

TRADITIONAL HOUSING & SHELTERS: EYAK LONGHOUSE GR: 6-12 (5 LESSONS)

Elder Quote/Belief: Predominantly, Eyak villages were constructed in a similar fashion at the time of contact. According to de Laguna, “Each village had a fort or palisaded enclosure around some or all the houses. Every important village also had a potlatch house for each moiety, with carved post (of Eagle or Raven moiety) in front. ... These houses were equivalent to the Tlingit lineage or chiefs’ houses” (pg. 190).ⁱ

Grade Level: 6-12

Overview: The Eyak are of the Cordova and Yakutat regions. The Eyak built houses called “plank houses” or “long houses” and bark huts with influences from the Sugpiaq to the north and Tlingit to the south. Plank houses could house 10 or more families who lived communally with separate sleeping areas on the sides and a central fire pit. Bench seating was built on the perimeter. Plank houses were constructed using two or four poles depending on the size. These houses were rectangular with dimensions ranging from 20’x30 to 40’ x 60’ depending on the available size of trees and village size. The posts were joined using a mortise and tenon style joint, wood planks made the side walls which fit into a groove at the bottom. Roofs were covered with planks, bark and clay. Houses were equipped with a roof opening to allow smoke to exit through the ceiling and the opening could be closed during poor weather. The houses in the Eyak territory tended to be smaller utilizing both spruce and hemlock trees. Occasionally a yellow or red cedar tree was traded for with the Tlingit of the south.

Standards:

<i>AK Cultural:</i>	<i>AK Content:</i>	<i>CRCC:</i>
E (4) Culturally-knowledgeable students demonstrate and awareness and appreciation of the relationships and processes of interaction of all elements in the world around them.	E (3) A student should understand the relationships among science, technology and society.	Survival S (3) Students should know how to start a fire, prepare signals, and make temporary shelters.

Lesson Goal: Understand the outside influences and construction methods of Eyak housing. Develop designs, materials lists and plans to replicate a traditional Eyak plank house as a model and full scale building.

Lesson Objective(s): Students will:

- Develop a plank house model based on the research included in the reading list which can be developed into a future project of a full size plank house if desired.
- Design a plank house structure using traditional methods of joining wood beams.

Vocabulary Words:

Sugt’s tun Dialects			
English:	PWS:	Lower Cook Inlet:	Eyak:
House	enak	enak	yahd
Spruce	napak	napak	AdAlis

Hemlock	allceq	allceq	tl'eeyu'
Eye (my)	ik	ik	(si)laaX
Eyak Village	n/a	n/a	iiyaaGdaad
Smoke hole	puyuhwik (smoke stack)	puyuhwik (smoke stack)	k'udAGAts'ee', ts'iLqa'GAdiiq'd

Materials/Resources Needed:

- An Elder or Recognized Expert willing to share their knowledge of traditional long houses.
- For Class V: Teacher or community member willing to observe and assist with building and joining the large wood beams according to present building codes.
- Log Beam Calculator: <http://www.timbertoolbox.com/Calcs/logbeamcalc.htm>

Books:

- *Under Mount Saint Elias: the History and Culture of the Yakutat Tlingit* by Frederica de Laguna (Volumes 1,2,3) <https://repository.si.edu/handle/10088/1355>
- *Yakutat Tlingit and Wrangle-St Elias National Park and Preserve: Ethnography Overview and Assessment* <https://www.nps.gov/wrst/learn/historyculture/upload/YakutatTlingit-EOA.pdf>
- *The Eyak Indians of the Copper River Delta* by Kaj Birket-Smith and Frederica De Laguna (Copy reading material attached below: pages 32-45)

Teacher Preparations:

- Invite an Elder or Recognized Expert
- Review rules of showing respect to guest in the classroom with students prior to visit.
- Locate and gather materials needed for the lesson.
- Make copies of reading materials.
- Organize a field day to collect items for the construction of plank style houses.
- For Class V: Locate and invite local contractor(s) into class to develop an understanding of local building codes and building techniques that would need to be used in building a modern day plank longhouse.
- Ask students to display their ideas, images, and model buildings as examples of local traditional structures.
- Have students prepare for the meeting by developing questions, and presenting researched materials and poster board displays.

Opening: The Eyak of the Cordova and Yakutat areas, built plank houses utilizing building customs from the Sugpiaq and Tlingit. Outside of Cordova, old village sites such as Alaganik, Eyak, Katalla, Kayak Island and south towards Yakutat, the Eyak utilized the plank style house obtained from knowledge shared by the Tlingit. The construction of these houses required skill, strength and large timbers. Additionally, we will develop an understanding of the Eyak temporary shelter designs and materials used for summer subsistence camps.

