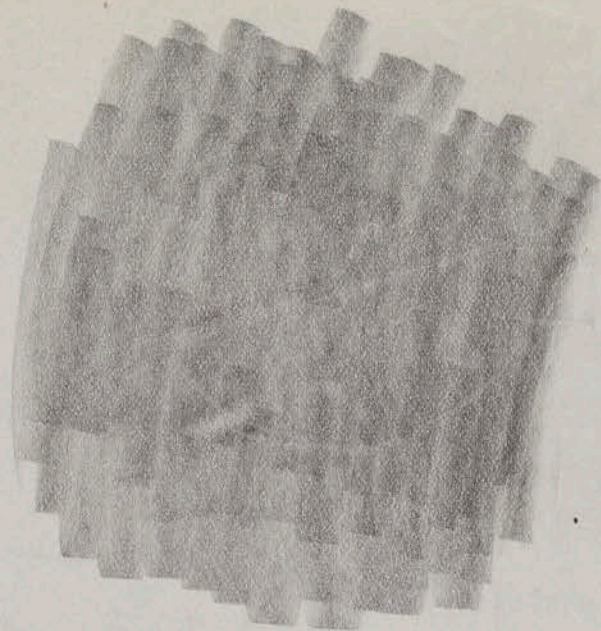


Figure 2, shows bed I, space B, and ~~it~~ ^{it} ~~has~~ ^{been} ~~state~~ into perspective, to carry all measurements without requiring so many drawings and diagrams. This seemed the simplest method, and the best. Figure 2 shows bed II at space "d" and is different in this respect, that whereas in Figure 2 the fork and the stick for the canopy are in one piece, in Figure 3 the fork is separate and the canopy stick becomes an extra post set in beside it. These beds were according to old models altho not fitted with a tight canopy as in the model made by Mahidiweash. An interesting thing to note in the photos is a loose curtain, ^{or canopy} hung to protect the bed from the rains.

Plate XI - is the actual arrangement of Hairy Coats lodge, complete, with the exception of foreign articles of white manufacture.

All native furniture is shown in scale and while white man's beds are shown ^{in dotted} they may be supposed to be in the place of ^{line} native beds and so are indicated.

The beds in spaces b and d have been photographed (G.F.W.) and I made a drawing and photos of the bed-seat at the fireplace marked bed III.

The platforms were so covered with articles and bundles that only meager ^{or} ~~and~~ rough measurements could be taken and I have indicated these in place.

The platform at "c" ^{consists} of forks with stringers on which slabs or boards were placed running lengthwise of the lodge.

The three platforms at "f" (2) and at "k" (1) were of slabs laid ^{on} medium sized logs.

There was an extra ^{horizontal} palisade ^{post} from ^{post} D to ^{post} XIV - to keep out the dogs, as he did not want them to get back into the shrine space.

The palisade at "x, y, z" did not extend fully from Post A to D but there was ^a ~~an~~ ^{wide} opening ^{near} at D to allow entrance to the fire place ~~space~~ portion of lodge.

By referring to these diagrams and the photos a very fair idea of an earth-lodge in old times may be obtained.

Plates XII and XIII are to accompany accounts of lodge arrangement by Hairy Coat and Mahidiweash and will form a good comparative study when taken in conjunction with the plot of Hairy Coat's lodge.

There is no need for further description of these diagrams, as taken with the accounts of Mahidiweash and Hairy Coat, they will form the only complete lodge description that I ~~have~~ am aware of. I have taken extra care to make these ^{drawings} accurate, realizing that, since Hairy Coat's lodge has ~~not~~ fallen in, the last lodge available for such study is now gone. I trust they will prove as valuable as I ~~hope they may~~ have tried to make them.

- ~~A~~ Winter Village.

Described by Hairy Coat (Hidatsa)

X X X X X

We usually went to the winter village the latter part of September, and I will tell about one winter village; this will give an idea of what the rest were like.

Just opposite Independence in the bottom timber, there was a small winter village - Red Stone was chief; and just west of us here (Shell Creek) was another winter village when the small-pox came, and, of this, "His-Tail-painted-Red" was chief.

There was another at Steep Bank (?) Creek with "Rock End" as chief, and a few more still further west.

But we usually ^{*} stayed at one winter village ~~as a rule~~ unless something like the small-pox drove us away and scattered us.

* As a lodge lasted about seven years, ^{possibly} this ~~was~~ to save the labor of building each year. F.W.

When I was 8 yrs. old we came up the river and had our winter village in the timber at "Bii-haapa-suka-widash" or "Opposite Rock village". Of this village a man named "Hand" was appointed chief for the whole winter. ~~xxxxx~~

When a chief was to be chosen, the leaders came together for this purpose. If all were agreed on one person, they had presents collected (throughout village?) and then filled up the pipe. This pipe was then taken to the Black Mouths and the leaders would ~~then~~ say - "You Black Mouths, we have appointed Hand leader for our winter village."

"All right, we will tell him." - and then they ~~would~~ (Black Mouths) would take the pipe and the presents, and lay the presents before the shrines in ~~Hand's~~ lodge.

This was done to any leader, so, if willing

he would say "all right", or sometimes, "I will think it over".

Then if he accepted, he would take the pipe and hold it before the Shines and pray to them, that they might get thru the winter all right, ~~in safety~~. He would ask for buffalo, and plenty of food, and for the safety of his people.

When the Black Mouths came to notify Hand he accepted, and then said, "In four days the people will move to the winter village."

Then the soldiers went out to cry through the village and announce the place or the timber appointed for the village.

This would give the people time to fix their cache-pits and get all ready for the journey.

The soldiers (Black Mouths?) would then say to the people, "We want you to follow this man - he will care for you. Do not go

off to any other timber for your village
and do not camp alone - enemies will
come against you and kill you if you do!
after the soldiers ^{always} took charge after
a leader had been appointed (as police?)

x x x x x x x x

In the center of the village there was
~~always~~ left an open space, in which to
dance, in case enemies were killed.

x x x x x x

Sometimes, if a man was afraid that his
shrines were not strong enough, he would refuse
the leadership as he feared that he would
lose his people.

If any one was killed, the people would say
that he didn't take care of them, would hold
him responsible and might kill him.

But, if they should kill many enemies
and take many horses, he would get all
the credit. He would ~~be~~ entitled to all

the honor marks just the same as the leader of a war party.

So ~~that~~ ^{also}, whether anyone died or was killed he was ^{held} responsible for the whole village.

Should any white buffalo be killed during the winter he would get an honor mark - he could wear a weasel tail the same as tho on a war party.

The leader or chief of a winter village ought to ~~should~~ pray often for his people and then they would prosper.

x x x x x x x

Should ~~a new place~~ the leader select a new place, as Hand did, he would select a protected place in the woods.

The winter lodges were built about the size of this lodge (Hairy Coats). ‡

For some men, ~~the flat-roofed lodge~~ keepers for Societies, the flat-roofed lodges were built. These lodges were larger, for the societies held their meetings often.

x x x x x x

The village was usually built in a circular form, with an open space in the center, and the lodges facing toward this

x x x x x x

Some of the winter lodges were built with four posts, in the center only, and then the atidutidu or long rafters were arranged in tipi fashion. There were no atuti posts nor poles - but the long poles were set up in a circle at the ground, and at the smoke hole four-sided. (This made a cone-shaped lodge round at the base and square at the peak. FW.)

There were not many of these lodges, usually only a few, for old people or for very small families.

These were called "Ati-dutska" or "Like-a-Twin-lodge".

Such a lodge was much smaller than the regular winter lodge. It had a doorway and a vestibule finished just like a regular

lodge except that it was smaller. Firewood was kept in the vestibule ~~of these lodges~~. There was a skin door to this lodge, and they were finished off, in building, with willows hay and earth, and outside stringers just like regular lodges. The outside stringers were to keep the earth from rolling or washing down. ~~as the~~

Two or three horses were kept in the regular winter lodge corral, the rest were kept in the hills. We had a corral in the timber for the horses too, but the best or favorite horses were usually kept in the lodge. The regular winter village lodge was about the size of Small Ankle's lodge. See wolf chief's lodge plates I-V.

x x x x x x "

in Hairy Coats' acct

(This mention of a smaller ^{or twin} lodge, was a surprise to me, as I had never heard of such before. So when I ~~returned~~ ^{returned to} independence I questioned Mahediweash who gave me the following account my brother also ~~that~~ took up the winter village subject and his record of it will be found elsewhere (Tw.)

a Description of Lodge Small-Ankle's
 lodge arrangement, just when she was
 a young woman - (just married?)

made ^{by} mediweash - God Bird - Interpreter

All lodges had 12 outer or Atuti posts.

All in the village ^{were} ~~are~~ so - and if Wolf
 Chief's lodge ^(measured 1908) had 13 posts I made a mistake
 as I never saw any with 13 posts.

In ^{also, in old times all lodges had flat roofs.} most lodges there was a partition or
 palisade of split logs (wida-daksute).

~~that ran across that part of the lodge
 between Main Post A and Atuti post~~

~~II. a forked post w~~

This partition was made by:

a trench ~~was dug~~ 8 or 10 inches deep was
 dug between Main post A and Atuti post
 II, then a forked post was set into the
~~ground~~ ^{each of the} close to ~~the~~ two lodge-posts
 and ~~then~~ a pole ^{laid} across these forked ~~posts~~ ^{posts}.
~~These posts~~ ^{Then} split logs were
 set into ~~the~~ trench ^{and} ~~and~~
 leaned against this pole and a rawhide
 interwoven at the top ^{and} fastened securely
^{so as to} ~~and~~ keep out ^{the} dogs and boys. Often the
 boys' stealing societies would raid the
 lodges and we had to make it tight, ~~and~~

for ~~keep them~~ just beyond the partition,
 the space II (at Atuti) was our store-room and here
 we had a platform for foods and meat.
 This platform ^{raised from the ground and, sometimes} was made by setting four
 forked sticks into the ground, placing two
 stringers on them, and ~~then~~ on these stringers
 split logs ^{or boards}, running lengthwise of the
 lodge or Atuti space (see diagrams
 Small Ankle's lodge arrangement, and Plate
 - Hairy Coat's lodge plates)

Often when hunters came back we put
 the fresh meat here on this platform until
 we were ready to use or to cure it.

Any food that was not all eaten ~~up~~
 was put here too, ^{and covered.} This was the object
 of the stealing societies raids.

There was a further partition put up
 at the main posts ^{to form a sort of room, for privacy.}

~~This partition extended between the two
 main posts A and D.~~ This partition ~~xxxx~~
 needed only one extra ~~fork~~ and a fork at D,
 for it was just ^{a continuation} an extension of the other
 and extended from the fork at A to the one
 set at D. (See plate Small Ankle's lodge)

Outside this partition and in space I (~~Atute~~)
 have kept the bull-boats and firewood.

(Green) Hides were kept ~~along~~ ^{beside} the partition just
 outside ^{the} Atute space, ~~and~~ ^{and} toward the fireplace ^{beyond}

As we never allowed the dogs to come back of
 the partition they stayed ⁱⁿ Space I along
 with the bull-boats and near the door,
 the hides.

~~Cache~~ ~~with~~ I was ^{which was} ^{between} the two main posts A-D and
 within ~~that~~ partition, just in front of the fire
 was placed a bed, usually for old folks -
 to keep them warm. ~~In this~~ ^{in their} lodge
 This is marked bed I and ^{was} occupied
 by her "Oldest mother" - Extra-Corn-Stalk.

xxxxxxx She designated (Extra-Corn-Stalk)
 as her 1st "Oldest mother" -
 2^d Wants-to-be-Woman, ~~her~~ her own
 mother -
 3^d mother - Small-Eyes
 4th " - Strikes-many women.

xxxxxxx

Space III contained Bed 2 which was
 occupied ^{at this time} by Small-Ankle and Strikes-many
 -women.

at Extra-Corn-Stalk
 designated her oldest
 mother

Space ~~IV~~ contained the shrines and beside the shrine was the medicine bundle on its post. As no one went back of the shrines we often kept the pottery there, as this was the safest place. The pottery was not so apt to get broken here.

~~Space V~~ Bed 3 was placed in space V and was occupied by Bear's Tail, ~~and~~ but he had so many wives, I can't tell who they were.

Space VI was her own (Maxidiwiac) bed-room, and besides herself was occupied by her husband, Son-of-a-Star.

The next space beyond, (VII), was devoted to her brothers, the one bed for 3 young men whose ~~were~~ names ~~were~~ ^{of follows} were

- 1- Front hair-yellow
- 2- Goes-along-low ~~er~~ and.
- 3- Heart-filled.

Bed 6, space VIII was the place of "Skunk woman". Also ^{very} grandmother "Turtle" ~~also~~ staid here at times. This bed was ~~also~~ used occasionally ~~for~~ those visiting at the lodge.

The lazy-back was often ~~made~~^{given} as a present to young couples, and was used by young folks - young men especially.

One could be placed in front of each bed if so desired. *Our bed had one.*

The beds were made with posts at the corners (see diagrams - -) and were each fitted with a canopy (or cover) made from a half-tent-cover. In fitting, there was an opening or door left in each bed just large enough for one person to fit into it. Over this door there ~~was a~~ ^{served as a curtain and} ~~robe~~ hung a robe which was let down at night. This was ~~usually~~ ^{usually} thrown up over the top of the bed during the day.

The Boys and children did not have ~~this~~^{any} curtain to their beds, for these were left open - but all married folks had them. Robes were used for these curtains, for many women had the painted robes, and ~~then~~ sometimes the men's quill-worked robes were used to cover the beds; but ~~more~~ often only a common robe was used.

In fastening the robe the ~~head~~ fur side hung ~~inside~~ toward the inside, with the head of the robe up and the tail down. This allowed the pattern on the robe to show, as the decorated side was out. The canopy for the bed was always decorated with the honor-marks of the man who occupied the bed.

These bed-covers or canopies were usually made from old tents, one or two years old. We made moccasins ^{out} of the old smoked covers; and, ~~as~~ ^{since} in old times we did not decorate or ~~paint~~ our tents except with horse tails and quill-work, ~~bands~~ we could decorate ~~the~~ ^{them} beds when ~~finished~~ ^{made into bed coverings}. In old times there ~~was~~ ^{were} no paintings ~~or~~ ^{nor} marks ^{made} on the tents.

Good Bird here said that ~~the~~ ^{for their} ceremonies they often stretched a rawhide rope clear round the lodge at the Atuti posts (on a level with the stringers) and hung robes and blankets over this rope - (a handsome appearance to the lodge TW.)

~~The~~ Palisade or partition between main Posts A and D, was put up to keep the wind from ~~blowing~~ ^{pushing} in thru the doorway and ~~scattering~~ blowing the fire about and smoking up the lodge - and if the lodge didn't have one a tent ~~skin~~ was often hung ^{between posts for the} same purpose and

also to keep out the cold, in severe weather.
 ? // most lodges had several tents, and the large tent was usually hung over ~~the~~ bed at the fire place. //

To store our food we had several cache pits.
Cache pit I - the one within the lodge, was at space VIII

and in toward the fire place somewhat, and ~~the mortar~~ was used to store boiled-corn.

This pit was dug so that it came to the woman's mouth ^{was about 2 ft wide and} ~~at the surface~~ ^{at the surface} ~~bottom~~. ^{quite wide at the}

~~Cache pit II - was outside the entrance to the left, and ~~where the~~ at the place where the Atuti and the vestibule palisade came together. This was used for yellow corn.~~

~~Cache pit III - was a large pit and was used for corn and vegetables.~~

It was covered like the outside pits. We did not open the ~~pit~~ cache every day, but took out each time enough to last several days. The bags of corn ^{etc} we stored in space I.

Cache pit II - was outside the entrance, at the left ~~and~~ where the vestibule palisade and Atuti joined. This pit was used for yellow corn.

