

NOT ALL DRIFTWOOD IS CREATED EQUAL: WOOD USE AND VALUE ALONG THE YUKON AND KUSKOKWIM RIVERS, ALASKA

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Abstract: The “Catching the Drift Project” along the Yukon and Kuskokwim rivers in 2002 combined tree-ring and oral history research to explore the natural production of driftwood and its past and present human use. Discussions with Yup’ik and Athabascan elders focused on methods of driftwood procurement, criteria for wood selection, categories of use, and wood working techniques and terminology. Retracing the history of the wood from trees along the river bank to driftwood logs to modified wood or fire wood, allowed us to go beyond the making of objects. By traveling downriver we were able to document people’s perceptions of this important resource: its origin, its cycle, its value. Analysis of our oral history recordings indicates that people along the rivers who have access to standing trees rely on driftwood to a larger extent than expected. Today, driftwood is mainly used as firewood but is also part of some critical subsistence activities, such as fishing. The value of driftwood is influenced by geographic location, local economics, individual and cultural preferences, as well as physical characteristics and post-drift condition of the wood.

Keywords: Resource use, Native Alaska, Oral history

“We send the bad wood down river!” a woman ironically told us in Sleetmute, a Native village along the forested middle Kuskokwim River,¹ while we were investigating driftwood use and ecology in interior Alaska. Downriver, in the treeless Kuskokwim delta, Yupiit people do not seem to feel that the wood they get is always bad. They eagerly go after and collect wood the river provides. Traditionally, they “danced to coax the precious driftwood to return when the rivers thawed in the spring” (Fienup-Riordan 1996:153). They viewed wood “as a feeling, knowing being, capable of both gratitude and retaliation” (Ibid.). Important distinctions were and still are made between different types of driftwood depending upon their properties and the use for which they are selected.

To Athabascan people of interior Alaska and Yupiit of southwestern Alaska, wood historically was, and to some extent still is, critical to many daily subsistence activities (Osgood 1940, 1959; Oswalt 1967; Nelson et al. 1982; Nelson 1986). In fact, despite a lack of trees, Yupiit are known as the Eskimo people who utilized wood resources the most (Oswalt 1967). The sources of wood Athabascan and Yupiit have had access to differ in form rather than in species. The former, living along the forested rivers of interior Alaska, were mainly using standing trees and wood from the boreal forest but also ben-

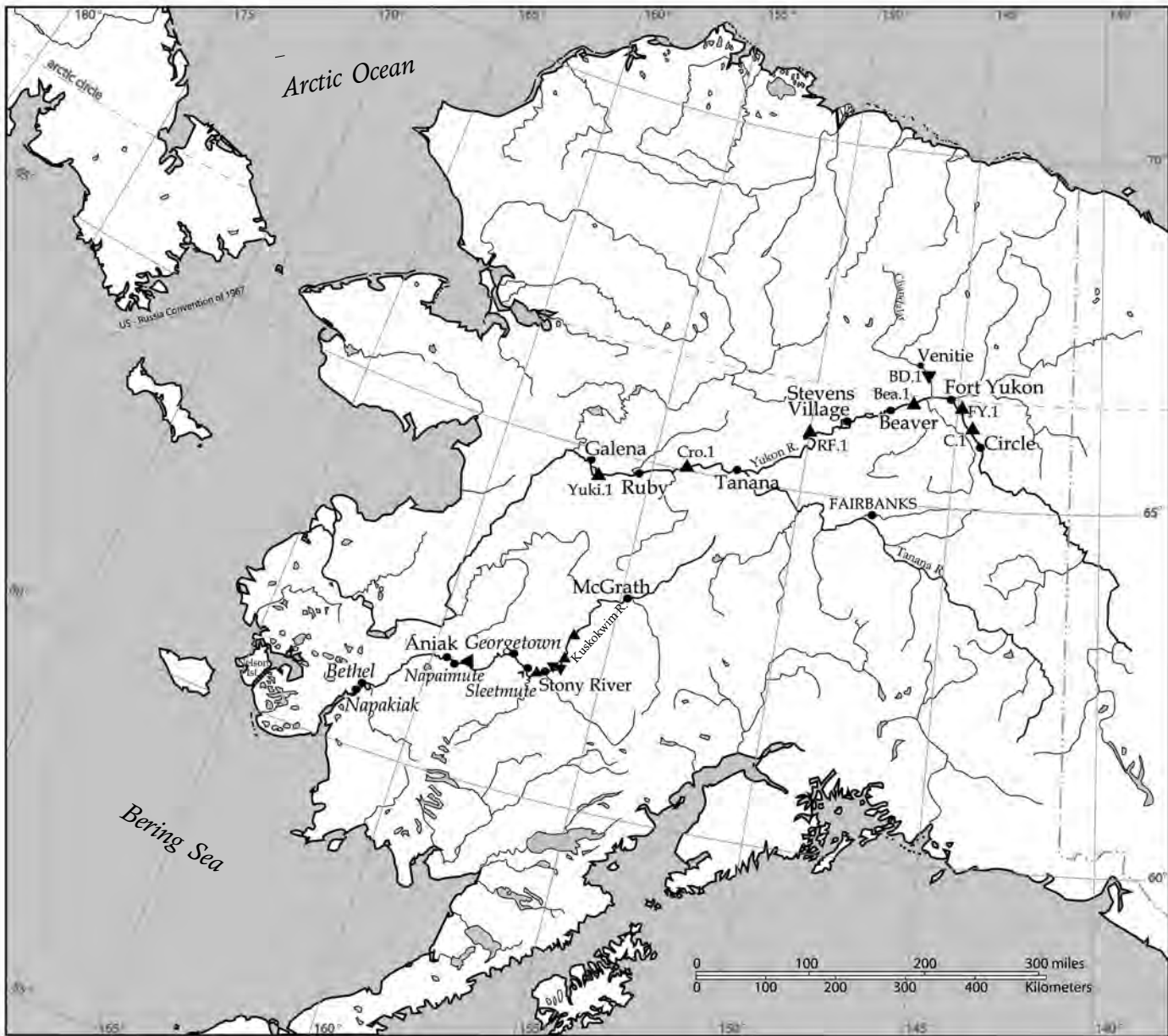
efited from river driftwood. Downriver and on the coast, Yupiit used some tundra shrubs and upriver trees but were dependent upon the arrival of driftwood from the interior boreal forest (Fienup Riordan 1996; Giddings 1941; Oswalt 1967).