We will investigate and learn how the large timbers were used and harvested; measure out a building site with corresponding dimensions; design a interior based on findings from text and research; and develop a scaled replica model of a plank house that can be translated into building a full scale plank house.

Activities:

Class I:

1. Introduce Elder/Recognized Expert and invite them to recall learning about the traditions of Eyak plank houses, and stories of traditional village sites.
2. If possible visit an old site with an Elder or Recognized Expert, imagine a plank house location, setting and look for trees in the area that could be used to build a traditional plank house. (Such as Alaganik near Cordova, Alaska)
3. Research and Readings:
 - Eyak Houses at Kayak and Controller Bay 1886: [Under Mt Saint Elias; History and Culture of the Yakutat Tlingit Volume 1](#) (page 313)
 - Aboriginal Dwellings and Other Structures: [Under Mt Saint Elias; History and Culture of the Yakutat Tlingit Volume 1](#) (pages 294-305)
 - [The Eyak Indians of the Copper River](#) Delta (pages 32-45)

Class II:

In small groups, develop drawings that will be used to make a model plank house.

- Reference the research and readings from Class I for designs and information.
1. Drawings need to incorporate the layout of interior living and sleeping areas.
 2. Showcase exterior design and materials used for roof, walls, etc.
 3. Allow time to create the drawings specific to required elements.
 4. Share drawings with class.

Class III:

In this class you will be making a model plank long house using traditional Eyak design and found materials. Material for the side walls, roof, interior framing can all be found outside at the beach and in the woods.

1. List of types of materials needed to develop a model plank house.
 - Suggested materials: tree bark, downed collected wood, beach drift wood, glue.
 - Suggested tools: small hand saw, glue gun, glue sticks, wood glue, etc.
2. Gather materials needed.
3. Create a model of a plank longhouse. Your model must include the following elements:
 - One plank style longhouse.
 - Beams notched and joined together as the Eyak constructed.
 - A view of the inside of the long house either by a removable roof or a missing side.
 - The inside demonstrates an understanding of the functions of a longhouse. (Examples: sleeping areas, fire pit, benches, food storage)
 - The outside includes a round door adorned with the Eyak eye symbol that is painted with the traditional colors of red and black.
 - The roof should show an opening for the smoke to escape.
4. Allow time for students to construct their model longhouse.
5. Share and display the finished models.

Class IV: 9-12 Grades

Determine the size, span and load capacity of beams and support posts for a plank longhouse measuring 25x30 feet (Similar size structure as described in [*The Eyak Indians of Copper River Delta*](#), page 32).

1. Calculate the weight of a wooden beam based on length, circumference, and density.
2. Calculate the length of span a wooden beam can safely extend.
3. Use the Log Beam Calculator to determine the diameter of a log needed to span a large distance. <http://www.timbertoolbox.com/Calcs/logbeamcalc.htm>
4. Using the calculator will require you to calculate the total length (inches) and total load on beam (pounds).
 - a. This roof beam calculation must include snow load pounds, weight of ceiling planking, bark, clay, etc.
5. To calculate snow load use the square footage of the roof. Snow weighs approximately 10 pounds per square foot. Determine how many feet in height for the average snow fall.
 - a. Example: 10lbs per sq. ft. X 4ft snow = 40lbs per sq. ft. X sq. ft. of Roof = snow load
 - b. Or use <https://www.omnicalculator.com/construction/snow-load>
6. Hold discussion and question as the students research;
 - a. What species of trees were traditionally used for Eyak plank house construction?
 - b. How did the Eyak lift, place and secure the large beams without heavy equipment?
7. Research in the readings and develop a written hypothesis.
8. Display results from all classes on a poster board with pictures of traditional housing and models, charts of calculations and written explanations of your findings.

Class V: 9-12 Grades

1. Student will display their ideas, images, and model buildings as examples of local traditional structures. Students prepare for meeting by developing questions, and presenting researched materials and poster board displays.
2. Work with local contractor(s) to develop an understanding of building codes and techniques that would need to be used in building a modern day plank longhouse.