The opening was about $2\frac{1}{2}$ ft wide at the top and quite wide at the bottom - to get into it we used the drying stage ladder, which would project out about a foot or a foot and a half. ~~The~~ outside pits were quite large and all ^{pits} were covered as described elsewhere (G.S. report 1902-1915?).

Cache pit III was a large pit for corn and vegetables (~~squash etc~~) and was about 7 ft deep. It was located just outside the lodge at about Space III.

Cache pit IV - Shelled corn and dried squash was quite large and was also outside lodge at ~~the~~ Space V.

X X X X X X X X

The cook's place was as indicated - the nearest place as one came into the fire-place space from ^{the} outside

The wooden dishes and the horn spoons were kept in Space II - on the food platform usually. After using if the ~~dish~~ bowl or spoon was clean it was put away so - but if soiled ~~we~~ it was cleaned with water.

To ~~clean~~^{do this} we just put water in the dish and mixed around with the hand, and then threw the water outside the lodge.

All dishes, kettles, etc., belonged to all the family - just as we use plates now - not one for any particular person.

The spoons and dishes were always placed with the mouth part down and then, with the food, covered over with a piece of tent skin.

x x x x x x x x

Water was ^{often} kept in pottery, and generally we had several jars of water at main post (D) near the mortar, for drinking and cooking. (Diagram)

The young girls carried water and filled the water-jars. They used skin (or heart-skin) buckets, and sometimes they tied rawhide around the top of earthen jars and made handles staus -



x x x x x x x x

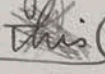
Squash and meat were stored in par fleche bags and these were hung ~~front~~ out of the way by means of thongs fastened to the lodge ribs or Atidutidu poles.

x x x x x x x x

The woman's ~~the~~ workroom usually consisted of the space in front of her ~~bed~~ own bed

It was here that she did most of the small work such as basketry, quill-work, moccasins, robes, suits, etc. ^{Those who made pottery worked at this place too.} The quills, awls, sinew, and all work materials were kept under the beds ~~at~~ ^{some up} toward the foot, and were ~~kept~~ in packages ~~under the beds~~ and kept in a work box ^(jupflek?) put on a board.

The awls, sinew, porcupine quills, and such tools were kept in a "house-wife" of buffalo-skin with the fur ^{left} on, shaped like an envelope. Porcupine tails, ^{used as hair-brushes, ~~the as combs.~~} were also kept in similar envelopes.

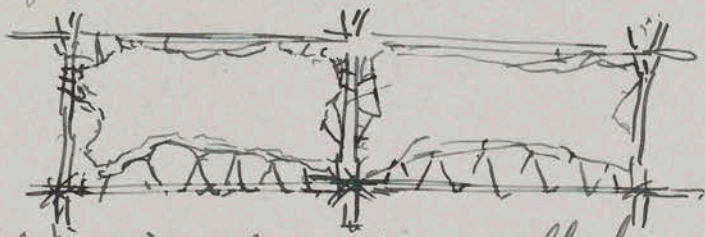
The quill quills were kept in a case shaped like ~~this~~  to keep them from breaking. They were rolled up in bunches.

x x x x x x x x x

Diagram

In the winter time hides were dried in the lodge at the fire-place, some ^{beside} ~~at~~ the ~~bedside~~ ^{at the partition}, and sometimes at the back of the fire ^{toward} ~~at~~ A'duka - ^{at} ~~where~~ the place of the cow-skin seat. 3 Forked poles were ^{put} ~~plut~~ up at the fireplace and poles ^{strung} ~~over~~ ^{on} these at the top and also at the bottom. The cow-hide was split down the back ~~and~~ then turned and split down the belly. This frame was ^{at} ~~within~~ the fireplace within the ^{space of the} four main posts. The ~~cow~~-hide was

then fastened to these frames - a half-hide to each frame and placed tail to tail and stretched. The frame for each hide was about 6 x 9 ft.



For this winter dressing an elk-horn flesher was used ~~then~~ when thru fleshing the skins were stretched tightly on the frames, and a good fire was built and they were left two nights to dry.

In summertime skins were dressed outside the lodge.

The skin-dressing tools were kept in the store room, or ^{del} in a parfleche bag ~~in the~~ hung up along with the bags containing the clothes, in the thong depending from the ^{Atidudu} poles (at ^{was} ~~the~~ ^{bag} ~~after~~ hung on the root-carrier at
 (X B)
 x x x x x x x

There were seats placed around the fire; at (1) ~~they~~ we used a cow-hide (rough-finished) folded and put on the ground, at (2) there was a mat of willows. This was made of peeled sticks woven like a lazy back - with four strands of sinew, kept straight all thru. This was about 2 ft x 9 ft.

Instead of the cow-hide, a rush mat about
2 1/2 ft by 9 ft. was frequently ~~for~~ used at (1)

x x x x x x

1a was cook's place - 2a - was a good place
3a + 4a were places of honor, for any good
men who happened in.

x x x x x x x

~~The shrines were kept in space IV and the~~
sacred place for shrines could be in any of
the three or four spaces back of the fire -
viz. IV - V - VI.

With the exception of the *maia du'ush* or
Two skulls, which was kept in a scaffold-
shrines were usually kept on posts
with 2 or 3 forks, ^{as fork} for each different ceremony.
~~Any~~ Posts of any ~~wood~~ were used to hold the shrines.
The ceremonies were tied up into bundles and
hung on these posts and covered with a buffalo
calf-skin. We always ~~kept~~ the shrines
in space IV - but in other lodges the space
was sometimes different. "Big Black" kept his
shrines in space VI, one wife in space
IV and one in space VIII.

The shield was hung up in the shrine
space on the shrine post or else kept in the shrine.

x x x x x

^{very} In old times ~~clubs~~, stone and elk-horn clubs were used.

Clubs.
Weapons.

These, ~~were hung~~ along with the bow + quiver and other weapons were hung near the bed so as to be handy for use. ~~Often they~~ ^{the} weapons were hung on the posts of the bed, ~~and were really~~ ^{put} anywhere to suit the owner.

^{small} Arrow sticks in bundles, ~~were~~ ^{strung} on the pole over the fire place. S.B.

x x x x x x

This pole over the fire place was ~~placed over~~ ^{strung over} two forked ~~posts~~, one set near ^{main} post A and the other near post C. We hung a chain on this pole and on this ~~to~~ ^{kettle} chain the ~~pot~~ for the cooking. ~~This also~~ In roasting buffalo ribs we put a skewer ~~thru~~ the ribs and hung them on the chain over the fire, ~~and~~ ^{and} swinging them back and forth until one side ^{was} roasted, then turned the other side.

Pole
Fireplace

x x x x x x

Our clothes we put away in parfleche bags which were ~~not~~ ^{used} only for this purpose. We never used these bags or cases to pack meat or foods in, as we wanted to keep our clothes clean. These ~~clothes~~ ^{clothes} bags were hung from loops of raw-hide or skin thongs that

were ~~fastened~~ fastened up over the lodge ribs. Several of these bags would hang in the same set of loops and these loops were fastened just in front of the Atuti stringers near the post.

With us they were hung near post VIII between it and the Bed 6 in Space VIII.

Sometimes these bags would be hung near each bed - each ~~one~~ family have its own loops.

(~~See diagram & drawing~~).

Whenever ~~we~~ we had been out late to a dance or any thing, we hung our clothes on the ~~lary~~ ~~back~~ ~~or~~ ~~else~~ on the top of the bed, and put away in the morning - ~~to keep it clean~~.

There was just one bag for the man's suit and that of his wife. The war-bonnet and trail were ~~also~~ kept in the bag, along with the clothes.

(See diagram)

..x x x x x x x x x.

The Garden tools were kept in ~~space IX~~ ^{back in Atuti} space IX ~~and~~ and were laid on the floor or leaned against the Atuti rafters or poles.

Firewood was ^{also} kept in space IX. ~~XXXX~~

Near ^{atuti} post IX a post of box-alder ^{called a root-carrier} was set into the ground with a root-end

up and the roots cut off. On these were hung the raw-hide or braided ropes sometimes several hanging on these roots. In old times before we got nails from the white man we hung saddles on the root-carrier as it was set out far enough to allow saddles to be hung all round. This root-post was called *wide-pütsi* ~~and it~~. When anybody carries around a lot of things they call him *I-wid-a-pütsikets* - or say that he is "like that root-post set in the lodge". After nails came in we usually hung the saddles on the stringer IX (or else put them on one of the platforms).

x x x x x x x

Baskets were usually hung on the root carrier ~~the~~ Park baskets were always kept dry and so were hung up off the floor. Sometimes they were hung on the corral-posts, as the horses were not kept inside all the time, only on special occasions.

x x x x x x x

The corral occupied parts of three spaces IX, X, and XI; and was used to keep the horses of returned hunters - ~~or was~~ or of mares that had just foaled - to protect them from the storm.

Jodges Hairy C. I

Measurements and plats of the lodge at Shell creek occupied by Hairy Coat, and his wife. Not a woman and a description ~~an account~~ of the lodges occupied by Hairy Coat's father at ^{ayatika-ati} the five villages at the mouth of ~~the Snake River~~ ^{the Snake River} and at Old Ft. Berthold.

X X X X X

I. ~~A sketch~~ of Hairy coat's ^{as people call me} or "Hair-Necklace" ~~my~~ true name, was born

76 years ago at ^{ayatika-ati} the second ^{from the west village} ~~the~~ next to the last village, ^{I was born in the month} when the leaves turn yellow (in Sept.) This name Hair-Necklace

distinguishes ~~me~~ ^{me} * ~~we~~ have many names like those of other ^{folks} ~~people~~ but people don't know ~~me~~ ^{from others} ~~until~~ ^{by these names} ~~my~~ relatives are ^{mentioned} ~~spoken~~ of also. When a young man, I killed

an enemy and took his scalp, put it on a hoop of wood, and wore it ~~about~~ ^{my} neck, so people called ~~me~~ ^{me} Hair-Necklace, and ~~other~~ other tribes even, know ~~me~~ ^{me} by this name, as it was not given to any one else. ~~My~~ friends said I was foolish to do this but I knew what I was about.

When I was twenty years old I commenced, as the result of a dream, to use buffalo-chips dried ~~and~~ mixed with ~~my~~ tobacco, in smoking and keeps it up yet, when I can ^{get} the chips.

Carl Two of my other names ~~are~~ "Crow's Wing" and "Turn-Upside-Down"

X X X X X

A Description of ^{the} Lodge at the Five Villages
~~Lodge Descriptions~~, by Hairy Coat.
Tues. Aug. 13-1912

Awatcha-Ati

My Father "Dry Tears" or (Dry Eyes) had, at Awatcha-Ati, a 16 post lodge and in the center of the lodge at the back, were my father's shrines. These were on a post placed a little in front of the Atuti stringer - or about 9 feet from the back of the Atute space (at VIII) See diagram

All lodges had the sweat-lodges placed for use and in our lodge it was located on the right side of ~~the lodge~~ going in - just beyond the corral and between it and the mortar.

a trench was dug in which to set the palisades (or partition) and this palisade had a gate or opening at (a?) diagram

My father's house at "Awatcha-Ati" is diagrammed (in the ~~accompanying plate~~) complete, as far as I can remember, it ~~and~~ from descriptions.
(see diagram)

x x x x x x x x x

Description of the lodge at old Ft. Berthold
when they first came, by Hairy Coat.

Berthold

The Lodge at Old Ft Berthold. (1)
described by Hairy Coat.

When my father came to old Ft Berthold, he built a lodge just a little larger than the one I now occupy ~~and~~ The second was a little larger than the first. (See Shell Creek lodge diagrams)

He came to Old Ft Berthold when I was 8 yrs old.

When we left the Five Villages, I was seven years old, but we spent ^{the ensuing} ~~that~~ winter at the winter village.

~~It~~ ^{It} was in 1844 that we came to Ft Berthold - we came in the summer time and in that first winter all our ^{own} ~~own~~ houses ~~were~~ were stolen by ~~the~~ enemies.

This first lodge ~~had~~ was flat-roofed and had 16 Atute posts - but the logs were larger than ~~those~~ in this lodge, as the lodge was larger. Other people also made their lodges of 16 posts, as these were the largest and best.

The smaller lodges had 12 and 14 posts.

In the flat-roofed lodges the Atute posts were all higher than in the pointed (winter) lodges ~~for since the roof was ~~and~~ so were the~~ four central posts, for, the roof being flat made it necessary to have ^{all} these posts high, ~~to keep~~ ^{not to make} the lodge ~~appear~~ ^{seem} too low.

My father's lodge had a flat-roof as these were best and, as I ~~said~~ ^{said}, the central posts were ^{all} higher than ^{those} in this, ~~my~~ ^{my} lodge.

I want to tell my son about this first lodge that we lived in at Old Ft Berthold.

This was a large lodge. After these lodges had 200 Atidulidu or lodge ribs and his had about that number.

The smoke-hole had 5 cross stringers toward the door, and, from the smoke hole back, there were 7 or 8 cross stringers.

The four large central posts we called ^(Iptsa M.) Ipsi (meaning a holding frame) There were four stringers resting on the Ipsi

and these were called "wide-ikūake"
 The two stringers running crosswise of the
 lodge are named "wide-ikūak-pādūi".

We called the smoke hole cross-stringers
 adu tsika - ~~ma~~wihe - wide

These cross stringers were all the same
 size ^{and} large. We cut just enough Atuti poles
 to fit - we did not count them.

These are called Atiutikua - wide.
 At the roof (smoke hole) we placed first
 the cross stringer, then three Atidutidu
 poles, then another stringer, etc.

In these large lodges the smoke hole
 was large and the smoke went out
 well - did not smoke up the lodge.
 Like all flat lodges, this smoke hole
 in my father's lodge was boxed-in.

The four large central posts were
 so placed that the ~~distance~~ ~~space~~ ~~at~~ the

between the posts, from front to back
 was greater than from side to side
 at the fire place ~~so~~ ^{so}. This made
 the lodge a little longer than it was wide.

at first when we came to old Ft Berthold
 we camped about a mile north of where the
 village finally stood. (This land at Ft Berth.
 was ~~so~~ very fine land)

Then the chiefs came together and decided
 on the place where they should build the
 village. I know this, because, when the
 chiefs had their meeting I was present, as
 I was a member of one of the societies.

Even tho I was only 8 yrs. old I was
 one of the council, for my father was
 a great hunter and I had been adopted
 into one of the societies, the Bull-imitators
 (of older men-chiefs) This council appointed
 a few of the chiefs to select the place
 for the village - for they said -

"We have many enemies, and we need a safe place, as we want to save our children".
 The Bull-Imitators decided on a circular form for the village, with an open space in the center,

x x x

As our family was small there were only four beds ^{in our lodge}. We had a corral for the horses and it extended from the door to the second post to the right. (to post ~~XIV~~) ^{diag.}

This corral was made with 1 fork in front and three in the back (see diag.) and there were two rails or poles ~~along~~ the Atute space to keep the horses from kicking, and from backing up into the Atute poles, thus breaking the house down. Not all corrals were fixed in this way, but we always did so, as this was the right way; it kept the horses from damaging the house. If there ^{were} was a mean horse among them, we fenced it off, with a rail, into a stall by itself. The corral was cleaned every day and sand

sprinkled about to keep it fresh and clean.

We swept up the corral with a brush broom made of twigs, and carried out the sweepings in old bark carrying baskets, or in skin baskets. The corral to the right of the door was for the mares and foals; as many as 8 or 10 were often kept here. The corral at the left of the door (idridge) was used to keep the stud horse, or horses, separate.

Many people do not know about these old times, and about how lodges were fixed; but they were all fitted alike, almost every family fitted ^{xxxxxx} built its lodge the same way.

Just beyond the corral was the mortar, near the center post and about on a line with the ~~nearest~~ Atute post (XIII?)