In both cases, carvers and users had to look for the right wood and sometimes travel long distances to find the suitable piece (Nelson et al. 1982:204). Still today, Yup’ik carvers from the Kuskokwim delta, like Nick Charles and George Billy, or Athabascan canoe masters like Howard Luke and David Salmon, hunt for the right piece of wood before they start any carving (Billy 2002; Fienup-Riordan 1986:41; Steinbright 2001:4-7,8-17). As Howard Luke from the Tanana River says: “It takes a lot of time. You just got to walk and look, or go on the river and see what you can find” (Steinbright 2001:7).

In this paper, we present the importance of driftwood as a natural resource along the Yukon and Kuskokwim rivers. Our focus, however, is what lies behind the notion of “good or right wood” vs. “bad wood” as conceptualized in Athabascan and Yup’ik communities. The presence of driftwood is not as critical for the inhabitants of the forested upper and middle river as it is on the lower river and coastal regions where no trees

¹Sleetmute was founded by Ingalik Indians [Deg Hit’an] but today residents of Sleetmute are mainly Yup’ik Eskimo. <http://www.explorenorth.com/library/communities/alaska/bl-Sleetmute.htm>

Figure 1: Map of Alaska, locations of villages and stands of trees sampled



▲ Stands of white spruce sampled (*Picea glauca*)
 ▼ Stands of black spruce sampled (*Picea mariana*)
 ◄ Driftwood accumulation sampled
The names of villages in italics are where interviews were conducted.

grow. However, it appears from talking to people that those who have access to standing trees use driftwood to a larger extent than expected. Recorded discourse on wood and driftwood show that people judge the wood according to what it is used for, their expertise with the raw material and how to work it, as well as where they live on the river. Economic conditions, cultural backgrounds and sometimes social status also influence their perspective.

However, the question is not simply one of people using wood and/or driftwood, but of how they have used it, what choices they made and are still making in selecting the “right” wood. Analyzing resource use requires understanding how the resource is perceived and worked. We went into the boreal forest to the source of driftwood to follow its path downriver, to experience how people view this natural resource, and to collect evidence of its natural “production” and cultural use. We investigated

technical choice in the sense of Lemonnier (1993:26) who states that "... by taking material culture for what it is, a social production, anthropologists and historians expand the range of the cultural phenomena they study as well as their chance of understanding them." In the case of driftwood use, the social production starts with a living tree that is shaped by a complex life cycle of environmental and human forces along its journey to becoming a manufactured wooden object. Understanding the effects of environmental characteristics on the raw material being utilized and how they intermingle with cultural use patterns broadens the explanation underlying how and why objects are made.

CATCHING THE DRIFT JOURNEY

In the summer 2002, we combined oral history and tree-ring research along the Yukon and Kuskokwim rivers (Figure 1) as part of a larger project designed to explore the natural production and human use of driftwood in Alaska from its source along interior river systems to where it ends up stranded along the coasts (Alix and Brewster 2002).

According to Giddings (1941, 1952), the Yukon and the Kuskokwim river systems contribute the bulk of the driftwood found on the Alaskan coasts (See also Oswalt 1951; Van Stone 1958). River transport of driftwood, its sea circulation and coastal delivery are all dependent upon environmental conditions such as ice breakup, river bank erosion, seasonal floods, currents, winds, tide, coastal orientation and storm activities (for details of these processes cf. Alix n.d.; Dyke et al. 1997; Eggertsson 1994; Eurola 1971; Johanson 1999). However, human activities such as logging and erosion control, also impact this cycle. The "Catching the Drift Project" was designed to document and analyze inter-relationships of the environmental and human processes at play in "driftwood production" (Alix and Brewster 2002; Wein 2001).

In 2002, we spent three weeks on the Yukon River traveling from the villages of Circle to Galena, guided by Robert Joseph of Stevens Village. Then, Nick Kameroff of Aniak/Bethel guided us for two weeks on the Kuskokwim River between Napakiak and Deacons Landing (Figure 1). We conducted fifteen individual oral history interviews and cored 12 stands of white and black spruce trees (*Picea glauca* (Moench.) Voss.²; *Picea mariana* (Mill.) B.S.P.) for the tree-ring part of the project that is not being discussed in this paper.

The conduct of oral history interviews is a way to learn and record how riverine people who have access to standing timber view and eventually value driftwood, a highly prized resource in the coastal, tundra environment. At the same time, we wanted to document how access, availability and use of the resource had changed through time. Oral history offers a window into world views and values beyond the lifetime of the speaker that influence



Figure 2: Group discussion, Napakiak, Kuskokwim delta

current practices and beliefs (Finnegan 1992; Morrow and Schneider 1995). In the case of driftwood, people describing the direct uses they and their predecessors have made of the resource reveal decision-making about what quality to look for in wood, when to gather and where to find it, details about how to work with wood, factors affecting drift, and changing technologies as they relate to wood and wood use.

²Nomenclature follows Viereck and Little 1986 [1972].

We interviewed elders ranging in age from 60 to their mid-80s who were knowledgeable about traditional subsistence lifestyles. We had a group session with the village council in Stevens Village, informal gatherings of people in Napakiak (Figure 2), and many casual conversations with river residents. We spoke with more men than women because wood working is mostly a man's activity (Osgood 1959: 85; Oswalt 1963:107).

Our oral history recordings show consistencies and differences in quality, value, procurement and selection of wood, between and within Athabascan and Yup'ik groups that can only in part be explained by known principles of wood mechanics and other physical evidence. In getting beyond the physical properties of the wood, we have been able to assess the cultural, social, and personal significance of people's choices and behavior.