OPTIONAL: Semester long class- Design and build an actual sized Eyak longhouse

Assessment:

- Student completes assigned readings and uses notes from their research to explain the Eyak longhouses. The student can explain the history, locations, dimensions and designs of a longhouse.
- Student groups draw and label elements of the longhouse (inside and outside of the structure).
- Student completes model plank house including five of the six required elements.
- Students can successfully say and know the meaning of the Eyak/Sugt'sun vocabulary words

PHOTOS:

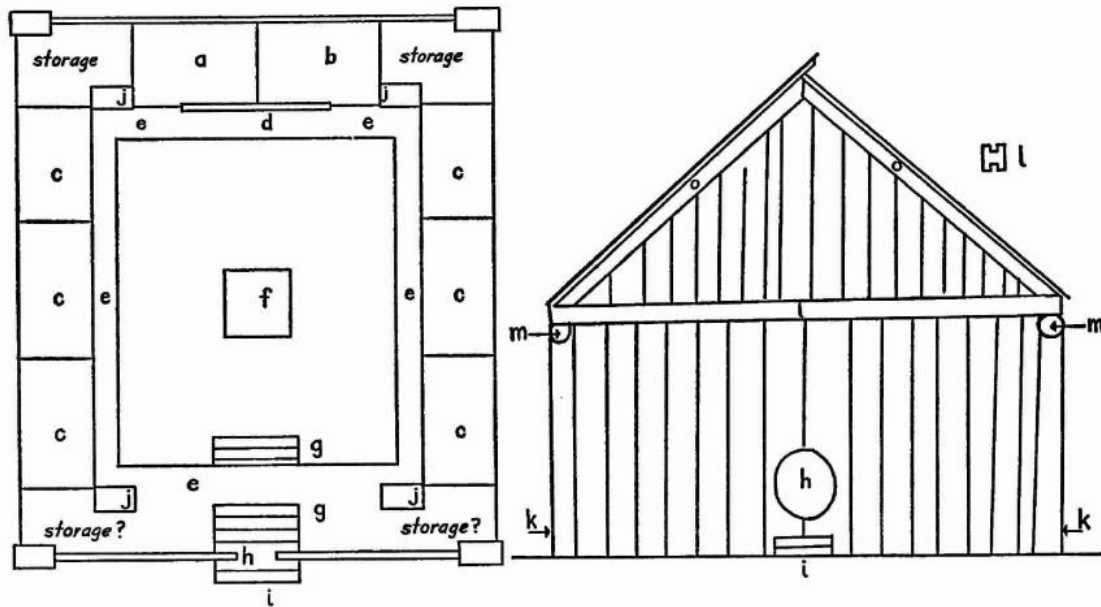


FIGURE 9.—Aboriginal winter house, Yakutat. *a, b*, Bedrooms for the house head and the next ranking man, or for two house heads. *c*, Bedroom ('itka). *d*, Painted screen (xin). *e*, Bench (tañ). *f*, Fireplace (ñan 'iti). *g*, Steps from floor to bench and from bench to doorway. *h*, Doorway (ka wul). *i*, Steps from doorway to the ground. *j*, Main posts (gaś). *k*, Corner posts (gukeatu gaś). *l, m*, Timbers at level of eaves (kiyix kaxat); *m* laid first. *n*, Main beams ('Akañyi 'Adi). *o*, Rafters, also gable end pieces ('Aka sūgu). *p*, Planks (tañayit). *q*, Roof planks in two layers (ka tañi). *r*, Logs on roof to hold down roof planks ('Aka datli). *s*, Wooden pegs holding the roof planks and logs in place ('Aka xuwu).

Illustration above from: *Under Mt. Saint Elias; History and Culture of the Yakutat Tlingit* (Volume 1-Page 296)