The sweat lodge with us was near Atute post XIII, and between it and post XII.

There was a platform for saddles in Atute space ^{XIII}

Here we kept firewood, too. (note firewood poles!

Just beyond the sweat-lodge was the cache-pit I
(I) we had to use a ladder to go down into it,
and it had a sliding trap door of split boards.

Spaces VII - VIII and IX were kept sacred, as
we never used the spaces either side of the shrine
space, but kept all that part of the lodge sacred.

All the space between the shrines and the
fire was also considered sacred, no one was
allowed to go between the fire and the shrines.

All the rest of the space about the fire was
not ~~sacred~~ sacred - and it was here about
the fireplace that we had our meals.

We used a half robe - rough or half-finished - to
sit on.

Willow mats made by stringing willow sticks
on strands of sinew, were placed on the floor
and over these the buffalo robes or skins
were spread - to keep them off the ground so
~~that they would not become soiled.~~

Our lodges were swept quite often so that ~~the~~ robes would not become soiled, as they easily got dusty. ~~In~~

In sweeping we used a brush broom first, and then finished off with a buffalo-head broom or duster. (the scalp part between horns.)

Sometimes ^{when} ~~when~~ a man owned shrines and was a member of a society, and he was asked to entertain the society, or if the society wanted to use his lodge for any reason, ~~then~~ then he would take his shrines up to the roof and ~~then~~ would ask his shrines if they would let him use the lodge, as "his children want to play" ~~and~~ He would talk to his shrines just as he would to a man.

Then since the shrines were on the roof and ~~had given~~ ~~them~~ they would spread robes clear around the lodge ^{as the shrines would} ~~not then be~~ dishonored.

When eating or resting we occupied spaces about the fire place as indicated in diagram. but no one was back of the fire - that place was sacred.

Fr. Beutold (9)
H.C.

My father kept his weapons, bow, quiver etc, hanging on a stick. This stick was thrust between the lodge ribs ~~into the~~ ^{rested} resting on the Attuti stringer, and projecting ~~slightly~~ slightly into the room.

Our clothes were hung from the rafters or lodge ribs. ~~etc~~

We kept them in parfleche bags and these bags were hung upon loops or slings. These slings were made by tying a thong so as to make a continuous line or string. This was caught up over the lodge-rib and loops formed of the two ends and in these the parfleche bags rested (as if in a double-swing)

There was a shield made to go on the string. a loop or end was put thru the hole in the shield, this end then caught up over a rafter then thru the shield again and pulled down until even with the other end.

F.T. Beathold

10.

Hairy Coat.

This shield then always stayed in place.
As mice ~~would~~ ^{often} get into the lodge, ~~the shield~~
and ^{would} come down the strings ^{so} the shield was
a protection to our clothes as the mice could
come no further, and ~~could~~ ^{could} not get into
the ~~perfect~~ ^{clothes} bags. If the roof was leaky this
~~shield~~ also kept the rain from coming in
and spoiling our clothes, as the water would
run off ^{the shield}. This shield was made from the
thick part of the buffalo hide, and the
thongs used were raw-hide. (diagram)

x x x x x x x x x

(I questioned Hairy-Coat regarding lodge sites and
whether they ever dug down the floor ~~before~~ in
building a lodge. He gave me the following notes
about this and about cache-pits. F.W.)

So far as I know ~~x x x x x x x~~
~~Hairy Coat said that~~ we never dug down the
~~floor that I ever~~ floors in building a
lodge - we just cut off the hay and scraped
the ground, and unless the village moved
we always rebuilt on the old lodge site.
Each family did this. ^{You can see} ~~He said that below~~

Fort Benthold
H. Cost.

(11)

Mandan where there are lodges that had the floor worn ~~away~~ ^{down} deep.

It did not take long for the ground to wear ~~away~~, so that after a few years it would look as if it had been dug down.

Frequent sweeping (~~and dancing~~) would soon help to scrape it out, too.

x x x x x x

When I was on a war party near Mandan I once saw a cache-pit that had been filled with ^{corn} cobs. Often when people went away from their lodge for a while, or if they ~~cache-pit~~ ^{decided} was not to use ~~it~~ ^{the} cache-pit again, this was done. Also if a cache-pit was emptied, and for some reason was not to be used for some time, ~~that~~ we did the same thing - this kept the pit nice and clean and dry - It did not not become smelly.

x x x x x

It was the woman's place to build lodges
and in my father's first lodge at old Ft. Berth.
my mother cut the timbers.

The man would say what sized lodge
he wanted, and then the woman would go
out and cut the timbers (posts, etc)

Three logs ^{that were} found on sand bars in the Missouri
river all lasted ~~long~~ ^{the longest} ~~we believe~~

The cut (standing) timber all has worms
of itself, that eat the wood, but the drift
timber all lasts longer altho it has them
too.

x x x x x x x x

Description of the dismantling and rebuilding of
an Earth-lodge - by Hairy Coat and Not-a-Woman
(his wife.)

as a rule a lodge
lasted several
years and was
then rebuilt.

On taking down an Earth lodge, so as to rebuild,
we began at the smoke-hole, and, with our
hoes, pulled the earth down to the ground on
all sides, working from the smoke-hole.
After which we took off the grass and
then the willows.

After the ~~grass~~ was pulled down, we took
off the hay and then the willows and boards
at the smoke-hole, then the cross stringers
over the fire place (at smoke-hole). After
this was done we removed the hay and
the willows on the rafters, and took
down the rafters or lodge-ribs.
And lastly we ~~took down~~ ^{removed} the dirt and the
willows and the poles at Atute.

To remove the main stringers AA-BB etc,
which were sometimes used again, we
just took a pole and pushed them
up and allowed them to drop.

dismantling lodge - (2)

~~Should~~ they ^{remain} ~~was~~ good after the fall we used them again.

If the main posts were old, we just pushed them down, as, after seven years they were usually rotten at the base, and just broke off. But if the post was solid and did not break off, we dug at one side and worked it about until it was loose enough to take out. We did this to keep the post holes as small as possible - ~~as we~~ ^{we} wanted them so that the posts would just fit.

The outer or Atuti posts, ^{being smaller,} always broke easily, and only needed a push to go over. The logs ~~or~~ posts were all usually rotten at the end of seven years.

The rafters or Atidutidu poles were all saved to make Atuti poles - mixed with new poles if necessary.

We always renewed the rafters entirely.

Lodge rebuild (3)

All the other wood, posts etc, with the exception, sometimes, of the four stringers, was used for firewood.

After the main posts, and Atuti posts were up, and the stringers placed; the Atuti poles were next placed in position.

These poles were set with the large end down, smaller up.

If there were any helpers working on the lodge, they were entitled to all cut off ~~ends~~ ^{parts} and all trimmings left in preparing the Atuti and Atidutidu poles.

For the roof the ~~best~~ poles were selected and divided into four piles - The best poles were then placed first, over the door, as it was here that any one went up onto the lodge.

The rest of the poles were then placed on the other three sides - This left the corners open. The best and largest ^{poles} were always put in the middle of the sides.

Sledge rebuild (4)

The small poles were left for the corners as no one walked there, but only on the middle parts.

In putting up the rafters usually two women did the work. The

The attitude pole was placed with upper end on the central stringer first, and then one or both lifted the lower end and set it in place on the other stringer.

One of the women then, with a forked stick or pole, adjusted the poles evenly at the top.

If the ground had been worn down a good deal the outer posts were cut a little longer than in the first building.

The cross-stringers were measured by the distance between bottom of posts.

Then a log was cut and used as the measure.

The largest ~~logs~~ best logs were cut for the part close to the smoke-hole and the smaller for the parts ~~away~~ further away.

Rebuild lodge - (5)

After the Atuti, and Atitududu poles are in place, the whole lodge is finished with the willows. Then two men - or women - go to the roof, and, with raw-hide ropes hoist the cross stringers to the ~~roof~~^{smoke-hole} and adjust them to place.

When this ~~is~~ done, they ~~are~~ ready for the boards ~~and~~ ~~hay~~ willows, ~~hay and earth~~. - then the ~~hay~~ and earth for the whole lodge.

The boards (of split logs or slabs) were carried to the roof and laid lengthwise of the lodge across the cross-stringers and were fitted as closely as possible, with ends butting into each other - the longer boards at the smoke-hole.

Willows were ~~laid~~ laid lengthwise of these boards to fill up the cracks and then covered with hay. More hay was used at the ~~flat~~^{flat} part or smoke-hole, than on any other part of the lodge, this was to keep ^{the} rains from leaking thru. This hay was the long river grass, as that is tough and lasts a long time.

If split logs were used as boards the round ~~part~~^{part}

rebuild (6)

~~the~~ was placed upper most, but after these slabs
were flat on both sides. ~~After~~
after the dirt was placed over the fireplace
~~roof~~ - the smoke-hole box was then
fitted, like ^{the} logs at the corners of a
log house. The dirt earth was pulled up
close to this ~~edge~~ ^{box edge} and raised some-what so
that it would back the water away and
keep it from coming down into the fireplace.

x x x x x x x

The Twin-Lodge
Described by Maludiweash.

(1)

x x x x

The winter lodges were often made in this ~~form~~ ^{fashion} -

Four center posts were used and the stringers for these, and then the ~~poles~~ rafters or Atidutidu poles were arranged in tipi-form; the poles reaching from the ground to the smoke-hole.

The Iptsi posts were about 6 ft. high, the stringers about 7 or 8 ft. long, and the whole room about 12 to 15 ft. diameter.

The center posts were usually of ~~five~~ or 6" timbers.

The smoke-hole was ~~cut~~ made either square or round and had about a 2 ft. opening. The ~~of~~ smoke-hole portion, or the part above the stringers was usually finished off first with boards, then with hay and earth. This was to protect the lodge from fire, as in winter we had large fires. This made the sparks fly and was dangerous.

Twin Lodge (2)

~~was~~
So boards were used placed closely together - this kept the sparks from reaching the hay and starting a fire.

On the outside there were one, two, or three sets of stringers as was found necessary to keep the dirt on the roof, as this lodge was rather steep.

These twin lodges were small but warm as ~~they~~ kept the heat in ~~and brought on closer~~ ^{they were nearer} the fire ~~and~~. They were not furnished like the large lodges, but had the mortar or mill near the center post, and had about two large platform beds made of logs and planks (like food platform). Sometimes the logs were laid four square ^{for beds,} and the space filled with hay.

The doorway to these lodges was much smaller than in the regular lodges, and was about 3 ft or 3 1/2 ft wide. The doorway posts had forks and stringers were laid on these as in regular vestibule - the posts were 5 ft to 5 1/2 ft high.

Twin lodge - (3)

or about the usual height of doorway in regular lodge, ^{minus} ~~without~~ ^{of the} ~~the lintel depth~~ ^{the} ~~depth~~ minus the height of the ~~door~~ ^{sill} *
x x x x x x

The winter lodges were made very close together - one touching the other.

The ~~Society~~ ^{lodges} had a flat-roof - but some of the Societies could not dance in the winter.

These, such as the Goose-Society, did not, on this account build for dancing.

The White Buffalo Society however danced in the winter and not in the summer.

x x x x x x "

All lodges having a "twin lodge" were built with a connecting doorway, as these twin lodges were only a kind of warming room ^{or} ~~extra room~~ ^{in addition} to the regular winter lodge. There was a vestibule or passage-way with a double entrance between these two lodges. The Twin lodge had no outside entrance but one had to go thru this connecting passage way from the regular lodge.

This ~~pass~~ vestibule and door out of the larger lodge was usually at Atuti space II - just beyond the partition or palisade.

(2.) Poles were laid from lintel to lintel and on these poles, slabs or boards were laid crosswise of the vestibule. The passage way was enclosed then by leaning Atuti poles against the upper poles. These poles were not of the same length as in the regular vestibule, but were longer or shorter as required as they ~~were~~ rested on the outside ^{slope} of the lodge being increasing in length ^{to the ground} until the longest were those coming just between the two lodges. All the vestibule was then covered heavily with earth, and on the outside against the uprights, willows were placed to keep the dogs off. These twin lodges were built by those that could afford them - they were not on every lodge - altho most people had them.

Coas-52-

"In a circle of a size suited to the dimensions of the intended lodge they set up 16 forked posts 5 or six feet high, and lay poles from one fork to another. Against these poles they lean other poles, slanting from the ground, and extending about 4 inches above the cross poles; these are to receive the ends of the upper poles that support the roof. They next set up four large forks - 15 ft. high and about ten feet apart, in the middle of the area; and poles or beams between these. The roof poles are then laid on extending from the lower poles across the across the beams which rest on the middle forks, of such a length ~~as~~ to leave a hole at the top for a chimney.

The whole is then covered with willow branches, except the chimney and a hole below to pass through. On the willow branches they lay grass and lastly clay. At the hole below they build a pen about 4 ft wide and projecting ten feet from the

Coas Ed. 1893 - #233

The horses of the Mandans are so often stolen by the Sioux, Ricaras, and Assinibons, that the invariable rule now is to put the horses every night in the same lodge with the family.

xxxxx at a village which we suppose to have belonged to the Ricaras. It is situated on a low plain on the river, and consists of about 80 lodges of an octagon ~~shape~~, neatly covered with earth, placed as close to each other as possible and picketed around.

Coas - 54 Clark 155-

hut, and hang a buffalo skin at the entrance of the hut for a door. This sort of life every other kind is chiefly performed by the squaws.

McCree - Rep Ethno
1893-94 - pp 197-198

W. Matthews

Earth Lodge in Art

Am. Anthropol. 1901 -
pp. 1-12

Hendy-Thompson

Journals - description
of Mandan Hut bldg.

I - 337-339 Coues Ed.