DRIFTWOOD USE IN RIVERINE ALASKA

"We use them for everything. It's just like a free gift to us on the beach"
(Demoski and Demoski 2002).

Driftwood is seen as a handy and economic resource and is part of several critical subsistence activities, including fishing and traveling. "Like the fish, we depend on driftwood from the river" Joe Matter told us in Napaimute on the Kuskokwim River (Matter and Matter 2002). Flora Demoski echoed: "Driftwood is sort of a very central thing that comes along the river. Because everybody is excited when it starts coming down in the springtime" (Demoski and Demoski 2002). These remarks made us aware of the economic and social importance of driftwood as a resource and an object of celebration in the full seasonal round of the river subsistence lifestyle. For upper and mid-river residents, driftwood is not only an occasional and opportunistic supply of wood. It is often systematically harvested and its use kept for very specific purposes.

Even though driftwood is a valued resource, it also causes frustrations when the river is high and full of floating logs. John Stam, a fisherman on the Yukon River told us: "It is a nuisance that blocks the fishwheel or rips the

net" (Stam 2002). Traditionally, Koyukon Athabascans dealt with this problem by placing a long slim log in front of the fish trap entrance to divert the downstream drift (Huntington 1993:48). For Bill Demoski of Galena, the frustration is different: "There's a time when drift is a nuisance, too. When you're going against it with the boat, you know, the current. You hit a snag or run over it or you got to go all over it..." (Demoski and Demoski 2002).

Along the Yukon and the Kuskokwim rivers and in the Kuskokwim delta, driftwood is used today as firewood and for wood working. It is burnt to heat houses, smoke fish, tan hides, or to heat steam baths on the lower portion of the rivers. As a manufacturing material, driftwood may be used in house construction but most often is part of light structures, racks, smokehouses and fish drying frames. It is also made into sled benders, boat parts, and is carved into smaller objects such as net floats or other tools, weapons and art pieces. While there may be other uses for driftwood, our discussion is limited to the practices we observed and discussed with people, and their subsequent implications. The motivations underlying selection choices in the two main categories of use, heating and wood working, differ, and as such their analyses must be treated separately.

Wood types, condition, quality and selection

The riparian forest of interior Alaska is composed mainly of pure and mixed stands of white spruce (*Picea glauca*, (Moench.) Voos.), black spruce (*Picea mariana* (Mill.) B.S.P.) and balsam poplar, also commonly called cottonwood (*Populus balsamifera* L.). Stands of white spruce and cottonwood are the most productive (Labau & van Hees 1990; Ott et al. 2001; Viereck and Little 1986 [1972]). As a result, white spruce form the bulk of logs carried downriver to the sea, and cottonwood is relatively abundant in coastal driftwood accumulations (Alix 2004; Giddings 1941; Ott et al. 2001). Nevertheless, we observed large portions of black spruce covered banks eroding in the river (Figure 3).



Figure 3: Black spruce on eroding bank, Yukon River

Together with cottonwood logs, willow trees and shrubs (*Salix spp.*) are the main hardwood (angiosperms) found in river and coastal driftwood of Alaska (Ibid.). Paper birch (*Betula papyrifera* Marsh.) and aspen (*Populus tremuloïdes* Michx) are more abundant in the

upland forest than on the river bank (Ott et al. 2001; Viereck and Little 1986 [1972]) and little appears in the driftwood accumulations. Birch is also rare or nearly absent because of its low resistance to decay (Alix 2004). The waterproof bark traps moisture, which accelerates rotting of the log (Hägglblom 1982:83).

Driftwood ranges from recently fallen trees with bark and roots to barkless, broken, waterlogged logs. The condition and quality of the wood vary according to when the tree fell, how long it spent in the water, and how often it was stranded and experienced wetting and drying cycles. Some people believe this process makes driftwood a harder wood.³ As Paul Williams of Beaver explained:

Driftwood, after it stays in the water for quite awhile and the sun, it becomes quite hard. It's good for sled runners and maybe certain kind of wood would make good bow. They're harder than normal because of water and then they get wet and dried up, then get wet and dried up again (Williams 2002).

Carvers in other contexts have also mentioned their impression that driftwood gets harder (Alix 2001a:77). Water transport of timber and water immersion or spraying for conservation and controlled drying purposes have consequences on the physical and chemical structure of the wood (Baylot et al. 1988; Duhamel du Monceau 2000 [1767]; Fengel and Wegener 1988). However, we are not aware of studies investigating the relation between water treatment of logs, density of wood that has been wetted and re-dried, and its hardness. Of course, the quality of a log will also depend upon the species, its buoyancy, its resistance to decay, the conditions under which it grew and the condition of the wood upon entry into the water.

No matter where driftwood is collected (up or downriver), people prefer the fresher or drier logs for wood working and in some places for firewood. They identify "good wood" by looking for logs that "float high;" in other words, ones that are not waterlogged. As one goes downriver these good logs become scarcer. By then, logs have spent a long time in the water and have passed many communities where people may have collected them. This is probably why Sidney Huntington noted:

I guess they have a higher value for driftwood than we have up here, because there's very little timber down there. So whatever drifts down

there, they could really make use of. We don't value every stick. We're looking for the good stuff up here, you know (Huntington 2002).

Contrary to this upriver impression, delta and coastal wood carvers do make choices in terms of wood quality when looking at driftwood that passes through or accumulates in their area. Carver George Billy of Napakiak explains that they look for "the new one, the one that recently fell, the new one is good. It's easier to work with" (Billy 2002). Older driftwood that is waterlogged, severely weathered, and deteriorating may not be chosen even though it is the "right" species or part of the tree (trunk, stump, branch) that is being sought. Elias Venes explained:

Some of it is just beautiful wood, you know. But other stuff is stuff that's been in the water a long time and it's water soaked and heavy. And it will probably never dry out. But, other wood seems to be harder and it doesn't seem to get waterlogged nearly as much as some wood. I think it's the same kind of tree, [but] one tree is hard as a bone and the other is soft and punky or half rotten (Venes 2002).