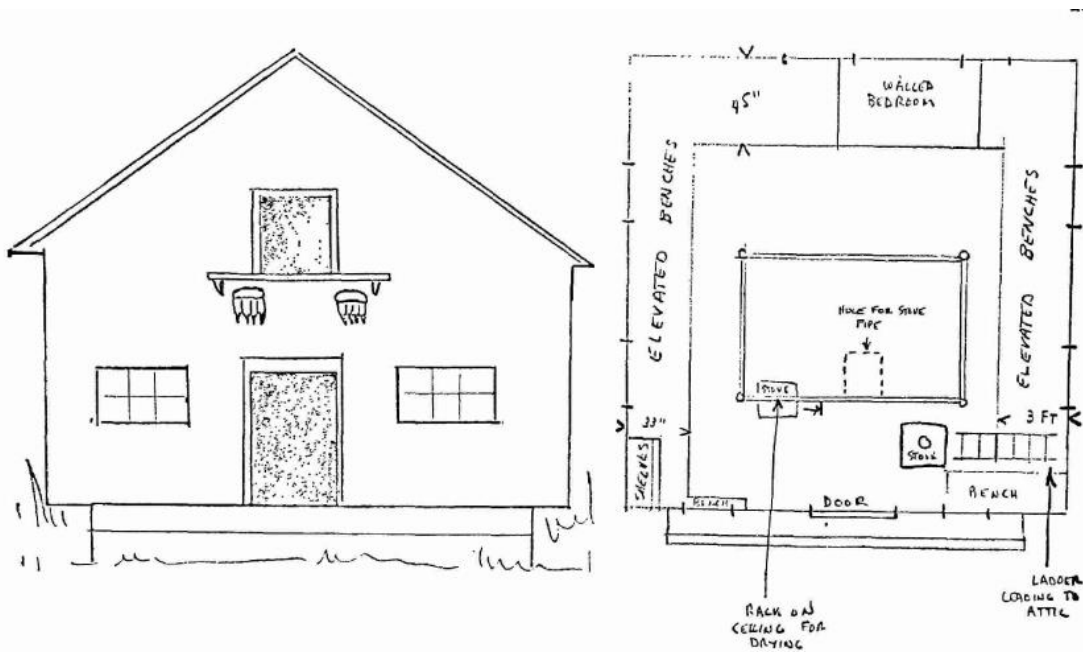


Illustration above from: *Under Mt. Saint Elias; History and Culture of the Yakutat Tlingit* (Volume 1-Page 299)



FIGURE 22.—“Primitive bark shelter, Yakutat Bay.” Sketched from a photograph(?) or sketched by Louise M. Keeler at the sealing camp just above Point Latouche in Disenchantment Bay during July of 1899. Note the sealskin bag for holding blubber and the sealskins drying on frames. (After Grinnell, 1901, p. 159.)

Drawing above from: *Under Mt. Saint Elias; History and Culture of the Yakutat Tlingit* (Volume 1-Page 314)



Photo to the right is of Seal Hunting Camp in 1899 at Cape Latouche taken from:
Under Mt. Saint Elias; History and Culture of the Yakutat Tlingit
(Volume 3 - Page 990)

Houses.

The Eyak house has been described by several writers. WRANGELL writes: "They live in huts built of beams (*Balken*), on the sides of which separate places are divided off for each family, but in the middle a fire is made for all together. Thus from two to six families are accustomed to occupy in common a single shed."¹ PETROFF states in the Tenth Census: "Their houses are built of planks, and in the Thlinket style of architecture, with circular openings in front."² In the Eleventh Census, he also writes: "The houses in these 2 settlements [Eyak and Alaganik] are constructed altogether after the Thlingit model, large square structures, built of huge logs and covered with bark, and set in a single row along the shore, each with a platform in front, upon which the inhabitants pass much of their leisure time in summer."³ Briefer descriptions of Eyak houses have been mentioned above, under *Territory and Villages*.

The Eyak house, as described by Galushia Nelson, was an unpainted rectangular structure, built of hemlock planks. The ruins seen at Alaganik, roughly 25 by 30 feet (7.62 by 9.14 m.), and 22 by 23 feet (6.71 by 7.01 m.), he judged to be of average size, though he said he had never seen one with a doorway in the longer side. The door was square and so low that one had to stoop to enter. The roof was of gable construction. The central ridge pole running the length of the house passed through the middle of the smokehole. The framework of the roof was of poles, on which were laid planks, not overlapping, but extending from the ridge to the eaves. The whole was covered with bark. The

¹ WRANGELL 1839, 97.

² PETROFF 1884, 146.

³ PETROFF 1893, 65 f.

walls were of planks set vertically into a grooved frame of logs at the bottom and a corresponding frame at the top. Galushia thinks there were posts in the four corners (supporting the upper log frame?) and a post on each side of the door. Some of these posts could be seen in the ruin at Alaganik. He denies the existence of the front porch, however, or of an entrance room or entrance passage. Sometimes dirt was piled about the outside of the walls to keep the planks from rattling. Inside, there was a central room, with dirt floor, in the middle of which a single(?) fire was built, directly under the smokehole. There was no fire pit, and no stones were set about the hearth. Along the two sides and across the back were the sleeping rooms, like boxes. They reached as high as the eaves, and were not quite high enough to allow a man to stand upright. They were ceiled, and floored(?) with planks. On top of these sleeping rooms were kept the stores of dried meat and fish, etc. Each sleeping room had a sliding door in the middle of the front wall, as high as the roof of the room. The door slid between the front wall of the room and stakes driven into the ground at the bottom and a horizontal beam at the top. The front door of the house was barred at night and the doors of the sleeping rooms were also closed. Each family occupied a single room in these communal houses. The archaeological evidence would suggest that these rooms were about 6 by 10 feet (1.8 by 3 m.). The last community house was that of Chief Joe and his two brothers. Each of the three families had its own room, but these were box-like additions built on the outside, like the bathrooms also used as sleeping rooms by the Prince William Sound Eskimo and the Tnaina Athapaskans of Cook Inlet. Joe's house was not partitioned on the inside,