Long Exped (Say) I: 1823
London edition pp 252-53

Am Anth. 1901

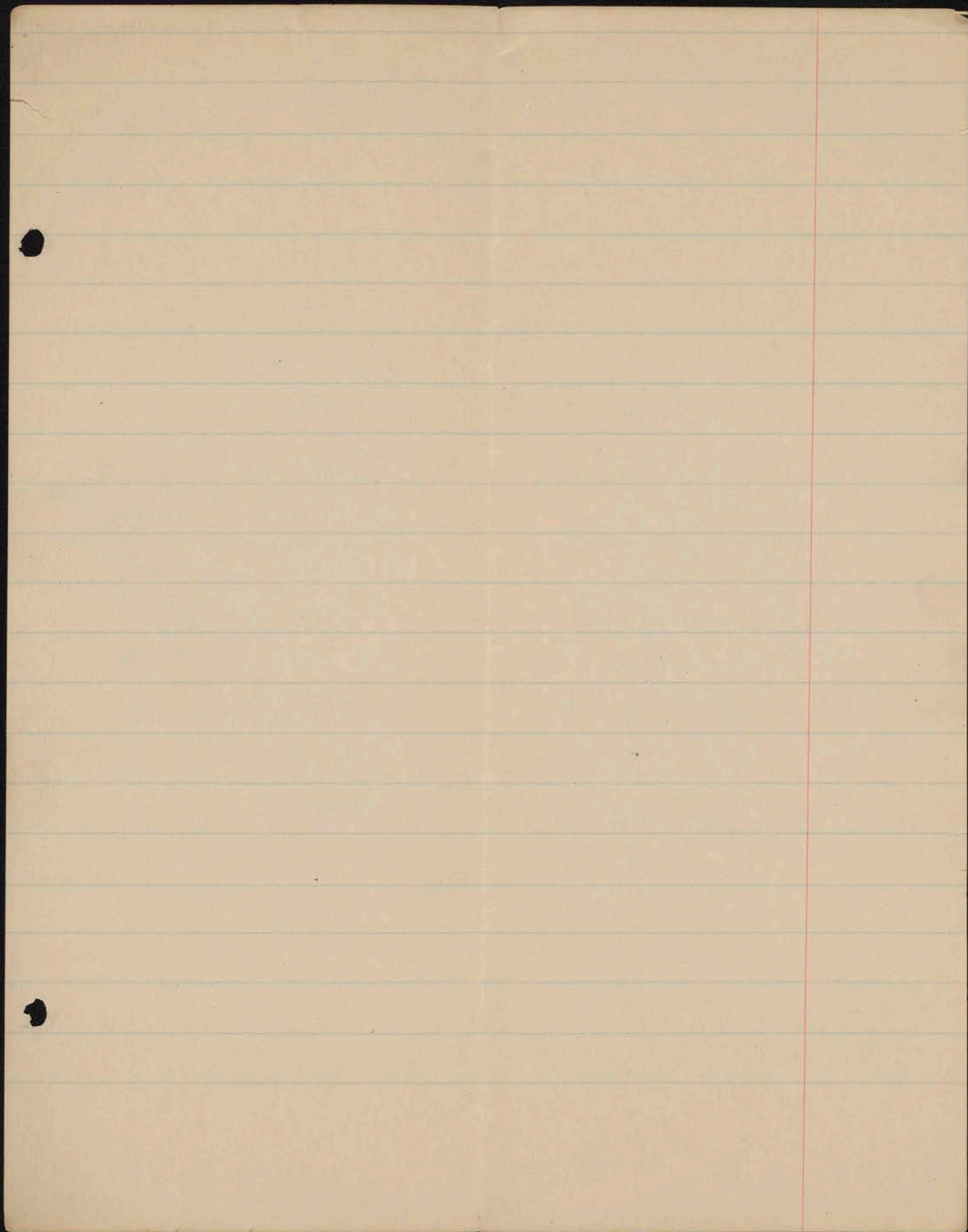
page 650 -

Lodges of Blackfeet -

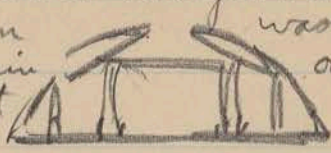
Mr. A. W. Moses

Elbowoods N.D. -

C. L. Hall. photos of
Earth lodges.



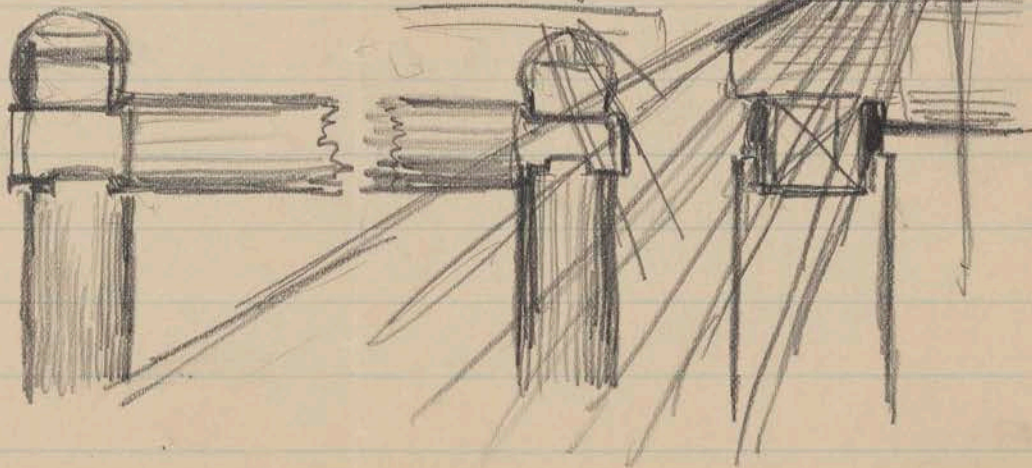
notes - reason for Collins' inaccuracy - carelessness failed to connect lines.

Rounded lodge may be from rain flat  washing down a to the topped type.

Braces saw none - not needed - weight thrown to center - braced w. c. lodge from center by wedges.

dug down or cleared turf off only? - debris and washing down of dirt and accumulation of grass and weed growths -

Morgan

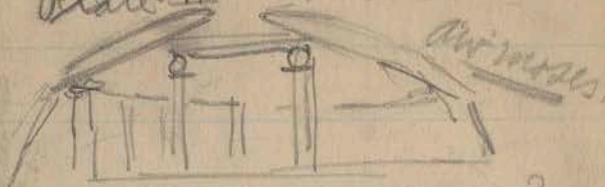


route

F. W. Hodge -

Anthrop - 1902

Plate II - nos I + 2 -

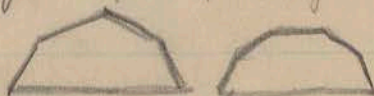


2 - Wolf chief lodge?
or small Anle? before
removal?

Rev. C. L. Hall

Anleana Dance lodge.

pentagon hexagonal



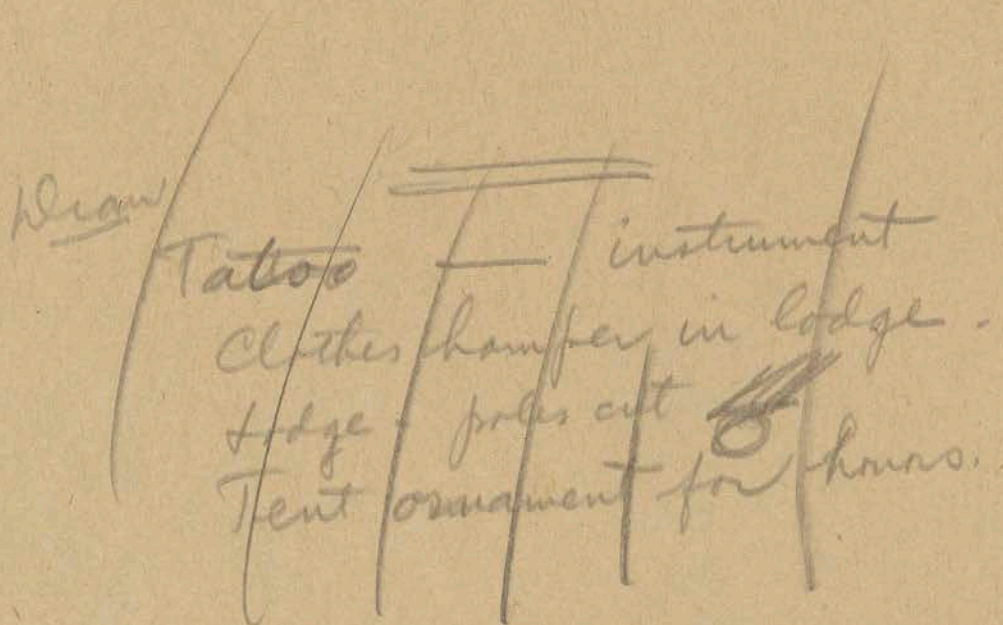
W. H. Matthews

The Picara lodges are in a circular or octagonal form, and generally about 30 or 40 ft in diameter. They are made by placing forked posts about 6 feet high round the circumference of the circle; these are joined by poles from one fork to another which are supported also by other forked poles slanting from the ground; in the center of the lodge are placed 4 straighter forked ~~posts~~ posts, about 15 feet in length, connected together by beams; from these to the lower poles the rafters of the roof ^{are} extended so as to leave a vacancy in the middle for the smoke; the frame of the building is then covered with willow branches with which is interwoven grass, and over this ^{is} placed mud or clay; the aperture for the door is about 4 ft. wide, and before it is a sort of entry about ten ft. from the lodge. They are warm & compact.

Rules —

In setting the frame of the basket, the upper and nether bowframes are placed so that the ~~thick~~ ^{large} and small ends of the standards shall alternate - i.e. a thick and thin end are paired at each corner - this is shown in Fig 15.

The ends projecting above rim are marked designated "thick" and "thin" in this diagram. They are always arranged in this way.



The Mandan Sacred Lodge.

There is a well known trait of the mind that when one's attention is concentrated on ^{attention} ~~any~~ ^{any given} subject, ^{adjacent material} ~~things~~ of equal or greater interest, ^{over} ~~is~~ ^{connected} apt to be completely ignored, ~~just~~ ^{though} ~~one~~ ^{one} should become so absorbed, in the pomp or ritual of ^{of a} "cathedral service", as to miss entirely the marvels of the architecture all ^{around} ~~about~~ him.

There is no comparison, of course, between such architecture and the primitive structure of a "medicine" lodge, but the analogy of interest holds good, nevertheless.

A great deal has been written about the Okipe ceremony of the Mandans, ^{which} ~~and it~~ has been mentioned or described at various times, but references to the Sacred or "medicine" lodge in which this ceremony was held, are both meager and ^{casual} ~~fragmentary~~.

Oatlin describes the ceremony and mentions the lodge, as does Maximilian and Audubon, of those who actually saw ^{it} ~~the~~ lodge, and Curtis (American Indian) and Will (Ed. Society, 1931) of more recent times had ^{only} ~~but~~ slight references to it. ^{mentioned} ~~These~~ references however, were ~~all~~ incidental to the ceremony ~~itself~~, and there is no clear idea given by the older observers, of the structure of the lodge itself.

This is unfortunate, as this lodge was set apart both in its use and construction, from all others; and, in Curtis' notes is spoken of as the "different" lodge. It was, also, the only one that was built ^{entirely} ~~only~~ by the men, at least in general practice.

while my brother and I were making studies of the Earth lodge among the Hidatsas in 1912, we made ~~some~~ inquiries about the Mandan earth lodges, and ~~what~~ ^{became} convinced that the Hidatsa and Mandan lodge-building methods agreed in all ^{practical} essentials except, of course, that each ^{rather} claimed to be the better in ^{their} building ^{workmanship} practice.

In asking about ~~any~~ ^{various} different forms of the lodge we had learned that the Sacred lodge was different from the usual dwelling type, and ^{naturally} ~~we~~ were anxious to find out about it, altho there was none ^{standing} ~~standing~~ at that time. ~~Having~~ ^{we} ~~learned~~ ^{knew} that there were some living who had been ⁱⁿ ~~the~~ ^{this lodge} or had ^{participated} ~~helped~~ in ceremonies, and ^{had} perhaps helped in the building of one; so we made ^{inquiries} ~~arrangements~~ with the two who seemed to be the ^{most} ~~most~~ familiar with the subject and the most reliable.

These two were Black-chest and Calf-woman, both Mandans, I think. Blackchest was reputed to have been a member of some band connected with the ceremony and ^{thus} may have assisted in the building of one or more lodges. Of this I can not be sure.

Calf woman claimed to be the daughter of one of the "Keepers" or Priests and as such, seemed to feel that she was the best equipped to describe it.

For the sake of comparison, my brother arranged for each of them to make a model of the lodge and to give us an account. — This was done, so ~~that~~ ^{we} ~~we~~ ^{might} be able to check up on the two accounts and thus ^{probably} ~~arrive~~ at a ^{more} ~~clear~~ ^{accurate estimate} understanding than if only one account were taken.

These accounts were taken separately, and ^{the} models were made at different parts of the Reservation so that we avoided any ~~feeling of collusion~~ that might have ~~made them~~ ^{unconsciously} resulted otherwise ^{even} though unintentionally.

These two models agreed in most particulars, and in fact so closely, that we felt safe in concluding this to be the actual form of the Sacred Lodge.

While taking the accounts, we photographed ~~these~~ models rather completely, and in the case of Black Chief's ~~model~~ I made measurements of ~~it~~ for the purpose of reconstructing it. Taking certain structural factors into consideration I am inclined to think ~~this~~ model the more accurate, although both may be ^{for buildings made at different times.} correct. Black Chief's model was larger, and the relative proportions of members was ~~closer~~ more exact ^{when} compared with actual lodge measures as made by us.

It was evident at once that there was quite a marked difference between this and the ordinary lodge, for the whole front was unlike the usual form.

Personally, I was very greatly interested, and yet failed to see ~~why~~ ^{any} ~~it~~ ^{was so} significant in this difference. Recently I have taken up this material and worked it over into a series of measured drawings, and in so doing have discovered that, in this building, they ^{manifestly} had made use of a very interesting application of solid geometry and quite an advance ⁱⁿ structural principles.

This principle may not have been understood, and ~~it~~
~~probably~~ was crudely applied, no doubt, but at any
 rate it showed an interesting development or variation
 in building methods or principles as known to them
 and as such, deserves more than passing mention.

This is why it seems so deplorable that no thought
 was previously given to this special lodge, for there is
 no knowing now ~~if~~ ^{its type} ~~it~~ was ~~a~~ traditional, and
 so, an invariable form or ~~whether~~ ^{whether it was} it was a recent
 development; or merely an occasional form.

Any older accounts might have given considerable
 light on this subject, even a casual observation ^{about it}, but
 no one seems to have been interested in anything
 beyond the ceremony. This makes it seem ^a quite
 worth while ^{thing} to record, even though it may be but a
 very recent development, and has to be reconstructed from
 very insufficient data. x x x x.

In its main features, this lodge followed the
~~more~~ usual type ^{which is the} the circular form; It had the same
 central posts & timbers ^{and} the same circle of outer
 supporting (or Atuti) posts, ~~with~~ with the roof conforming
 to the flat top or square head type. But the whole
 forward part of the lodge and its tie-up with the
 main portion, differs quite markedly from the
 normal practice, and presents the striking ^{variation} difference
 that its name, the "different" lodge suggests.

In making the drawings, I have projected ~~up~~ the model measures ^{up} to full timber size, ~~This gives~~ a ground plan ~~dimension~~ and have then equalized the measures so as to make the drawing of the ground plan a little more conventional ~~and~~ symmetrical.

All drawings have then been made to the scale of $\frac{1}{2}$ inch to 1 foot. In projecting the model measurements gives ~~me~~ a ground plan of 48 feet dimension from door to rear of lodge (Fig 1). Altho Audubon states that the gross measurement of the lodge as he saw it, was about 90 ft., I have adhered to the smaller measure as it is more nearly the proper measure for a lodge with the number of posts ~~measured~~ ^{in game} in the model. Black chest also stated that the lodge measured ~~varied~~ from 45 to 90 ft.

There was no mention of what determined the size of the lodge, when building a new one, but ~~it may have been~~ the number of "candidates" in whatever year it was built or rebuilt, or perhaps, just the ~~number of inhabitants~~ ^{size of population} in the village at the time, may have been a factor.

Referring to the ground-plan (Fig 1) the circular form for the main part of the lodge is easily noted, altho ~~here~~ it is slightly elongated. ~~as~~ The candidates were divided into two groups with places, respectively, on the East and ~~at the~~ West sides of the lodge, and this elongation may have been due to that fact. Black ch. says some times 11n posts on a side - have ten in all.

This elongation of the lodge may also ~~be noted in~~ ^{toward the front, however this} the framing of the central timbers, ~~altho here it is~~

Blackbeet^{also} said that the central or fire place section was longer from front to back than from sides to side. This resulted in an elongation of the central ^{structure} ~~timbers~~, and since the outer ^(atyle) posts were set up in relation to this central section, this gave a distinct "quartering" to the lodge. ~~and~~ which would be more evident as the size of the lodge increased, as the curve ^{in of the segments} of the sides ^{of the lodge} would be quite considerably flattened out. Quartering is a figure of speech often used by B.B. woman in her descriptions of the lodge. (There is one drawing or diagram in which the sacred lodge is indicated as almost a square - possibly due to this effect of quartering - FW.) The central section of the lodge ~~was~~ conformed to the general construction as used in the ordinary lodge, except that it was set up with a distinct thrust forward, toward the doorway. It had the usual four great central ^(A, B, C, D) posts with stringers, and while it seems to have ~~some~~ six posts here, I do not feel that E-F should be considered main posts. As I recall, ~~these~~ are only the 4 posts mentioned in the short account (see ^{at the} Museum) describing ^{the} ritual of setting the posts, so that it seems to me quite proper to call them "extra" posts. There is a device in use among the Hidatsas similar to this. When one wished to make ~~make~~ room at the back of the lodge, the lateral stringers (those ^{extending} front to back) were carried a couple of feet beyond the rear ^{central} posts, B-C - and the ^{rear} cross stringer laid across ^{these} at the ends, as usual. This extension of the stringers was then called the "Tail" of the lodge. If ~~this~~ ^{this} was rather long or if the stringers ^{or supporting posts} split, additional posts were set in

flat roof or

main part of the lodge and for the smoke hole section. One observer says that the smoke hole was about 4 or 5 ft wide by 7 or 8 ft long. Slabs or planks were used here to cover the flat roof and to frame in the smoke hole.