Carvers also look at the grain and smoothness of the wood when assessing the condition of a log. They prefer straight-grained wood, typically spruce, that does not have cracks or knots, because it is more easily carved, performs the best under a variety of circumstances, and can be used for the widest range of purposes. According to George Billy:

You can recognize good wood by looking and testing it for breakage... You have to take a good look at them. These [here] you don't want to take. These are bad. If they have a crack, it's okay to use them in the stove. That's why they don't use these [for carving] (Billy 2002).

Just because there is driftwood, does not mean the "right" wood is present. For example, George Billy took us to his favorite collecting spot on the Johnson River to show us the types of wood he uses. Even though there was plenty of driftwood, he was unable to locate the "right" wood. Clearly, there is more to selecting wood than whether it is spruce, fresh, barkless, straight, or cracked. Carvers have specific criteria by which they judge wood to be "right." George talked in detail about the three main

³In wood engineering, hardness measures the strength offered by the material to the penetration of a hard object such as a metal blade or a pounding device (Charron et al. 2003). While we cannot be exactly sure of what interviewees meant, we suppose they refer to how strongly the wood responds to external forces, such as a tool blade and use wear.



Figure 4: George Billy and Walter Nelson talking about driftwood stumps, Napakiak

types or categories under which he groups different driftwood: soft that will not break; hard that is strong and bends; and hard that breaks easily. In this classification, the wood's physical characteristics and mechanical properties are more important than the species themselves. Wood from different taxa sharing similar properties may bear the same name. George also provided different Yup'ik names for the stump (*mimernaq* and *talliquriq*⁴), which designate distinct parts of the stump from which different objects are made (Figure 4) [Billy 2002].

Although the bulk of driftwood coming down the rivers and used by people is spruce, other taxa are also utilized if they are in good condition. For example, cottonwood is used for smoking fish and the rare tamarack (*Larix laricina* (Du Roi) K. Koch) was specifically looked for by upper and mid-river residents because its strength, hardness and straight grain made it especially good for sled runners, the basket part of a fishwheel, or for the poles that hold the wheel out from the bank. With experience and a good knowledge of wood, wood taxa can be differentiated within the driftwood even though no bark remains on the trunk. When selecting logs, driftwood us-

ers look at size, weight, shape of stump, type of grain, color once it is cut, and even taste. For instance, cottonwood can be recognized by the shape of its stump, the pattern left by the detached bark on the trunk, and the lightness of the wood. Joe Matter of Napaimute explains how he identifies and collects tamarack:

Tamarack was a preferable wood. If they could find it. You can find it sometimes in the driftwood. Of the 15-20 cords of driftwood I cut and split every year, about one half to one cord of it is tamarack. That's about one or two tamarack logs a year. I can tell when I pick it up and cut it. The tamarack is hard to tell, it looks a lot like spruce. But it's the weight. I can tell when there's a good dry log. It's got a little bit different color, but that's pretty hard to tell when you're cutting the driftwood, especially what some of the logs have been through (Matter and Matter 2002).



Figure 5: Raft of driftwood logs, Tanana, Yukon River

Procurement Techniques: Hunting, Hooking and Rafting

Most people along the river or in the delta collect their annual supply of driftwood in the spring just after the river ice has broken up and the spring melt causes the water level to rise and the wood to be lifted and floated downriver. This is usually when the river is filled with the largest amount of wood. People literally catch the passing logs by hooking them from a boat, tying them together into a raft, and hauling them to the beach (Figure 5). Sidney Huntington of Galena described how he used to gather driftwood:

⁴Orthography follows Jacobson's dictionary (Jacobson 1984).

You pull it in with a boat right now. I've seen lots of people with ropes hanging them out in the river and stuff like that, pulling in driftwood to use for wood.⁵ I pulled in driftwood when I was 12 years old. I put my leg over the canoe, and hooking one leg on to the driftwood, and paddle it to the beach with the canoe, because I learned it from an old man named Charlie Mountain down at Nulato. I watched him, so I had to do the trick too, you know. Go up there about a mile and find a good one. Put my leg on it and paddle it to the beach. Right from the canoe. You don't even have to get out (Huntington 2002; see also Huntington 1993: 67-68).

Catching driftwood is not limited to spring break-up time. This passing resource is taken advantage of whenever spotted and "people watched for good logs" (Huhndorf 2002). These methods of spotting the logs, evaluating their quality from a distance, and catching and hooking them are known from the delta and coastal areas of the Arctic (Alix 2004; Gessain 1984:82; Giddings 1941:46), but as it turns out they also are practiced as far upriver as Beaver on the Yukon and past Sleetmute on the Kuskokwim.

Some people also specifically mentioned getting driftwood after the August rainy season, when the river level once again rises and carries stranded wood off the gravel bars (Matter and Matter 2002). As Peter Zaukar of Sleetmute explained:

...in the fall time after the fish runs it used to be high water. Plenty wood used to drift down. Sometimes it was just like ice in the river when it break up. You can't go across... You'd get more wood for winter then. Whenever they drift down, we try to catch them. It's better than go out there [in the forest] and try knocking them and drag them down. They come down themselves. And all that you do is catch them and tie them up. It's easier to get them off the beach (Zaukar 2002).

In the Kuskokwim delta, George Billy of Napakiak mentioned getting driftwood in the winter as well (Billy 2002). There, contrary to farther upriver, persistent wind and open country prevent the logs from being buried under the snow. This is consistent with descriptions of the seasonal subsistence round in historic Yup'ik coastal/tundra and tundra/riverine villages, where driftwood gather-

ing is mainly a winter/early spring activity (Hensel 1996:42-46).