as was the old Eyak style. Galushia thinks that in former times a greater number of families may have shared a single house. The place of honor, occupied by the head of the house, was at the rear, opposite the front door. A chief and his family occupied the central rear room, and the space in front of it was where the chief sat, where guests were entertained, and where a dead body was kept during the wake. It was not considered impolite to walk between a person and the fire, since all were accustomed to sit around the sides of the house, leaning back against their own sleeping rooms. Little children, slaves, and dogs slept in the open space around the fire. Unmarried girls probably slept with their parents, but Galushia is not sure. Annie Nelson, his wife, was an orphan child adopted by an Eyak family, and she slept among the dogs beside the fire. (It is possible that only orphans had to sleep there.) Strangers were accommodated with sleeping places along one side of a special house in each village. In Tale 17, the two daughters of Chief Calm Weather not only had separate rooms, but lived in a house of their own.

There were also small houses for single families, and a man could live either in a community house or in a private house of his own, according to his choice.

The entire floor space in the sleeping room was covered by the skin bedding, so that the clamshell lamp was set on a shelf. A sloping board, long enough to accommodate all the occupants of the room, was used as a pillow. (See Tale 28.) Undecorated grass mats were hung on the walls and laid on the floor under the bedding. The lamp was never used in the main room, where the open fire was supposed to provide sufficient illumination.

Clothing was dried on poles which ran across the house

between the eaves. In war time, or when snow drifts blocked the door, it was possible to climb out of the house through the smokehole, by means of a rope attached to the central roof beam or a ladder (cf. ABERCROMBIE's description p. 40). Dead bodies were taken out through a gap made in the wall, not through the smokehole.

Besides the single and communal dwelling houses there were special houses for smoking fish. These were built like ordinary houses, but lacked the separate sleeping rooms. There was a fire in the middle of the floor, with smokehole above. A lattice of poles was laid the entire length and breadth of the house roughly at the height of the eaves. There were actually two levels of racks, the upper a foot higher than the lower. Fish to be smoked were placed first on the lower rack, and when partly cured were moved to the upper. Unfortunately we neglected to find out if there were planks above the fire to spread the smoke. There were smokehouses in the three main villages, Eyak, Alaganik, and Old Town, for fish could be obtained near by. When curing fish in these villages, the families probably continued to occupy their regular houses. There were also special fishing camps at Point Whitshed and on Mountain Slough. The smokehouses there were built like a lean-to, with a shed roof, and a door in the higher end (side?). These sheds were made of poles covered by hemlock bark, and served as dwelling houses for single families during the fishing season, as well as smokehouses. There were a number of houses at Point Whitshed that were occupied in October after the salmon runs were over, when the people were drying clams, and some families might even stay there the whole year. (It is not clear from Galushia's description whether these bark sheds were located only at the

two camps, or whether some of the smokehouses in the main villages were of this type. Nor do we know if there were any wooden smokehouses or ordinary dwelling houses at Point Whittshed. Galushia saw these camps when he was a boy.)

In the main villages there were quite a few houses. The central structure was the fort (see below), and near it were the two moiety potlatch houses (see below). Dwelling houses were located wherever anyone wanted to build. There was no moiety segregation and no streets or other regular arrangement. Each family had a residence at Eyak and at Alaganik and moved back and forth at pleasure.¹ In Tale 24 distinct mention is made of a winter house and a summer camp. We do not know how common it was for the family to live in the regular house throughout the year or how large a proportion of the people moved into the summer camps.

In each village were two potlatch houses, one for each moiety. The potlatch house was built like the dwelling house, except that above the lower set of wall planks there was a second tier, set into the upper frame of logs and capped by a third frame. Only the potlatch house was built with these walls of double height. Inside was a single fireplace under the smokehole. In his description of the potlatch given by the Tlingit on Kayak Island, Galushia mentioned windows, but we do not know if the Eyak potlatch house ever had windows, nor do we know if there were any sleeping rooms, unless the sleeping quarters for guests, mentioned above, were in one of the potlatch houses. Outside at the front of the house was a post, the top of which was carved to represent the moiety bird, Raven or Eagle.

¹ PETROFF 1893, 65: "Their situation affords these villages unimpeded communication through sheltered inland channels, and taking advantage of this circumstance their people intermingle freely."

The head of the bird was above the door; sometimes the post was higher than the house, sometimes not so high. Galushia does not know if the bottom of the post was set into the ground, but has a vague remembrance that entrance to the house was through a hole in the post. As a child he saw an Eagle post at Katalla. It was probably in front of the potlatch house which his maternal (?) Tlingit uncle built to accommodate the Eyak Eagles when they came to potlatches. This house could accommodate 26 families. Galushia later changed the figure to 16. At ordinary times it is doubtful if any one slept in the potlatch house. There were no totem poles in front of the dwelling houses.