Catlin indicates that the candidates were suspended from the roof and this may account for the larger size of the smoke hole, and for the larger area of this ^{section of} roof as this would be a convenient place for those officiating to pull them up and suspend them. This however is only my conjecture. After the rafters were then covered

~~in all sections with the~~ The main part of the lodge was then ~~carried~~ ^{completed} The whole of it was then carried

forward completion by adding the willows and ~~very~~ likely the placing of the grass and earth ^{in and around} the Atlatl space. The front had to be added ~~then~~ before ^{all} the roofing willows for the roof were placed, at least in the forward section, as ~~the~~ ^{at this place} the willows on

the roof were placed with butt ends coming against the ^{forming the face,} projecting ends of the poles. This was done to tie in the face with the roof. The vestibule ^{now covered} ~~was~~ ^{which was directly}

^{pp.} with slabs or planks, so that the portion of the face above ^{the vestibule} could rest on ^{them}. These slabs or planks run lengthwise of the vestibule and not across it, and ^{were} ~~were~~ laid closely.

(Similar to the floor of Hilatra drying stage.) Fig 1-a) The vestibule was made in proportion to the model, but in oral statements the dimensions were given as about 8 ft wide by ten feet or more deep. This should be about right, as four men abreast, could not dance in and out of the lodge with any freedom if much less than 8 ft wide.

We come now to a consideration of the "face" of the lodge, and it is here that we find a most interesting ^{constructing} variation. As is shown in Figs 1 and 2, the ~~framing~~ of the roof is the same as in all other lodges, except that

for this lodge

the rafters (or Atitududu) begin at Post I and are carried around the lodge only as far as Post X.

This leaves then an open space at the front which takes the place ^{eliminates both} of the Atuti space and ^{usual} of the forward section of the ^{rafters} Atitududu. This open ^{portion} space must be enclosed, and, to obtain the "flat" front, some way must be found to bridge the front at ^{the} between posts I and ~~X~~ ^{Post} and the Central or main structure ^{above} ~~at~~ the fireplace. This must be done also in such a way as to keep the facing in a line, if it is to achieve a flat effect.

This is done by the use of the special rafters X and Z. By noting these rafters in figs 1 and 2 we see that they are almost identical in their ground plan and elevation aspects. If, therefore, we take X-X' and Z-Z' and consider them as the oblique-diagonals of a parallelepiped, formed by ^{constructing} ~~erecting~~ vertical and horizontal planes on their terminal ^{points} of these diagonals, we find that they ^{become} then, the bisecting lines of planes which themselves bisect the parallelepiped into two horizontal prisms. This is shown in Fig 2-a.

The angle of this plane in relation ^{perpendicular line of (x-c-p)} to the prism is then found to be identical with the ^{angle of} inclination of the front, with its perpendicular d-X-P. Fig 2-a.

Now, by setting the ^{upright} poles for the front at this same angle or degree of inclination, the poles will carry across in an unbroken straight line, and will all lie along the plane surface a-b-c-d.

In Fig 2-b, it will be seen that ^{setting} ~~posts~~ the posts I and X forward or back affects this angle, making

57 about
4-5-5-5
9-5-5-5



it more or less acute, according to how they are set, This can be done and without impairing the flatness, but if this line of inclination ^{is} not ^{adhered} to, the face ^{would} be ^{somewhat} convex or concave according to way these face-poles were adjusted.



It is not to be inferred that the builders were conscious of this application of Geometry ~~used~~ in getting the "flat face" nor that they made as neat a job in practice as is shown by the drawings, but the fact remains, that this principle was involved if a perfect or near-perfect result was to be achieved. As ~~is~~ not shown so in either model, my study of their lodge construction leads me to believe that these rafters $x-x'$ and $z-z'$ rested on the forward ends of the lateral stringers, ^{at above E and F} and rested against the forward surface of the cross stringer marked "y" in the drawings. ^(as in call woman's model) If they rested on the "nose" of the cross stringer "y" the weight of the front would push them off. ~~It also~~ It seems to me also, ~~to be~~ probable that the ~~upper surface~~ of the stringers ending at I and X were cut with a flat ^{at their ends} surface on the upper side, so that there would be a shoulder against which $x-x'$ and $z-z'$ could rest, otherwise they would slip ^{at this point} too. These ~~were~~ probably, two rafters may or may not have been of heavier material — but it would seem logical, as they ~~had to help support~~ ^{through their whole length} the roof and ~~at these points~~ ^{both} the roof and ~~the front~~ ^{the front} just back of stringer "y" and ^{in next} would be on the lateral stringers just back of stringer "y" and ^{for this section} were crowded in ^{more than likely} that they began ^{in next} ~~at the doorway or vestibule, working outward.~~

upper surface

The only other place this would involve the same danger unless the ends of rafters for this section were crowded in more than likely that they began at the doorway or vestibule, working outward. These would be long timbers or poles and ~~no doubt~~ ^{rather} thicker at the base than at the top. This would give some inclination ^{toward} ~~for~~

at the doorway or vestibule, working outward. These would be long timbers or poles and ~~no doubt~~ ^{rather} thicker at the base than at the top. This would give some inclination ^{toward} ~~for~~

is more directly due to the changes in construction ^{at the front}
 Black chest said that there were often as many as ten
 (~~Atlatl~~) posts to a side. ^{This one has ten, get told.} This elongation of the sides
 and the center section, results in a distinct "quartering"
 of the lodge ~~and~~ this was a figure often ^{used} ~~referred to~~ even
~~as related~~ ^{in referring} to the regular lodges; and it may be noted
 how closely this quartering ~~corresponds~~ ^{is related} in ^{to} general
 proportions to the ~~shaft~~ ^{thrust} of the central section.
 There is a distinct forward thrust of the central
 framing toward the door (see ground plan) and

10 - b

In considering ^{the} possible angles of inclination ^{for} the front
 there are two ^{possibilities} ~~considerations~~ that could not be overlooked,
 and that convince me that the general appearance of
 the models and of these drawings is about right.
 These are 1st that a too great angle ^{to the perpendicular} would allow the
 earth covering of the front to wash or wear away too rapidly;
 and too acute an angle would ~~add~~ ^{adding} the weight of
 the ~~front~~ ^{front} earth and willow covering ~~added~~ ^{added} to the self-weight
 of the timbers, cause them to ~~bow~~ ^{bow} in or possibly break.

to a slight leaning ^{or crowding} of the poles ^{to} in the direction of the vestibule, and as they neared the Atlatl section this leaning of the poles would be very helpful in turning the corners of the ^{Atlatl} face ^{over the doorway} - ^(sometimes used) upright ^{that} at I and X. The poles ^{were} set on those ^{covered} the vestibule. Our informant stated that the poles for the front were fitted as closely as possible, ^{Fig. 3.} and it may be that stubs of branches ^{were} ~~have been~~ left on these poles to aid in holding the willows, which were placed upright and crowded ^(closely) ~~so~~ ^{tightly} into the spaces. We were not told whether these willows were tied to the poles at the front, but this is an impression I have, which can not be proved.

An occasional tying or interweaving would be helpful on such a steep surface. The poles for the front were cut ^{a little above} ~~about on a line with~~ the supporting rafters. This would allow the willows to butt against them and to be carried over at the top to make a ~~water~~ ^{close} ~~joint~~ ^{joint}.

In just what order the rafters, face poles and willows were laid was not made clear, but ~~no doubt~~ followed the usual ~~procedural~~ ^{or} ~~procedural~~ ^{procedural} and the finishing with grass and earth followed. I do not know ~~just~~ whether the willows were placed on the roof before the front was set, but this part of the work evidently could not be finished until the poles were in place, as ~~they had to make this section~~ ^{had to be made} quite tight.

The finishing work ^{of} the lodge was carried out as in ordinary lodges, ~~except that~~ ^{and men,} ~~the young~~ ^{men,} did the work. Whether the usual feast was in order or who gave it, if so, I did not learn, or whether this was a compulsory service required by some "Band" of its members. There can be little doubt that there was a feast however.

When the builders were placing the earth on the face of the lodge, beginning, of course, at the bottom, the sustaining rails were put in at the proper places, as they proceeded upward with the work. These rails were poles set in fakes and there were from three to five ^{being out all} series of these, extending across the lodge. They were perhaps laid with more care than those of the ^{ordinary} lodges, as the front was rather steep, and would wash away rapidly unless held in place.

x x x x x .

While not covering every possible point, ^{all the} ~~every~~ points of difference ^{I believe} have been covered, and while it is not possible to make the statement that these drawings are an exact reproduction of the Sacred Lodge, ~~I believe that we~~ may feel sure that they come 'close to it and at least approximate it.

x x x x x x x

Catlin ^{was} ~~has been~~ so ^{given} ~~prone~~ to romancing, that he ~~has~~ made many statements that can hardly be accepted, and ^{attached} ~~has~~ meanings to resemblances that are by no means ^{capable of proof} ~~to be considered~~. So, ~~that~~ I have tried to do no more than record the facts as given to me and to render them in drawings as my observation of their building methods leads me to believe that they would use them. But even so I make no attempt to force these conclusions, ^{as final} ~~on~~ any one, ~~as final~~.

x . .

But now, to emulate Cullen, there is (to me) one
 resemblance so striking in these figures that
 it is impossible to refrain from mentioning it even
 though I do so ~~from a suggestion~~ with temerity and
 only as an interesting suggestion. The "turtle" was
 undoubtedly ^{significant} ~~mentioned~~ ^{in the} ~~mythical~~ ^{stories} connected
 with this ceremony ^{the Skippay} and ~~in~~ the use of the turtle drums
 it may have ~~been~~ ^{had} ~~more than just a picturesque~~
^{and its use} connected this idea, ~~more~~ ^{more} closely with ~~all~~ the
 lodge than we know. At any rate, if one examines
 the drawings, one can see in all of them such
 a resemblance to ~~the~~ ^{the} turtle as almost to make
 this lodge a totem. In fig 1 - the skeletal ~~shape~~ ^{form}
 is quite closely approached - In fig 2 - the profile
 of the ~~elevation~~ ^{turtle} is most clearly represented, and
 to complete the picture, the front elevation shows
 a head-on view. Perhaps the lodge when standing
 did not show these characteristics ~~so~~ ^{this} clearly, but
 if it did, perhaps the Indian with his ready symbolism
 may have noted it too!

Notes and Comments on the
Galley- proofs of the Manuscript of
THE HIDATSA EARHLODGE
By Gilbert L. Wilson
Arranged and Edited
By Bella Weitzner.

After reading this paper, there seemed to be so many conflicting and contradictory statements to account for or to reconcile that I hardly know where to begin.

I shall make no attempt at a critical analysis, as that is beyond me, and as far as arranging and co-ordinating the material is concerned, Miss Weitzner deserves the highest praise, as I can understand the terrific labor involved. There is however a certain feeling of uncertainty or confusion arising from all these apparently irreconcilable statements, and I think a little additional matter might be put in at the proper place to obviate this, as it seems to me that these discrepancies are more seeming than actual.

Before going into any detailed suggestions, I should like to make a few general remarks which may be taken for what they are worth.

The older Indians had no great familiarity with precision instruments, and so could not be expected to be very accurate in giving measures from memory, and these measures and numbers should be taken as approximate, rather than as precise, in many instances. Familiar as we are with measures, most of us are hopelessly inaccurate in estimating measures and distances.

As to the accounts of the early travellers, from my own experience I can say that appearances are often deceitful, and that many of the dimensions and details of lodge construction were accepted only after making actual measurements.

After looking over all the source material at hand, and many early accounts, we must, I think, accept the twelve post conical lodge, of about 40 ft. diameter as the norm, and all others however common as special types or variations.

Certainly the whole subject becomes clearer, if this is done, and any departure from this becomes merely a matter of individual preference, or possibly in the case of the flat-roofed lodge, a matter of custom, for keepers of Ceremonies and for dances.

2

THE HIDATSA EARTH LODGE

Both Buffalo-bird-woman and Hairy Coat gave me the distinct impression that, while there were many flat-roof lodges in the villages, they were not so numerous as to be common, and that, while there was apparently no restrictions as to their use, and any one might build them, still those that had them were more apt to be among the most influential members of the community. These were more likely to be the Chiefs, the Keepers of Ceremonies, or any important and influential member of the tribe.

Just as with his more advanced brother the white man, the location of the lodge and its size and finish no doubt did much to proclaim his position and importance.

* * * * *

In comparing several early accounts (the few available to me), as well as the drawings and prints, the conical lodge is everywhere in evidence, and is , even in the often inaccurate descriptions and drawings, quite unmistakable. This convinces me that it is the normal type, and that the flat-roof lodge is a further improvement or development of this, different only in the smoke-hole construction and arrangement; in all other ways conforming to the same design.

To take an example from our own region here, we might liken the winter lodge and its associate "twin" lodge to our summer cottage at the lake; the conical lodge to our permanent home, and the flat-roof lodge to the mansion of our society folk, or to a club house. This is not to be taken as a definite distinction, but as a suggestion.

* * * * *

To proceed to the galleys:- In galley 3, there is a section which I think would be better if set over into the ~~Exhibiting~~ section, as it is confusing here.

In the foot-notes is again the discussion of excavating the floor of the lodge.

I asked particularly about this, but none of our informants would agree that it was done, although Hairy Coat said some people might have done so, but that he never knew it to be done. There was no evidence of it in any lodge examined by us, although going into a lodge does give one something of that impression. The earth in the entrance way is quite worn down; then one steps over a sill and again the ground is

THE HIDATSA EARTHLODGE.

worn away so that one could easily get that illusion. As they preferred the ground to be of a certain kind, they may have dug down to remove any sandy or other unsuitable soil. This is suggested in the statement by Mathews.

I have never seen any statement regarding one possibility, but it seems to me to be entirely possible, that where a new village was located upon suitable ground, the might very likely have excavated, to save the labor of carrying the roofing earth for considerable distances, as it is evident that the ground area of the lodge is almost exactly equal to that of the roof.

Most of these statements about this matter are, I think, little more than assumptions, as most of the travellers expected to see a "dig-out" and therefore did.

Most of the families retained their assigned places in a village, and if the village remained any length of time in one place, each lodge would no doubt be rebuilt several times; this would in the due course result in a condition similar to excavation. Not-a-woman speaks of making the renewal posts longer if the ground is much worn away within the lodge; this, taken together with the fact that the earth on the lodge is pulled down all around it in rebuilding, would seem account for such a seeming condition. I can not believe that all of this old earth was either carried away or all used again. If we assume this to be true, and then consider that the lodges were quite close together, and that there was a constant washing down of earth from each lodge, this so-called excavation could easily be accounted for.

We inspected several sites, especially the one at Knife river, and while the lodge circles gave this effect, one must remember that the greatest amount of earth was on this portion (the outer) of the lodge and would give the impression of higher ground without and a depression within the circle, when the lodge fell in.