DRIFTWOOD AS FIREWOOD: ECONOMIC AND SOCIAL IMPLICATIONS

People's perceptions of the value and economics of using driftwood for firewood affect whether they collect it and the different ways in which they use it. Factors taken into account are: seasonality and transportation methods; timing/availability; price of other fuel sources; preferences; and the amount of heat produced. But other factors are social, such as how one will be viewed within the community for collecting driftwood. Statements like "only the lazy do that [use driftwood]" (Williams 2002) or "I used to get driftwood and bring it to people that are less fortunate than us" (Venes 2002) give the impression that driftwood is the wood for the poor or the "lazy." In other places, however, people who collected driftwood were considered resourceful and wisely making use of a resource that otherwise would be wasted: "Driftwood is just a useful thing that came down the river when you didn't have nothing. And it just comes along and all you have to do is work on it" (Demoski and Demoski 2002).

Heating houses

In our interviews, we heard about three types of wood that are used for firewood: "dry wood;" driftwood; and green wood. Each has its own advantages and disadvantages that are reviewed below. What people call "dry wood" refers to dead standing trees in the forest. On the upper and middle Yukon and Kuskokwim rivers, the preference is to collect this "dry wood" (Honea 2002; Huntington 1993; Venes 2002; cf. Jacobson 1984: 306; Nelson et al. 1982:363; Nelson 1986:33-37), but driftwood is also used. Similar behavior is observed in other river-based cultures, such as the Itelmen of Kamchatka in Russia. Tatiana Petrovna Lukashkina recalled:

When we go fishing while on the river bank we never chop a living tree. We gather dry trees which float from the river. They're called *plavnik* (driftwood). We gather them then pile them up and they get dry-dry in the sun. If we go into the forest to dig *sarana* root and see that a dry tree is lying on the ground, we drag it home. We bring it home, saw it up and stack it to dry (Lukashkina 1995).

⁵The word 'wood' is typically used to mean firewood.



Figure 6: Driftwood logs cut into lengths for firewood and piled for drying, Galena, Yukon River

The principal disadvantage of driftwood is that it accumulates sand, silt and gravel while traveling downriver. Cutting it dulls the chain saw and can even damage the chain beyond repair. The advantages are that trunks are already down, often without bark, and only need to be pulled to shore before reducing them into stove lengths. Good driftwood is already dry and suitable for immediate burning. However, like the green wood of live standing trees, some fresher driftwood may need to be split and dried before it can be burned (Figure 6). Waterlogged trunks are too wet and decomposed to be good for firewood, or much of anything else, so they are left behind.

Standing dead trees do not damage tools like driftwood, and do not need drying like live trees and fresh driftwood. This mostly explains why “dry wood” is the preferred firewood even though it has to be felled and transported back to the village or camp (Honea 2002; Venes 2002). Old burn areas are ideal natural “storage” places for this type of firewood. Don Honea of Ruby also recalled how dry wood was “produced” intentionally in the forest when the Native people in the Kokrines area on the Yukon River used “to go out in the spring time and peel a whole bunch of [spruce] trees. They peel them and then in about four years they’re dry” (Honea 2002; see also Huntington 1993:107). This implies long-term planning to ensure the availability of dry firewood without being limited by adequate drying and storage space. This traditional natural resource management practice of creating dry wood and using old burn areas have implications for how nomadic or semi-nomadic hunter-gather groups managed and stored their fuel supplies (Thery-Parisot 2001:20-23).

Apart from the technical advantages of dry wood over driftwood, seasonality is another factor in the decision about whether to collect one or the other. Driftwood is collected in the summer by boat from the river while standing dead wood is cut in the forest in the winter and hauled with a snowmachine or, in earlier times, by dog team (Nelson 1986:34). Today, the calculation is based upon the price of gas for the snowmachine (including the number of back and forth trips required to bring back a sufficient winter supply) versus the cost of gas for the boat, plus the price of a new chain for the chainsaw that will be damaged from the grit in driftwood. The fact that a boat can haul much more wood than a sled is also considered. Bill Demoski of Galena also thinks about the wear and tear on his equipment when deciding how to get his year’s supply of firewood:

You see the reason why I bought a couple of cords of wood is, if I go out there carrying my chainsaw, burn that much gas. Gas is so expensive. And tear up your snowmachine. So I figure for a hundred bucks, I can relax. And just go down and load up my pick-up (Demoski and Demoski 2002).

For the last few years, the rising price of heating oil or other fuel sources has influenced procurement strategies. In 2001, one of us was told that people in Nome resumed collecting driftwood from the beach to heat their homes because the price of heating fuel had abruptly increased (Alix 2001b). A similar situation was related by Elias Venes in Bethel:

In Bethel it’s [the price of fuel oil] very high, especially now, so a lot of people use driftwood for primary heat in their house. They use oil to have a steady source of heat to cook and that kind of stuff. But they use wood to heat their homes. They save hundreds, thousands of dollars that way. I’ve seen ads in the wintertime where you could buy a cord of wood for \$225. But I’ve never ever bought any myself (Venes 2002).

Another factor in whether to collect driftwood or dry wood is the amount of time each activity takes and one’s availability during the collecting season. Don Honea of Ruby explained:

Sometimes you're busy fishing in the summertime, so you don't have enough time in the fall time to collect all the [drift]wood along the beach you need for the winter. See, in the wintertime, you're not able to get it because it's under the snow. In the wintertime, you had to go into the woods and look for dry trees (Honea 2002).

From our recordings, it seems that using green wood for firewood is a new practice. In interior Alaska communities such as Sleetmute and Ruby, we met some residents who burn green birch. They said it was easy to get; you did not have to wait for it to dry, and a well-packed fire lasted longer than with drier wood. Curiously, only a few people were concerned about the increased creosote build-up and chimney fire danger that comes from burning green wood. The advantage of making the fire last longer seemed to outweigh this problem (Brewster 2002; see also Anderson et al. 1977:239).

Finally, there was variation in what people said about the amount of heat put out from burning driftwood versus burning other dry wood or green wood. Several people mentioned that driftwood does not heat as well as dry wood.