All the Eyak potlatch houses had names. Thus the Raven house at Alaganik was called the "Goose House," and the Eagle house was the "Bed House." At Eyak, the Raven house was the "Raven House," and the Eagle house the "Skeleton House," or more literally "Old Dead Body's House." At Gravina Bay there was a Raven house called "The One We Burned Down on the Beach." The Tlingit group that were adopted by the Eyak Eagles were supposed to have been in such a hurry to build their potlatch house that they made it of bark, thus acquiring the name "Bark House People." This tradition might indicate that the two subgroups, Bark House People and Wolf People, in the Eagle and Raven moieties respectively, may have had their own potlatch houses, but that would be at variance with Galushia's express statement that there were only two in each village, serving the two moieties as a whole. (For the Eyak names of these houses, see the Vocabulary, Appendix II.)

These names for potlatch houses can all be duplicated by the house names recorded by SWANTON among the

Tlingit,¹ with the exception of the "Goose House." Thus the "Raven house" is used as the name of a house or house group among the following Tlingit Raven clans: *Gānaxā'di* of Tongas and Taku, *Tē'nedi* ("bark house people") of Henya, *Dē'citān* of Hutsnuwu, and *Łuqā'xadī* of Chilkat. The *Ka'gwantān*, a widespread Raven clan, is called "people of the burnt-down house," and they have a house of this name at Sitka. The Eyak "Skeleton House" suggests the "eagle's-bones house" of the Chilkat *Ka'gwantān*. This is "said by the Wrangell people to have been claimed only in very recent times, the eagle not properly belonging to them." Eagle crest and names seem to have been taken over by the Tlingit Wolf moiety from the *Nēxā'di* of Sanya, a clan with Eagle names and crest, which stands outside both the Wolf and Raven moieties. The Raven clan, *Tl'a'q!dentān*, at Huna has a "raven's-bones house." The "Bed House" of the Eyak Eagles suggests the "sleeping house" of the *Llūklnaxā'di* at Sitka, but this was a Raven clan. Among the Tlingit two Raven clans, the *Tē'nedi* of Henya and the *Ti hīt tān* of Stikine, are both called "bark house people" and each have a house or house group of the name "bark house." The Wolf clan, *Kā'gwantān*, of Chilkat had a "wolf house."

A house-warming potlatch was given when the potlatch house was finished. We must note that there is no reference to the potlatch house in any of the tales.

As already mentioned, Colonel ABERCROMBIE remembers only two houses at Alaganik, besides the small house occupied by the shaman and his two attendants. These two houses he describes in some detail. Although 60 persons were actually living in each of these two houses at the time of

¹ SWANTON 1908, 398 ff.

his visit in 1884, the buildings differed in construction from the communal dwelling house as described by our natives informants. Moreover, the dances that he witnessed were held in one of these houses. In his report he referred to it as "a native hotel used for visiting and passing friendly tribes. All entertainments are given in the casina."¹ These two houses, therefore, must have been the two potlatch houses, even though, contrary to what Galushia led us to understand, they were also serving as dwellings. It will be remembered that both buildings were new when ABERCROMBIE saw them in 1884, and the style of architecture showed Russian influence, as he suggests. It is possible that the potlatch house was then undergoing a transformation into a communal dwelling house, while the old style of dwelling house was being abandoned. Or the chief and some of the people may always have lived in the potlatch house. On the other hand, this may have been a temporary arrangement at Alaganik. In his report, ABERCROMBIE mentioned 7 houses at Alaganik. It is a pity that he did not enter any of them, for his memory of their character might help us to determine more accurately that of the two houses that he did visit.

These two houses were rectangular, one-room buildings, about 60 feet (18.3 m.) long and 20 feet (6.1 m.) wide, with the door at one end. The walls were of horizontally laid logs, dovetailed together, about six being used on the sides to reach the eaves. Colonel ABERCROMBIE suggests that the crude dovetailing may have been in imitation of the Russian buildings at Nuchek. The central ridge pole of the gable roof passed through the middle of the smoke-hole, and two of the parallel beams (purlins) that helped

¹ ABERCROMBIE 1900, 384.

to support the roof formed the lower edges of the smoke-hole. The roof was of logs, sloping from the roof to the eaves. Over these were laid strips of spruce bark, held down by a layer of clay. The walls were about 6 feet (1.8 m.) high, and the slope of the roof was only about 15° . The center of the gable would have been, therefore, about 10 feet (3 m.) high. The walls were chinked with moss