* * * * *

Continuing on galley 3, regarding the posts for the lodge, I think this should be made a more general statement, as the posts were pretty well proportioned to the

THE HIDATSA EARTHLODGE.

size of the lodge, and all the 8 central timbers were close to the same diameter, and this diameter had a rough relation to its length. I should not say that it was either with knowledge or intention that this came about, but the fact remains that the diameter in inches closely approximated the length in feet, of each timber. In general, a supporting member with ten feet in the clear, would be about ten inches thick, one twelve feet, clear, twelve inches, etc. For larger lodges, this proportion might diminish gradually, as timbers beyond 15 or 18 in. diameter would be almost unmanageable, except for uprights, when it came to a lodge using 20 ft. timbers.

The 8 central posts and stringers (beams), formed an almost exact cube, and the outer or Atuti posts were almost exactly half the height of the completed central structure; when the beams were laid on these, the roof poles were at such a pitch as to give good drainage, yet not so steep that the poles were apt to slide off.

In the flat-roof lodge all the supporting timbers were raised relatively higher; this made it less apt to be smoky, made a better appearance, and made a much roomier lodge: more space could be used. This would also partly account for its use as a Society lodge.

* * * * *

In galley 4, mention is made of the lower stringer in the central group being long and heavy. This was only done in the ordinary lodge to allow for squaring the ends (i.e. not to weaken it), but was probably true for the larger lodges, and more especially the flat-roof, as here there were more timbers and greater weight.

It sometimes happened that a family would want more room in a lodge, and then they would build the lodge with a Tailite it. This was done by using a heavier beam or stringer and extending it a foot or so beyond the rear post on which it rests.

The rest of the central framework was then completed just as always. If the Tailite was not used, the rear central posts were set far enough back to come under the end of the beam. (See drawings) The Atuti measurements were then accommodated to this change, adding mostly to the length at the sides of the lodge.

** * * * *

THE HIMATSA EARTHLODGE

Galley 5, discussing the flat-roof smokehole, gives an erroneous impression, for both Buffalo-bird-woman and Hairy Coat mentioned the use of the slabs or planks and then of willows, grass and earth, all at the same time. My understanding was that this was customary and that any other way was an individual variation.

The smokehole planks were also carried around all four sides - all the models now made for us showed this. (See drawings).

The grass used, according to Hairy Coat, was the long sough or a marsh grass, as that was said to be tough.

* * * * *

Galley 6- Relative to the depth of earth on the lodges, I do not think we measured any that had a greater depth than 5 inches. We did not measure all, and these were not in the best of repair, but there was not much difference apparent in the depth on any of the lodges, except those falling in. A depth of a foot or so as stated by some would be a terrific weight, even though the base was sod, which was the usual way. I know we thought the depth was greater until we measured, as the rafters, willows, grass and earth gave a massive feeling to the roof.

* * * * *

Galley 8 - In describing the bed and its canopy or case, I think there has been a mistake made here. The bed and covering are properly described, but there is nothing in my notes about its having been bound to the rafters. If the word rafter refers to the frame-work of the bed, it would be better to so indicate. There was an extra canopy or hanging, that was attached to the atsi-duti-du poles above and forward of the bed; this was drawn under the atuti stringer and over the bed, and allowed to hang back of the bed or else was attached to the atuti slabs. This gave added protection against leaks from the roof, and greater warmth.

* * * * *

Galley 13 - Under the heading "The Central Posts and Beams" there is the

THE HIDATSA WINTER LODGE

statement that the four forked central posts were about a foot in diameter, and about six feet high. As the rest of the text goes on to describe the average sized lodge, & this is obviously wrong. It should read ten or twelve feet. All the other dimensions are given as of about the size of Wolf -chiefs lodge. This I was told by both of my informants, was close to the usual size of the large winter lodges, that is, as is usually built for a large family. This is undoubtedly true; otherwise horses could hardly be kept in them, too.

As this text goes over into Galley 14, and goes on to a description of the Twin or like a twin lodge, I shall take up the two matters at once. There is no need to waste a lot of words about the large winter lodge and its twin, for I have made a series of drawings showing their structure and relations just as described to me by Hairy-coat and Buffalo-Bird-woman, and these I am sending to you. The like-a-twin lodge was added to the regular winter lodge by families where there were old people or as an extra warming room for families that could afford them. By referring to the drawings one can see that they must have been quite cozy, the angles of the roof poles being such as to act much on the principle of portable reflecting ovens or "bakers" used by woodsmen and campers. (Can't think of the name!) Hairy-coat gave me to understand that this so-called "twin" lodge was also used alone by small or poorer families, and that then it had an entrance on the same as the regular lodge.

In the series of photos of Owl-woman's lodge, taken for my brother in 1916 and 1917 by Mr. Page, can be seen an authentic "twin" lodge as it would be used thus, and looking exactly as I have pictured it from descriptions, except that I have, of course drawn it as attached to the lodge. All descriptions are on the drawings.

In the remaining Gallies there is nothing I can add to, except that in 17 there is the matter of the Hidatsa tent tie. I send along some drawings that were made not so long after I returned from the Reservation, and I think are correct, but as I did not take down any text on this, can only send them along as being correct as far as I have recollection. This tie was made for us and I diagrammed it on the spot. Sc-o-o

THE HIDATSA EARHLODGE

There are two or three specific recommendations that I should like to make which can be done without any rewriting, or without much of any change except change of place in the text. These areas follows; -

- 1st - I think the main discussion of the making or providing a payment to the lodge builder and a feast to the other workers, ought to be taken up at the very beginning of the paper, in the building of the summer lodge. This was such an important thing and so associated with the whole subject, that we should establish this at once, and then refer to again, where called for, with such changes made or differences noted as the circumstances require. This can be done by almost lifting this part from the winter lodge account.
- 2nd - The material dealing with removal of posts etc., on the site of an old lodge would be better placed in its original setting, where the wrecking and rebuilding are taken in order. If that part is removed from galley 3, it will give much more connected feeling to narrative. It is hardly consistent to wreck the structure before it has been built, and this gave me quite a confused feeling in first reading the paper.
- 3rd - The drying stage while detached, was considered an integral part of the lodge and was the scene of quite an important part of the family life. It was also such a distinguishing part of the village picture that it can hardly be left out consistently. A few paragraphs devoted to this could be revamped from my brother's paper on Hidatsa Agriculture. I do not have the drawings but the cuts could be taken from book illustrations in the book.

These are all the suggestions!

The Story⁽¹⁾ of the Basket
now in use among the
Gros Ventre & Mandan Tribes.

The first we Indian women
knew of the basket, we found
it with a Sacred woman
a very powerful woman
or a God once in war
against the village.

8000
There were two brothers
"twins" "they represent the village"
(The Sacred woman the enemy)

The twin brothers went into
the hills to hunt & met the
Sacred woman with a basket
on her back.

They said to her, well Grandmother
let us see your basket. 'tis very
pretty.

She said yes, 'tis very holy.
you must not hold the mouth
of the basket toward each other
for if you do you will go into
it and die.

(2)

The twins were called the wise and the foolish.

The wise one took the basket first and held it toward a flock of geese flying over and all the geese ~~went~~ ^{fell} into the basket and died.

The geese were given to the Sacred woman.

Grandmother, he said, you may have the geese.

The basket there was taken by the foolish one and he held the mouth of it toward the Sacred woman and she went into the basket with the geese and died.

Thus the enemy was conquered and the war ended.

The second time we know about the basket it was with "~~an~~ Old woman Easter" so called because she went away to the East and lives on an Island in the Sea.

Another name is Old woman never die because she has long since been seen by some Sioux on the war path and going thro there they saw her and it is believed she is still living. hence the name Old woman never die.

She had a big garden and raised all kinds of corn & squash also. And she had a basket. This place was near by Short River, below Red Butte and we can still see where the Earth Lodge stood and where the garden was.

The place is looked upon as being sacred and the people do not want it disturbed.

4

All she raised in the garden she carried in this basket on her back, to the house. Because we had no wagons at that time and it was the woman's work to do that. Ever since we Gros Ventre women carry all our vegetables and everything we raise ~~from~~ from our gardens in these baskets and now all the Tribes Gros Ventre, Mandan & Arickare follow the custom which originated with the Gros Ventre woman. Just a few of the women know how to make baskets. Lone woman "mother of Calpwoon" taught me "Ma. ki. de. mi. a. or Brown Bird woman" to make the baskets. Lone woman thought I should learn to make them and when she was staying in my house she taught me.

Other women paid her to
teach them but I pay
her nothing and I am
a famous basket-maker.

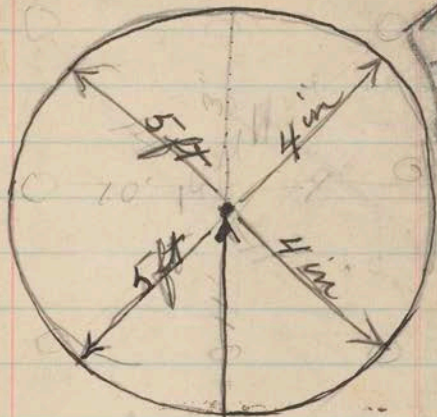
This is the story as told
by Good Bird's mother or
Brown Bird woman.

5-946

DEPARTMENT OF THE INTERIOR,
U. S. INDIAN SERVICE

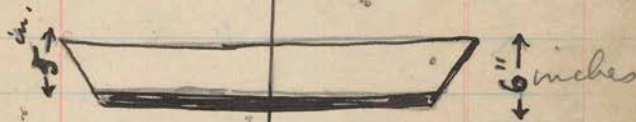
Wolf Chief's Lodge -
Fireplace

- Medicine - Lodge -



height
13-4"
of lodge

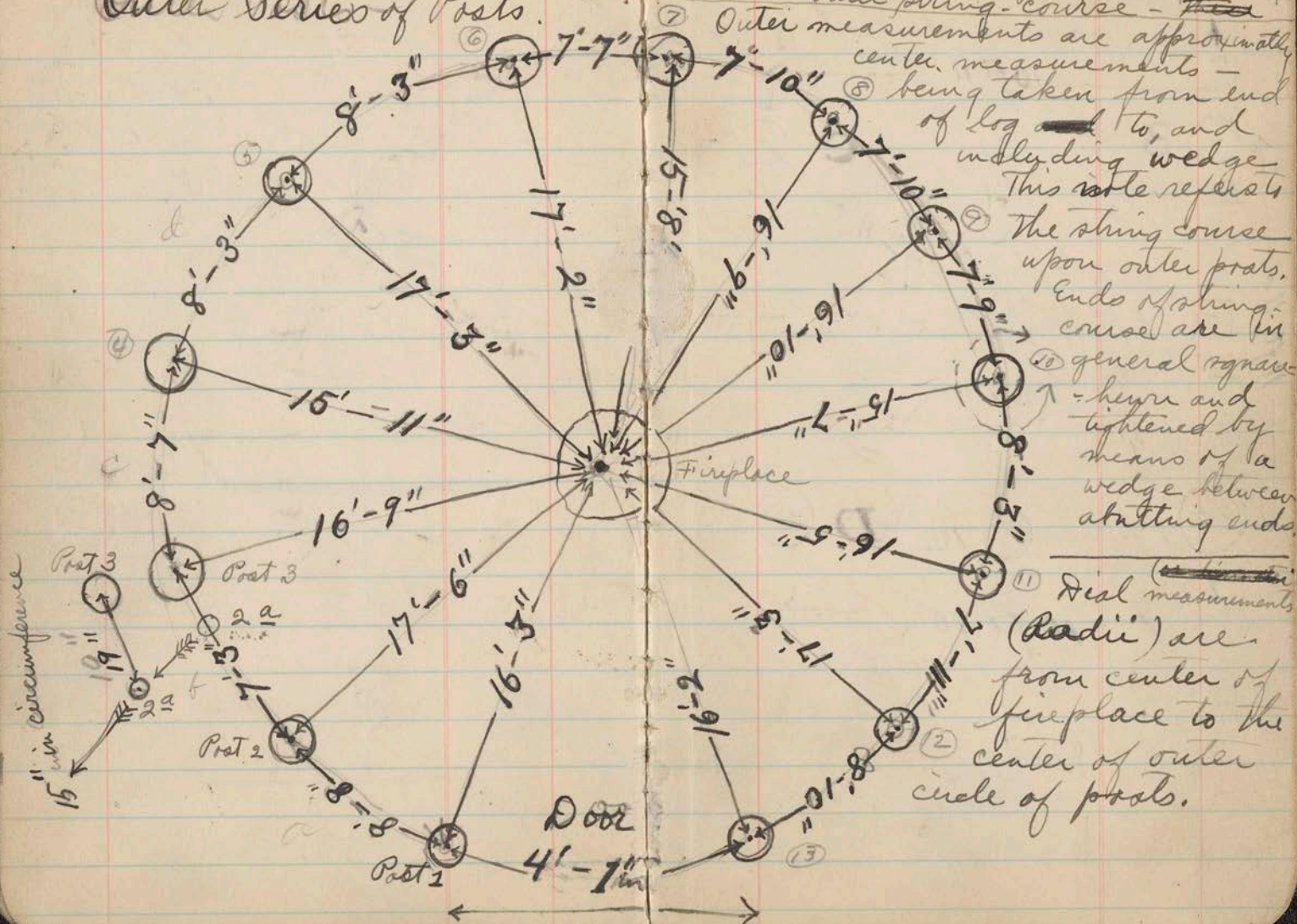
9008



15 ft 8 in

Door

Outer Series of Posts.



Outer circle of posts, supporting
outer string-course - ~~the~~

Outer measurements are approximately
center measurements -
⑧ being taken from end
of log ~~and~~ to, and
including wedge

This note refers to
⑦ The string course
upon outer posts.

Ends of string-
course are in

⑩ general square

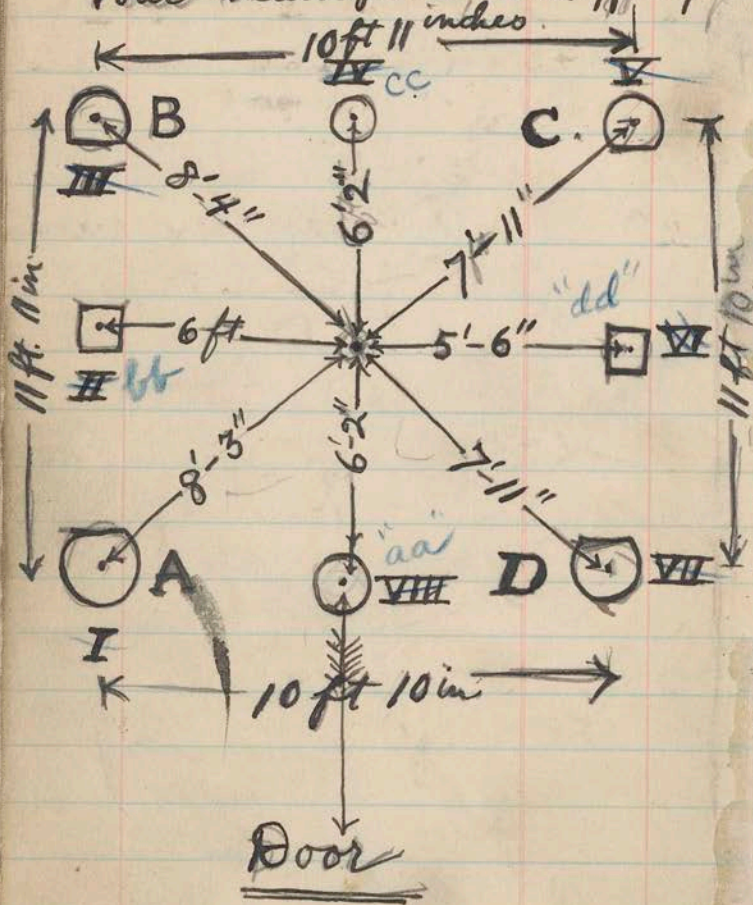
they are
tightened by
means of a
wedge between
abutting ends

⑪ ~~Center~~ Dial measurements

(Radii) are
from center of
fireplace to the
center of outer
circle of posts.