Driftwood doesn't put out nearly the heat that seasoned dry wood, standing dry wood will do. Too much moisture content, I guess. I don't know. But, I think most people would tell you that good standing timber that's been dried will put out much better heat than driftwood that's been hauled in and soaked in water (Venes 2002).

However, others disagreed, saying there was no difference. People burning green birch thought it provided the best heat, while those using dry wood, such as Pete Mellick in Sleetmute, thought it was the hottest and said green wood burns less hot. Besides the type of wood being used, the heat produced also depends upon the kind of stove and how the fire is laid. For instance, in the old barrel-type wood stove that had minimal air intake controls, dry birch got too hot and burned a hole in the stove (Honea 2002). The fast burning dry wood is often combined with green wood to make the fire smolder and last longer (Venes 2002).

Variation in the heat put out by different species of trees may in fact be relatively low (Thery-Parisot 2001). Experiments conducted in controlled conditions show that



Figure 7: Setting green willow smudge in smokehouse, Nick Kameroff fish camp, Kuskokwim River

the amount of moisture contained in the wood seems to be more important than the species itself (Thery-Parisot 2001:151-159). Indeed, no best species came out of our discussions about firewood. People had strong ideas about what ought to be done, and whatever practice they were following, they, of course, thought it was the best and produced the most heat.

The decision to use driftwood, standing dead wood, or green wood is based on a combination of personal finances, preferences, experience, and local social norms. Long-standing habits and ways of doing things are often what people follow, even if the economics do not come out in their favor.

Smoking fish

People have even stronger opinions about the best wood for smoking fish (Figure 7). Choices often are made according to species and dryness of wood. The notion of how the fish tastes and the preferences of individual, family, or even village play an important role in the decision to use one taxon over another. Cottonwood is the most commonly used wood. But even those who use it, either swear by green wood or think dry is the only way to go for the

fish not to develop a bad taste. Some people (like Don Honea of Ruby) who rely upon dry cottonwood do admit using some drifted logs:

We use cottonwood. But, it's drift, too, most of it. If you can get dry standing it's better. But, usually you can't find very much of it in one place. It's better because it gives off a nice white smoke, and it burns much longer without getting real hot. Like if you burn birch it gives off a real black smoke, so your fish you can't hardly eat it. And the same with spruce wood (Honea 2002).

Overall, those who use driftwood for smoking fish are rare. In Stevens Village, one family uses driftwood (any taxa or a combination of many) and feels the fish tastes better than with cottonwood. We do not know if smoking with driftwood was more common historically or if it is just one family's preference. However, Peter Zaukar in Sleetmute did mention that he used to smoke his salmon with driftwood, but changed to cottonwood because "you get more smudge with it and the fire lasts longer" (Zaukar 2002). Paradoxically, in Napakiak, in the Kuskokwim delta where hardly any trees grow, driftwood is only used to start the fire in the smokehouse. Green willow and cottonwood are used for the actual smoking. They are cut within a few miles upriver on an island near Bethel.

Tanning Hides

Middle and upriver Gwich'in and Koyukon people burnt rotten, dry spruce to smoke and tan moose hides (Joseph 2002; Pitka 2002; Williams 2002). The moose skin was softened in water and moose brains, and smoked over a driftwood fire. The hide was then sewn together and hung over a frame like a makeshift tee-pee. A smoldering fire of dried, rotten red-colored spruce wood collected from the forest floor or driftwood was burned underneath to give the hide a golden color (Huntington 1993:85-86; Joseph 2002; Nelson et al. 1982: 364; Nelson 1986:37; Osgood 1936:67; Pitka 2002; Williams 2002;). Carrie Joseph of Stevens Village described the process she learned when she was a young girl:

In the summertime or early spring, they would make a little round hut, tent-like, out of willow. They put the skin on in there and they cover it with canvas. Then they burn driftwood under it. You're not supposed to burn it. It's just real low. Just smoke. You have to really watch it,

so it don't burn. And then after that they put it in water. Soak it in moose brain overnight. And then they take it out of the water and they have to wring it. Get all that water out. Then they fix a pole. You stand there and scrape it. All day. You can't stop. If you do, it will just dry up. ...then when it's tanned, they sew it together and sew that canvas in the bottom so that moose skin wouldn't touch the ground. ...They don't just have fire on the ground. They have dish-pan or an old pan, or something that have fire in there. Then you have to sit there. Watch it so it don't burn. Grandma and them told us that if there is flames then the skin don't turn out. It turns too dark. They don't like that. They don't like dark moose skin (Joseph 2002).

Steam Bath

A large proportion of the driftwood burned on the Kuskokwim and lower Yukon rivers today is for the steam bath (*maqi*), which is a central element of Yup'ik identity and social interaction (Hensel 1996:123-126). As Mark Leary of Napaimute on the middle Kuskokwim River said: "Most people use driftwood for steaming" (Brewster 2002). Steam baths, introduced by the Russians when they came into this area⁶ (Oswalt 1963:123-124), require extensive amounts of wood to keep the hot fire burning for a long time. When Yupiit have a large enough supply of dry wood piled up they are likely to fire up their steam baths a couple of times a week. According to Nick Kameroff of Bethel, if you steam everyday you burn about five cords of wood in a year (Brewster 2002). Thus, driftwood provides an easy, cheap, and usually reliable source for the steam fire. Because of the prevalence of steam bathing on the Kuskokwim and the lower Yukon rivers, it appears that more driftwood is being utilized compared to the middle and upper Yukon, where people do not steam.

Driftwood burned for steaming is also selected. Annie Nelson of Napakiak had a large pile of weathered logs in front of her house that she described as: "They have been beached for a long time. It's not new. These are mainly for steaming" (Brewster 2002). As mentioned previously, the fresher, newer drift logs were being saved for manufacturing purposes.

DRIFTWOOD FOR WOOD WORKING

The physical characteristics of wood are important in the way people select and work wood and this is illustrated by the terminology used to designate different pieces.