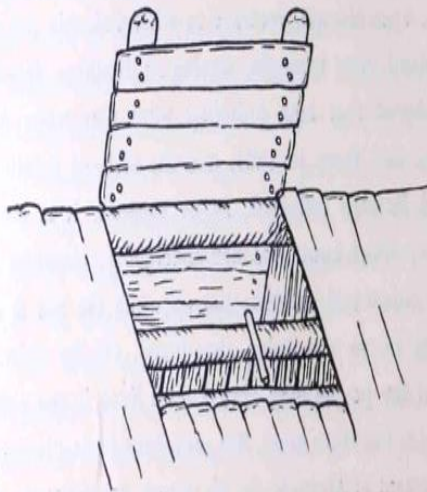


Fig. 1. Smokehole and windscreen, as described by ABERCROMBIE.

and the women used to keep a round stone among their tools to pound the moss back in when it came loose. To protect the smokehole from the wind, there was a moveable screen which could be set up on either side. This screen was made of several planks, pegged to two logs that hung down over the roof of the house and by their weight prevented the screen from being blown over. Two alder pegs, about 20 inches (0.5 m.) long, projected from the inner side of the screen at the bottom, and were hooked inside the lower edge of the smokehole (Figure 1). There were no extra boards to protect the ends of the smokehole. When the wind shifted, some one would climb to the roof on a ladder, made of a notched log, and move the screen to the opposite side.

The doorway of the house was almost square, and was considerably wider than our doors. One had to step over a log to enter, but did not need to stoop unless one stepped on the log sill. The logs of the wall had been roughly hacked off at the sides of the doorway with stone axes. The door itself was of hewn planks, set horizontally, and fastened

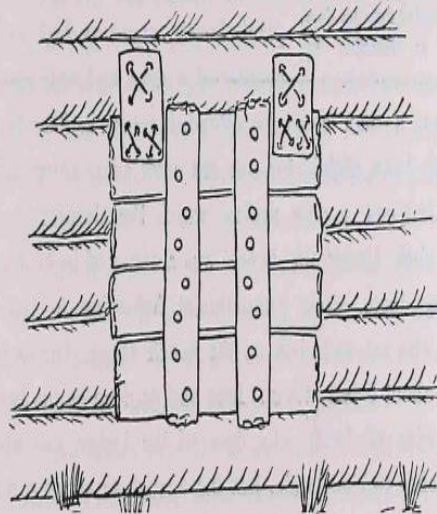


Fig. 2. Door of Eyak house, as described by ABERCROMBIE.

together by two vertical planks on the outside (Figure 2). Each plank was nailed to these cross-planks by two wooden pins on each side. A hole had been drilled through the two planks, and after the wooden peg was inserted, both ends of the peg were spread by means of small wedges so that it could not work loose (Figure 3). The door was hinged at the top by two strips of white whale(?) hide, which were laced by rawhide thongs to holes in the door and holes in the log above the doorway. ABERCROMBIE remembers no fastening for the door. There were no decorations outside the house and no carved post, but a large eye, in red and black, was painted on the door.

In the center of the house was the fireplace. This was a depression in the dirt floor, about 4 or 5 feet (1.2 or 1.5 m.) by 3 or 4 feet (0.9 or 1.2 m.), filled with gravel to within 4 or 5 inches (10 or 12 cm.) of the floor level. The edges

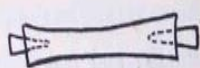


Fig. 3. Wooden nail used for pegging together door, etc., as described by ABERCROMBIE.

of the pit were faced with a log frame. Along the two sides of the house and across the back was a continuous plank bench, about as high as the counter of a store, and wide enough so that a man could lie extended across it. The bench sloped down slightly towards the outer edge, along which was fastened a pole against which the sleepers braced their feet. Under the bench was a series of lockers with sliding doors, each compartment belonging to the family who sat and slept on the bench above. The lockers were about 6 feet (1.8 m.) long and as deep as the bench was wide (7 feet?). The door of the locker was about 25 inches (0.7 m.) wide, just big enough to admit a man, and was as high as the bench. The door was always located at the end of the locker nearest the front of the house and slid between grooved logs at top and bottom. Each locker had partitions separating it from those on either side. The locker doors were carved and painted with what ABERCROMBIE understood to be the family totems of the owners. These designs were like those of the Tlingit, but were much more crudely made, and he was not able to identify the figures represented. In addition to these designs, each door had a black and red eye painted on it. In the lockers were kept the family's belongings — bedding, food, tools, clothing, toys, and ceremonial paraphernalia. The lockers were not used as sleeping places. The chief or headman and his family occupied the entire bench at the rear of

the house. His locker was more elaborately decorated than the others.