Center Posts

Four main posts - cloth offerings



Measurements Lodges.

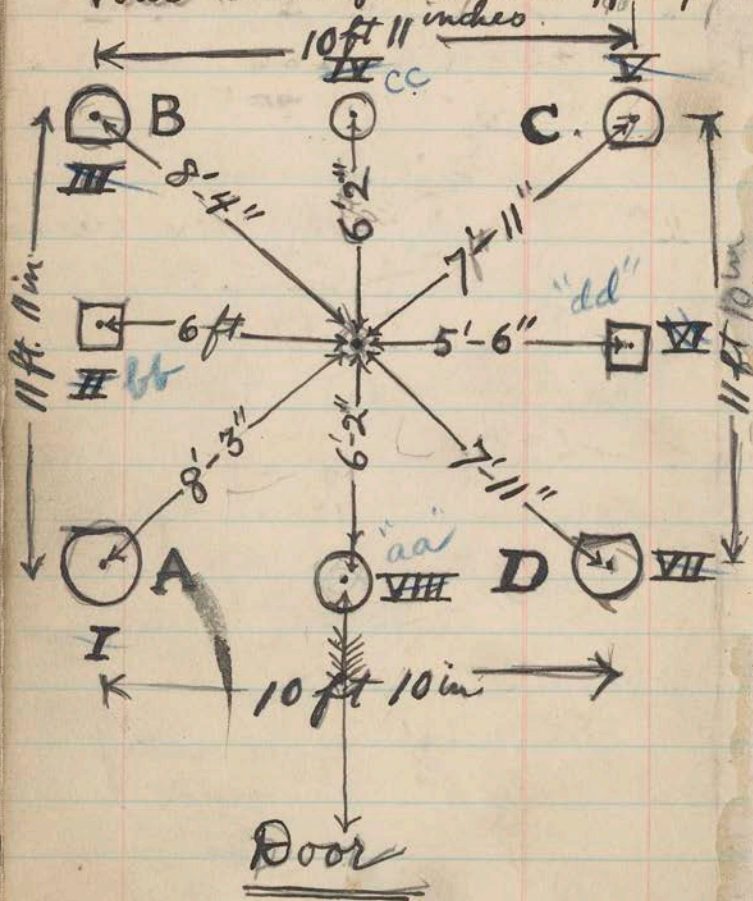
Kidneys
 Exterior diameter 49 ft
 Height 10 " side
 Corner posts offerings

Little Crows.
 Ex. Diameter 30 "
 Height 13 "

Standing Bear
 Height 12 "
 Int Diameter 40 "
 Exterior Diameter 42 "
 Corner posts center cloth offerings
 Only 4 corner posts.
 free place 6 ft diameter

Center Posts

Four main posts - cloth offering



Center Posts -

I Bottom 29" top 37" circumference
height 9'-2" outer - inner 8'-11"

II Bottom 25" " 25" \square
height 9'-2"

III " 37" " 38" hewn on one side
outer 9'-5" - inner 9'-3"

IV " 30" - top 33"
height 9' - 10"

V " 35" " 35 1/2"
9'-6" - 9'-3 1/2"

VI " 29" " 27" \square
9'-5"

VII " 36" " 38"
9ft - 8" - 9'-5"

VIII " 27" " 24"
9ft - 8"

a-b-c-d have "ears"

1 = ^A6'-4"; ^B7'-10"; ^C5'-2"; ^D3'-2"; ^E2'-10"

2 = A 6'-2"; B 7'-8"; C 4'-9";
D 2'-9 1/2"; E 2'-7 1/2"

3 = 6'-2"; 7'-10"; 5'-ft; 2'-6 1/2";
2'-3"

4 = 6'-2 1/2"; 7'-7"; 5'-ft; 2'-7"; 2'-4"

5 = 6'-1"; 8'-2"; 4'-8"; 2'-9"; 2'-7"

6 = 6'-ft; 7'-10"; 4'-5"; 2'-5"; 2'-2 1/2"

7 5'-6"; 7'-7"; 5'-ft; 2'-5"; 2'-2"

8 6'-ft; 7'-4"; 4'-8"; 2'-10"; 2'-9 1/2"

9 6'-ft; 7'-6"; 4'-8"; 2'-7"; 2'-2"

10 5'-11"; 7'-8"; 4'-10"; 2'-8"; 2'-3"

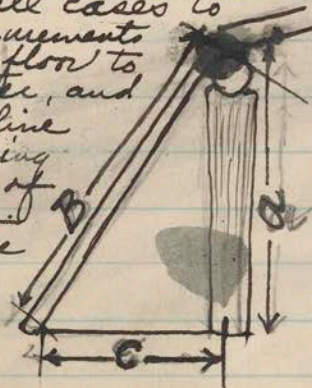
Outer Posts

11 6'-ft; 7'-7"; 4'-9"; 2'-9"; 2'-7"

12 6'-4"; 7'-10"; 4'-6"; 2'-9"; 2'-6"

13 6'-6"; 8'-2"; 5'-5"; 3'-ft; 2'-10"

In these measurements "A" refers
in all cases to
measurement
from floor to
rafter, and
in a line
touching
edge of
sill in
course



"D" circum-
ference
of upper
part of
each post
of outer row

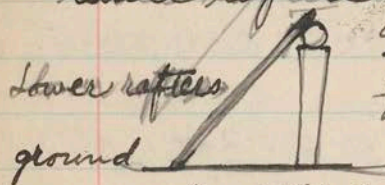
"E" circum-
ference
of lower
part of post.

All measurements taken to right
of each post commencing at "1"
Sill 9 in - (Sill, 9 in.)

Door sill 9 in above floor of lodge

Space between Outer Posts considered
as Sections -

1st Section - diameters of
lower rafters leaning ^{at the poles} against
outer string course



There were 25 of
these - mostly split.

- | | | | | |
|-------|----------|------------|----------|----------|
| 1 | - 6 1/2" | split logs | - 2 1/2" | Round |
| 1/2 | 2 | - 5 1/2" | " | - 3 in |
| 2 1/2 | 3 | - 5" | " | - 3 in " |
| 3 1/2 | 4 | - 6" | " | |
| | 5 | - 6" | " | |
| | 6 | - 5 1/2" | " | |
| | 7 | - 4" | + | |
| | 8 | - 5" | " | |
| | 9 | - 3 1/2" | " | |
| | 10 | - 3 1/2" | " | |
| | 11 | - 6" | + | |
| | 12 | - 5 1/2" | " | |
| | 13 | - 5 1/2" | " | |
| | 14 | - 4" | " | |

- 15 - 6"
- 16 - 3"
- 17 - 4 1/2"
- 18 - 3 in
- 19 - 7 in.
- 20 - 4 in

Thickness of covering -
 sod + grass - 5 1/2" + wood 9 1/4"
 - left side of lodge at attic
 Over door - 5 3/4" sod
 Right of lodge at attic -
 6 1/2" + wood 10 in.

Heights of the row of

Outer Posts		Diameters top bottom
1	5'-9"	11 1/2 - 11
2	5'-8" No. 2	5'-6" 10 1/4 - 9 1/2
* 3	5'-8" (ears)	13 in - 8 1/2
4	5'-8"	10 in - 9 in
5	5'-6"	11 1/4 - 10
* 6	5'-8" (")	12 in - 8 3/4
7	5 ft.	9 5/8 - 8 1/2
* 8	5'-8" (ears)	12 1/2 in - 10
9	5'-4"	10 3/8 - 8 1/2
* 10	5'-6 1/2" (eels)	11 3/4 - 8 1/4
11	5'-5"	10 1/2 - 9 3/4
12	5'-4"	10 1/4 - 9 in
13	5'-10 1/2"	10 3/4 - 10

* Posts with "ears"

Pole over fireplace, between posts II and VI - 15 ft 3 in.,

Height at II - 6'-9" at VI - 6'-9 in
Projection beyond II small end, 3 ft.

- Fireplace pole -

circumference at small end 6 1/2"

" " center 9 1/2"

" large end - 12 in

laid upon large spikes driven into door side of posts II and VI

Large end squared and fastened by nail to VI

atiditidu
every fifth pole at ^{atiditidu} ~~atiditidu~~
a (at the end resting on stringer)

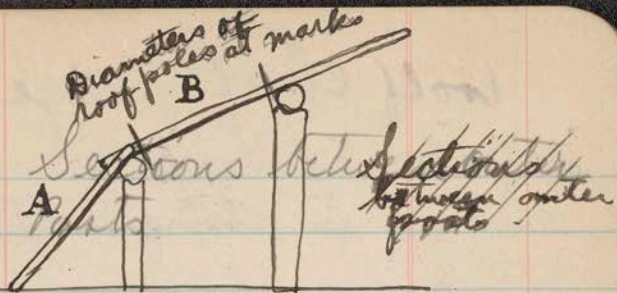
1	5 1/2 - 4 1/4	8 5/4 - 3 1/2	15 4 5/8 - 3 3/8
2	3 3/4 - 3 1/8	9 5 in - 3 in	16 5 in 3/4
3	5 in - 3 3/4	10 4/8 - 3 1/4	17 5 3/4 - 3 1/2
4	5 in - 3 1/2	11 5 in - 3 3/4	
5	4 3/4 - 4 1/4	12 4 7/8 - 3 3/8	
6	5 1/4 - 3 1/2	13 4 7/8 - 3 1/4	
7	4 1/2 - 3 1/4	14 4 1/2 - 3 1/4	

roof-poles
1st column
lower end
2d column - at upper stringer

Diagrams
 Circumference of the
 outer course of stringers at
 centers left of door wds

a -	2' - 6"	8 1/2 inches	10 1/2 - 7 1/2 inches
b -	2'		
c -	2' - 3"		
d -	2'		
e -	2' - 2 1/2"		
f -	2' - 2"		
g -	2' - 1"		
h -	2' - 4"		
i -	2' - 4"		
j -		same	
k -	2' - 5 1/2"		
l -	2' - 4"		
m -	2' - 4"		(Lintel)

These stringers are lettered
 round the lodge, from the
 left of the door - looking in.
 Thus "m" brings series back to
 the door and serves as lintel.



A - poles number 288 - all split
 except 66 - which were round.
 13 supporting posts (C) - an extra
 post helping to support stringer
 of section II - stringer "b" -
 and is designated as "2a" -

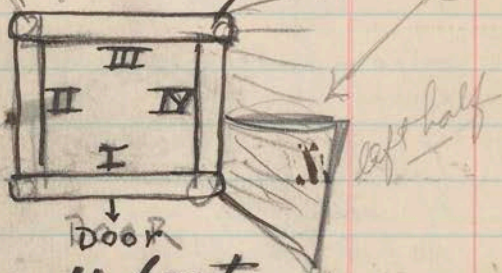
B - poles, of roof, are all round
 and number 85 -
 Side poles or posts lining vestibule
 or entrance number about
 14 each side - split, and
 with flat sides outward -
 Two outer posts or pillars at
 doorway (or entrance of vestibule
 are squared timbers.

24
 72

144
 2

Wolf Chief's Lodge

B-poles of roof
resting on stringer **IV**



- 1 - 11 feet
- 2 - 11 " 7 in
- 3 - 11 " 10 in
- 4 - 14 feet
- 5 - 14 " 11 "
- 6 - 15 " 10 "
- 7 - 16 "
- 8 - 15 " 10 "
- 9 - 16 "
- 10 - 15 - 10 "
- 11 - 15 - 10 "

12 - 15' - 10"

Section III - left half

1	10' - 10"	12	15 - 3
2	11' - 8"	13	15 - 3
3	12 - 4	14	14 - 3
4	13 - 3	15	13 - 7
5	13 - 9	16	13 - 3
6	14 - 2	17	N - 10
7	14 - 9		N - 6
8	15 - 2	18	N - 6
9	15 - 3	19	10 - 10
10	15 - 2		
11	15		

Work of Chief's Lodge

12 outside stringers
rests, - 13 -

Rests - distance between

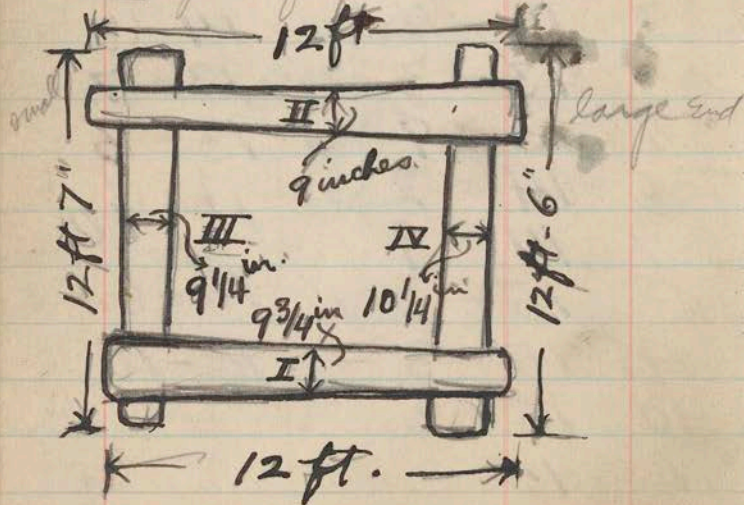
left of door 2 ft + 10'-6"; 10-6 + 9 ft

10-8-10-7-8-9- (8 + 8-6 two rests)

11-3-6-9-10; 9-9 double

10 ft - 9-5 - 1 ft 7 to doorway

length of needs



Diameters of four main supporting posts

Tears - bottom

A. 1 foot + 9 1/2 in

B. 1 ft 1/4 in - 11 in

C. 11 1/2 in - 10 3/4

D. 1 ft 1/4 in - 11 in

Height, at crotch, of rests, outside stringers

3-10; 4 ft; 3-4"

4-6; 4 ft; 3-10"

4 ft; 4-3; 4-8"

4-2; 3-11; 3-4

4 feet.