⁶Before the Russian influence, Yup'ik men and boys would take "fire baths" in the *qasgi* or men's house. A fire bath was a "...bath in which fire is the only source of heat, as contrasted with the steam bath, in which water is poured over hot stones to give off heat" (Oswalt 1963:124).



Figure 8: John Stam's fishwheel, Yukon River

From the Greenlandic Inuit to the Yupiit of southwest Alaska as well as for the Ingalik Indians of the middle Kuskokwim and lower Yukon rivers, different parts of a log and stump bear distinct names and are kept for specific uses (Billy 2002; Jacobson 1984; Osgood 1959:42; Petersen 1986; Worm and Worm 2002).

Whether the wood used is driftwood or not, our own observation and a brief review of existing literature shows that along interior Alaskan rivers and in the Yukon-Kuskokwim delta, white spruce is the wood most used for carving and building (Nelson et al. 1982; Nelson 1986; Osgood 1936, 1959; Oswalt 1967). Ingalik Indians made no distinction between white and black spruce (Osgood 1959:44) and, while Koyukon and Gwich'in mainly worked with white spruce (Nelson et al. 1982; Nelson 1986; Osgood 1936), they used black spruce mostly "when strong, slender poles were needed" (Nelson et al. 1982:365). In Napakiak, on the lower Kuskokwim, Walter Nelson and George Billy also specified that straight young black spruce driftwood poles were kept for making harpoon shafts as well as "...for all kinds of things including canes and icepicks" (Billy 2002). In fact, Walter Nelson had in his yard a black spruce driftwood pole that he had retrieved earlier and was saving to carve into a harpoon shaft.

Driftwood logs and trunks

Length, straightness and/or lack of defect in a driftwood trunk is critical to its determination as "good wood." This type of log is and has been used for a variety of purposes, such as the raft of the fishwheel, cabins and caches, fish traps, and sled runner benders.

Fish traps were a traditional Native method for catching large numbers of fish (Nelson 1899; Osgood 1936) before fishwheels were introduced around the turn of the century by non-Natives who had fished with wheels on big rivers in the "lower 48" (Huntington 1993: 49-50). Since their introduction, fishwheels have come to dominate and symbolize subsistence fishing on the middle Yukon and Kuskokwim rivers.⁷ Driftwood is critical for the raft of the fishwheel, which is what keeps the structure afloat (Figure 8). As Sidney Huntington of Galena said:

"If it wasn't for the driftwood we'd never have been able to build any fishwheels, because that's what floated the fishwheels. We had to have nice big logs, up to [12 meters] or longer" (Huntington 2002).

These logs must be large, long, straight, and really dry, criteria which driftwood meets especially well. Some logs are very dry from the weathering they experience while being stranded. As mentioned previously, people speculated that being in and out of the water so long made the wood harder but also helped it dry out. Studies of wood immersed in water for long periods of time have shown that it becomes more permeable, which helps with its seasoning (Fengel and Wegener 1988).

Driftlogs are also well suited for fishwheel rafts because of their accessibility. As Paul Williams Sr. of Beaver said, "It is already near the water. Get a nice straight one. Cut all the limbs off of it, and cut it to length and just roll it in" (Williams 2002). It is easier to catch a passing log and float it ashore where you are building a wheel, than cutting down and dragging a large tree through the woods, possibly a long distance from where the fishwheel will be put in the water.

In some cases, driftwood logs were also used in cache and cabin building. Caches were only mentioned in Napakiak where one was left standing in the village. This historical cache, which originally was a house entry, was built entirely of driftwood about sixty years ago (George Billy 2002; Brewster 2004). In the forested areas, some people mentioned building cabins out of driftwood, although it is unclear how common this practice has been. Don Honea of Ruby described his log selection and construction process:

⁷Fishing regulations presently restrict people from using fishwheels on the Kuskokwim River.

I've built two small houses out of driftwood. This has been years ago now. All I did was just go along and picked up the logs along the beach. We try to get straight ones about all in the same size. It usually takes about fifty or sixty. It's so much easier to get it, you know. And all the bark is off of them already, too (Honea 2002).

Stumps as a prime material

The use of tree stump wood was repeatedly mentioned in discussions we had with river residents both in the interior and the delta, and it also appears in several published historical accounts of the regions (Himmelheber 1987; Osgood 1936:70-71,76; 1959:43; Oswalt 1967:147; Zagoskin, and Michael 1967:117, 212-218). According to Hans Himmelheber (1987), who recorded traditional Yup'ik ways of life in the 1930s, the wood of the stump has a higher resin content that prevents it from cracking or breaking under the carver's knife. Oswalt (1967:147) reports that "for certain items, such as net floats and shallow containers for liquid, spruce roots were the most desirable material since they tended not to crack when coming into intermittent contact with liquids."

People we interviewed listed the many items made from stumps and carvers were careful in describing the wood from the stump as unbreakable and strong, but in some cases soft and easy to carve (Abraham 2003; Billy 2002; Walker 2003). The quality of the stump wood seems to be a well-known and generally accepted concept in interior and coastal Alaska.

With their natural curve, stumps are ideal for making ladles, spoons, containers, masks, and certain parts of the canoe or kayak, such as the bow and stern pieces (Figure 9). Long hours were spent looking for a stump



Figure 9: Canoe bow from driftwood stump, Stevens Village

with the correct angle. As Carrie Joseph of Stevens Village emphasized: "That too you have to hunt for it. They look for old stumps. Dry stumps" (Joseph 2002). It is well known that the natural curve of the driftwood stump is used on the coast and on St Lawrence Island for the bow, stern and other elements of the umiak and kayak (Braund 1988; Steinbright 2001; Zimmerly 1979), but it is less documented for boats of the interior.