The benches were used as beds at night and as seats during the day. On them were spread mats made of reeds. At night the natives slept on a mountain goat skin and covered themselves with a homemade blanket of woven goat's hair (?). The blanket was only about a yard (0.9 m.) wide and five feet (1.5 m.) long, so that when they pulled it up over their heads and shoulders, their feet were uncovered. The chief had a bear skin or two in addition. The fire in the middle of the room served for cooking and illumination. The house had no windows, and it was so dark inside that one could read only under the smokehole. A few people had seal-oil lamps, made of a hollowed sandstone cobble. The wick was of twisted cotton from the cottonwood tree, and was laid against the edge of the lamp. These stone lamps were like those of the Eskimo at Nuchek, but were less well made. ABERCROMBIE saw no lamps made of clam shells such as the natives described to us. (Our Indian informants, on the other hand, denied the use of stone lamps.)

In the center of the village, according to Galushia, stood the fort or stockade, used as a refuge in time of war. It was built of upright posts instead of planks, and because of its construction was given the same name as the fish trap. There was a single door. A space inside was excavated for a depth of a few feet. Galushia does not know whether this structure was roofed, or whether a house was built inside the stockade. Food was stored in the fort. Once, when people were besieged in a fort, their supply of water was exhausted. A man ran to get some, but was shot down by arrows. In Tale 16, the Sun's children build a fort when they come down to earth to attack the Alders.

When men were on hunting trips, they usually camped in the open. However, if they were to be out for a long time, they might build a brush shelter or lean-to against a cliff. Johnny Stevens said that hunters also made a dome-shaped hut of branches, like that used by adolescent girls. Hunters also camped sometimes under an overturned canoe. No skin tent was used.

Gus Nelson's wife denied that a special hut was built for menstruating girls. She said that they were secluded in a sleeping room. Galushia, however, was sure that girls at puberty were sent to a special hut, built of planks like an ordinary house. Later, both he and Johnny Stevens described a conical hut, built like a tipi and covered with bark. Johnny Stevens also mentioned a dome-shaped puberty hut, made of arched branches, their ends stuck into the ground to form a structure like an inverted basket. Galushia thought this type was a late introduction.

We were told that the sweat bath was not originally an Eyak institution but was borrowed from the Eskimo, before the Russians came, according to Galushia. The bath is taken in a small log hut, like those built by the Prince William Sound Eskimo. Friends sometimes would take a bath together to see who weakened first, but even now it has not become very popular among the Eyak. Colonel ABERCROMBIE saw no sweat-bath houses at Alaganik in 1884, and curiously enough, does not remember any at Nuchek, though they were common in the Copper River Valley.

Caches were sometimes built for meat. These were platforms set up on four poles, the edges of the platform projecting beyond the supports so that animals could not climb up. There was no roof to the cache. A cache is mentioned in Tale 2. Galushia knew of no pit caches to store meat in

the ground. Caches were not used much, for the people were in a hurry to get their meat home. The caches which ABERCROMBIE remembers at Alaganik were more like those used in the interior, and it is possible that he has confused those of the two regions. He described them as little log houses, about 6 feet square, set on top of 10-foot (3 m.) posts. The house had a gable roof and was built of horizontal logs. There was no projecting platform in front. The doorway was square, just large enough to crawl through, and lacked a door. The house rested on four blocks of wood that capped the four posts. These blocks were about 15 inches (38 cm.) square, and were kept well oiled, which made them so hard that no animal could climb them.

Though the Eyak built no permanent dwellings of bark or brush, they tell about the Tree People, a tribe of cannibal giants who live in the interior and who make houses of boughs (Tale 20).

Boats.

The Eyak formerly built wooden canoes. At present these dugouts have been almost entirely abandoned in favor of skiffs and gas boats, but in 1933 we found two which we measured and photographed. One, partially completed at that time, is the work of Gus Nelson, the other, an old cracked boat, belongs to Old Man Dude. Gus Nelson's boat (Plate 9, 1) more closely follows the traditional pattern than does Dude's. It measures 16 feet 4 inches (4.98 m.) in length at the gunwale, and 15 feet 6 inches (4.72 m.) at the keel, the extra 10 inches (26 cm.) representing the overhang of the stern. The beam is 2 feet 10 inches (86 cm.), and the stern and bow both stand 2 feet 4 inches (71 cm.) high. The stern is simply curved under, but the prow is undercut in a V for a depth of 9 inches (22 cm.), leaving both the gun-

ⁱ Birket-Smith, Kaj, and Frederica de Laguna. *The Eyak Indians of the Copper River Delta, Alaska*. AMS Pr, 1976. (It was originally published in 1938)