Outer row of stringers supporting roof-poles diameters

large - ~~small~~ small

a 10 1/2 - 8 1/2 - 7 1/2

b 9 - 8 1/4 - 7 1/2

c 9 - 8 1/2 - 8 in

d 8 1/2 - 8 - 7 3/4

e 7 1/2 - 8 3/4 - 9 1/8

f 7 3/8 - 8 1/4 - 8 1/4

g 8 1/8 - 8 1/2 - 8 1/4

h 9 3/8 - 9 - 8 3/8

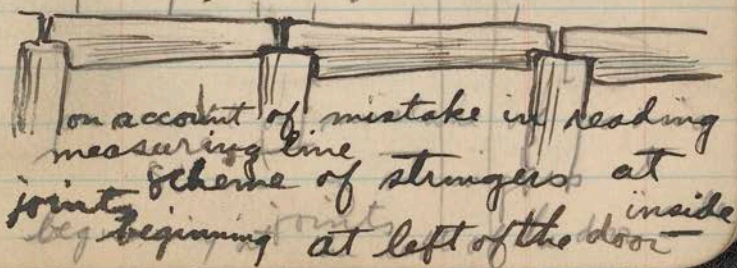
i 8 1/4 - 8 1/2 - 9 1/4

j 8 1/8 - 8 1/2 - 9 3/8

k 8 1/4 - 9 1/8 - 9 3/8

l 9 3/4 - 9 1/4 - 8 3/4

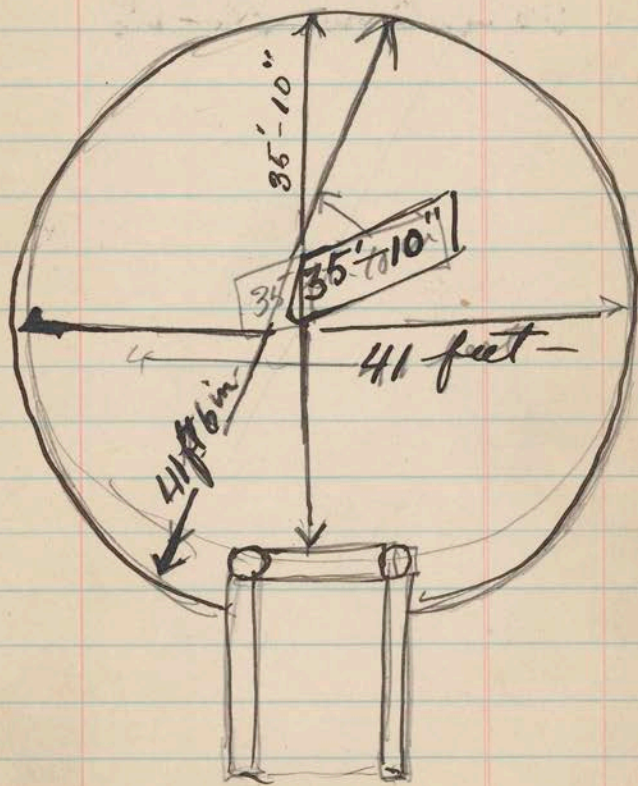
subtract 1/4 in from all these meas. ^{lintel m 7 1/8 - 7 1/2}



on account of mistake in reading measuring line scheme of stringers at joints beginning at left of the door inside

Old White Man's
13 outside stringers
near Crow's Heart's

wolf chiefs lodge

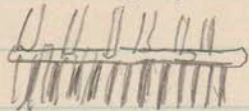


want one of the
Crow Bull - flash lights
at Elbowoods. promise

Crows. Hearts lodge

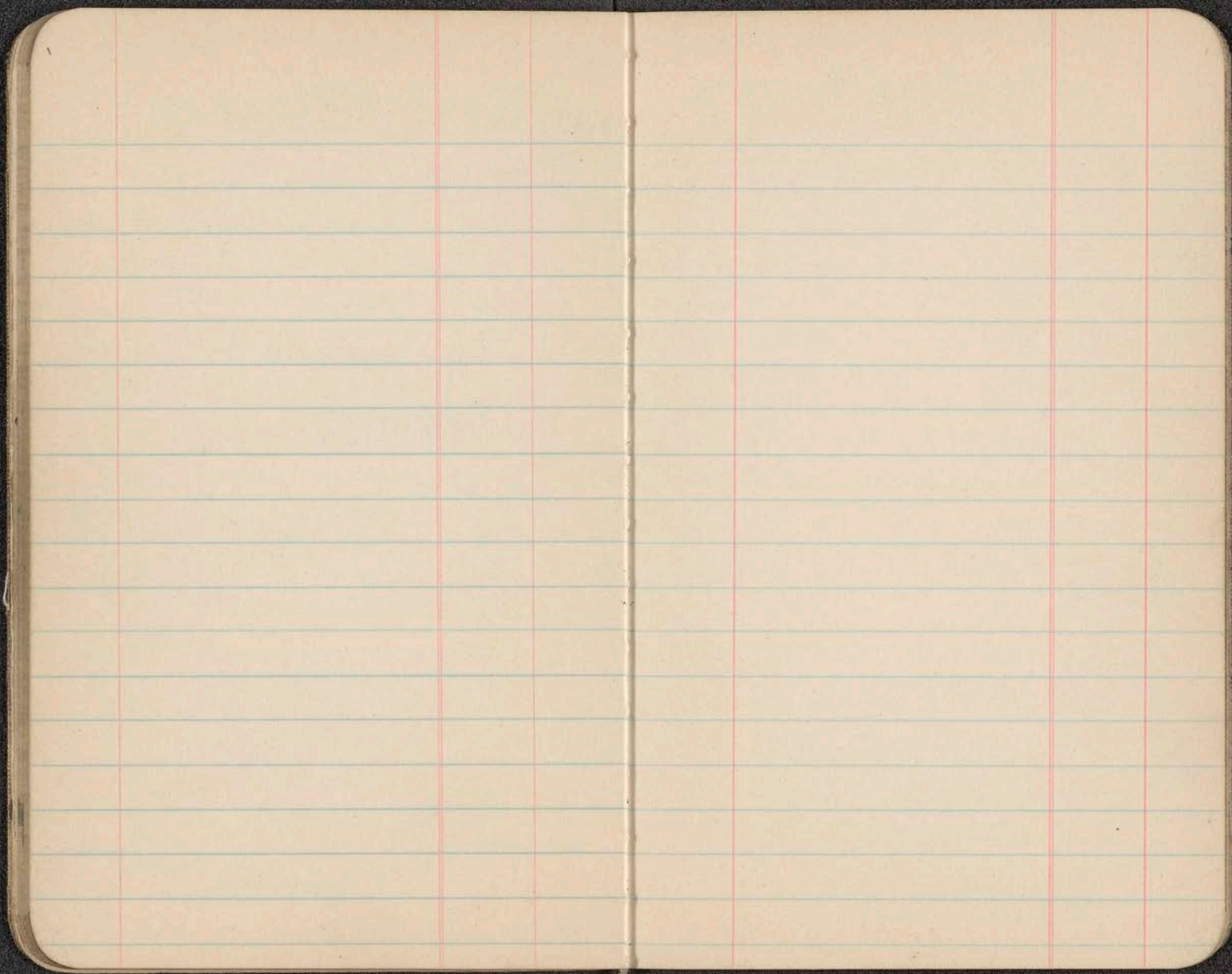
45 feet diameter

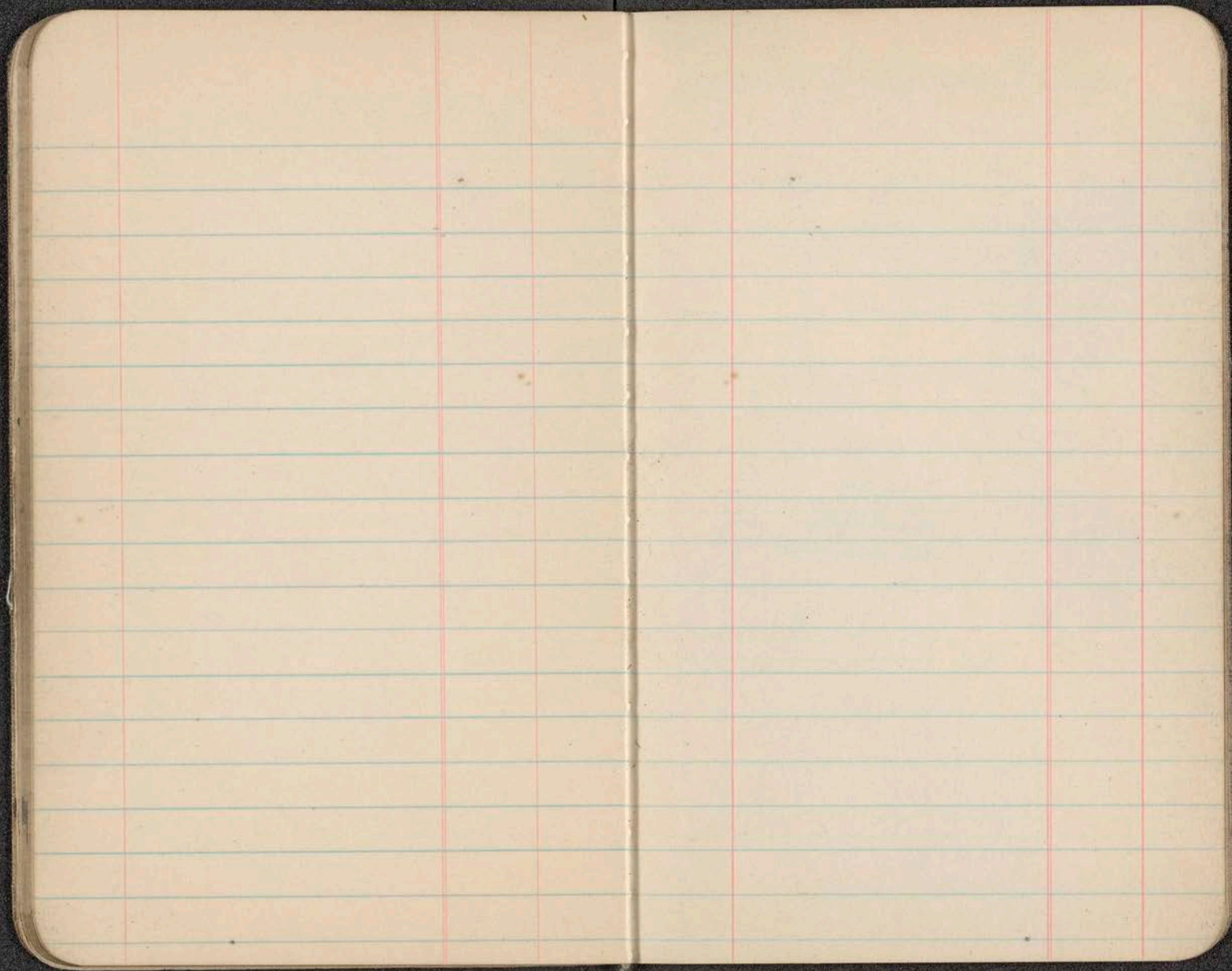
108 - roof poles *atiductida*
alternating with stute
poles which number
about 216 - all large

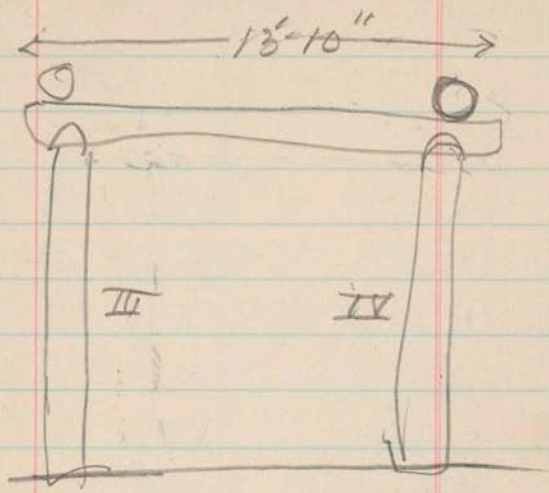
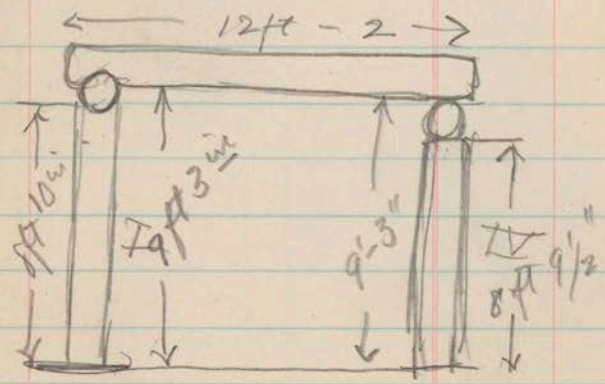
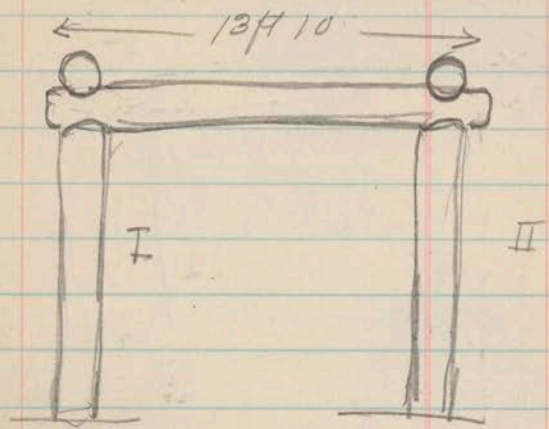


1 ft - 4 in

⊗ center post 4 ft - 2
circumf.







I refer to outer series of posts at Atutui - 1a refers to the stringers resting on this series

I	5' - 10"	IX	4' - 4"
1a	8 - 3	9a	7 - 11
II	5 - 1	X	4 - 11
2b	8 - 9	10g	10 - 7
III	5 ft.	XI	5 - 7
3c	11 ft. 9 -	11k	9 - 4
IV	5 - 2	XII	5 - 7
4d	8 - 6	12d	
V	5 - 2	from XI to	
5e	9 - 10	I is 9' - 4"	
VI	4 - 9	from center of	
6f	8 - 10 1/2	XII to I - 5' - 4"	
VII	5 - 2 1/2	door way	
7g	9 - 10"	Height 5' - 9"	
VIII	4' - 11		
8h	8 - 4 1/2		

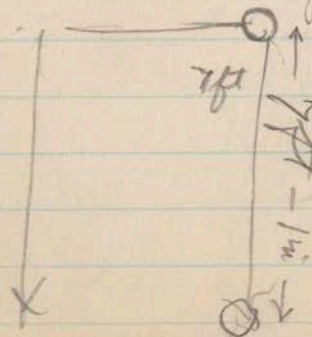
measurements are in heights of I-II-III etc - and in lengths of 1a-2a-3a etc,

9

Center posts	feet in
A to II =	8' - 9"
B to V =	7' - 11"
C to VIII =	8 - 4
D to X = 10 ft 3 in to XI =	9 - 3

Post IV to Atutui	4' - 7"
" VII to "	4 - 7 "
" IX to "	4 - 2 in

inner door post angle side



Beaver Creek

Height of a tute poles
right side of door outside

at 7-3 in

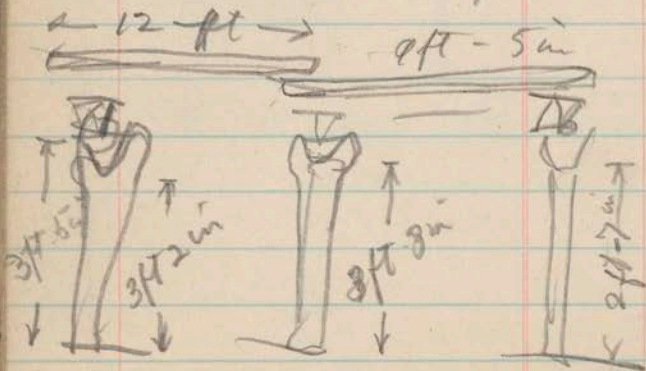
6-11 in

at post X 6 4

at tute outside

from post X to X - 8'-1"

outside stringers



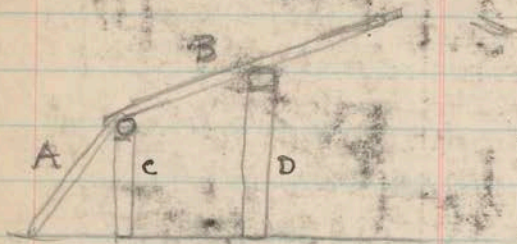
- 1 Gooly Chiefs
- 2 Little Crow
- 3 Owl woman - Standing Bear
- 4 Old White Man
- 5 Crow's Heart's
- 6 Ree Dance
- 7 Kidney's lodge

Kidney's lodge Exterior diameter
49 feet - height 10 ft. 10 in -
4 main posts each with cloth
offerings. Little

Little Crow's lodge
Exterior diameter 50 ft. height 13.
2 posts on diagonal with cloth offerings

Owl-woman's - lodge.
Exterior diameter 42 ft interior
diameter 40 ft. height 12 ft -
fireplace, 6 ft diameter - 4 center
posts each with cloth offering about
5 feet from ground.

Wolf Chief's Lodge



A. Poles - 288 - all split poles except 66. - 13 outer supporting posts - one extra helping to support stringer of section II - stringer 8" -

B. Poles - all round - 85.

Roof poles for doorway - 5 -
Sides of entrance or vestibule - about 14 logs or poles each - split and flat sides outward.
Two outer timbers supporting doorway are squared timbers

Crow Nest
height 12-10

add timber
105
4 2