The use of stumps reported in forested riverine areas (Joseph 2002; Osgood 1936; 1958; Zagoskin and Micheal 1967) probably corresponds to spruce driftlog stumps. No details in the written record explain how Kutchin or Ingalik wood workers extracted the stumps. One can imagine that they were dug up from the forest ground, but it seems reasonable to expect that carvers would look for or come across grounded driftwood logs with the "right" stumps during their travel on the river. Drifted spruce stumps may have been highly prized during traditional times given the quality of the wood, the variety of uses, and the effort that retrieving a stump from the ground would require.

More recently, stumps were also used in house construction for roof bracing. This was observed in Napaimute in an early 1900's frame house, which is one of the oldest homes still standing on the Kuskokwim River (Matter and Matter 2002). Dee Matter, granddaughter of George Hoffman who built the house, explained the stump's function:

My grandfather used drift stumps. See where the stump curves. Where the natural curve is. There were three or four of 'em on each side of the building. There's one left. That one hanging out there, that was the original. There were big logs that were put in that, and they were all pinned in. They were all pinned in with driftwood. They're hard and they don't rot. It was bracing. It held the log up to hold the roof (Matter and Matter 2002).

Dee and her husband, Joe, implied that this was something commonly done in the past. When the Matters had the house renovated, the roofing structure was changed, but they preserved one of these braces and have it hanging as an artifact on the outside of the house (Figure 10).

CONCLUSIONS

Our research has shown that there is a greater reliance upon driftwood in interior Alaska than anticipated,



Figure 10: Roof bracing made of driftwood stump, Napaimute

and this raises new questions. While we have ascertained that driftwood is used in mid-river areas, we wonder how far back this use goes. Alaskan elders of today have little direct memory of life before the advent of the hand saw, Swede saw, or even the chain saw. Through the few examples given above, we can see the impact of some key technological changes on wood use, such as the powerboat or the chainsaw. Technologically, the transition to the chainsaw in the 1930's and 1940's was a key vector of change in terms of how people have harvested and worked wood in Alaska; it is often mentioned as a reference point when differentiating between how things were done "then" and "now." We know that the introduction of the wood stove on the northwestern Alaskan coast modified people's collecting practices and depleted driftwood accumulations (Stefansson 1978 [1919]:8). We presume the stove must have impacted people's collection of wood in the interior and on the delta as well. At the same time, the extensive wood-harvest for river steamboats in the early to mid-1900's and changes in steambath practices may have influenced the driftwood supply. The question now is to understand how these changes have effected the rivers' ecology, the people's uses of wood and driftwood along the rivers and in the deltas, and ultimately the coastal accumulations of driftwood.

How wood and driftwood are chosen, the ways they are used by different groups of people, and the role that the wood's condition plays in the selection process have become clearer after talking to people both on the delta and along the rivers. The value placed upon driftwood varies depending upon geographic location, local economic conditions, and individual preference, but physical characteristics of the wood and the "story" of the drifted tree also play a role. As one approaches the sparsely wooded lower river, the notion of what is "good" or "bad" wood changes and driftwood acquires more value than that expressed by upriver people.

Understanding the "production" of driftwood and the selection processes are paramount when trying to piece together past and present human use of, and reliance upon, driftwood in interior and coastal arctic Alaska. A systematic record of people's use of and discourse about driftwood and wood working techniques, combined with existing knowledge about the mechanical implications of wood's physical properties, offers critical insight into the manufacture and performance of objects. This approach provides valuable tools for better analyzing wooden objects and structures and reconstructing the past. It takes us beyond the objects themselves to a deeper understanding of the raw material, the lifecycle of its "production" and procurement, and of how people today and long ago related to the natural resources they relied upon.

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LEARNING, MAKING, TRANSFORMING: CONCLUSIONS ON *MAKING IT*

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In his recent work on visual culture, W. J. T. Mitchell (2002) asserts that culture constructs vision which is in turn influenced by factors such as history, politics, economics, and philosophy. Mitchell (2002:97) elaborates upon this concept by turning the tables on conventional perspectives on objects, claiming:

Works of art, media, figures and metaphors have “lives of their own,” and cannot be explained simply as rhetorical, communicative instruments or epistemological windows onto reality.... Vision is never a one-way street, but a multiple intersection teeming with dialectical images.... It makes it clear why the questions to ask about images are not just “what do they mean?” or “what do they do?” but “what is the secret of their vitality?” and “what do they want?”

These wonderful papers, which in their own ways describe efforts on the part of students of culture to participate in the creation of visual culture, offer intriguing insights into the vitality of masks and kayaks, tools and jewelry, baskets and wood. I suspect that as Hensel, Blackman, and Linn, under the guidance of Roosevelt Paneak, learned to make new things in new ways, they gained intriguing insights into what these creations want. As Alix and Brewster floated down the Yukon to collect data, they too, learned of the intentionality of driftwood; indeed, they were told by Nick Charles that wood has feelings, knowledge and emotions. The old ethnologies with drawings and descriptions of usage never would ask such a question.

Those of us in ethnographic art history try to focus on the dynamics of Native-non-Native interchanges from first contact to the present, analyze the endurance of Native culture during the process of colonization and its aftermath, interpret material culture’s role in cross-cultural understanding, misunderstanding and mutual ambivalence, and celebrate the mutability and constantly evol-

ing nature of culture. As Lee points out in her counterpoint to those who “make it,” earlier approaches to material culture, inspired by nostalgia and the imminent “disappearance” of both creations and creators, encouraged the development of the “hobbyist” who copied Native art. The “hobbyist’s” objective is not so much to discover cultural insights through the act of creation but instead to create an object difficult to distinguish from its Native prototype.

That hobbyist, firmly grounded in essentialism, ignores or resists the historical reality that, from first contact until the present, non-Natives have been integral to Native art history. This collection of papers takes that reality as a given. Acknowledging non-Native involvement in culture history does not diminish the centrality of Native people in the process, but to challenge essentialism and demonstrate how artworks emerged and continue to emerge as negotiations and involvements with, as well as reactions to, the intruders into their territories and expression of changing identity in a world consisting, for better or worse, of Natives and non-Natives.

Here, in an intriguing departure from scholarly convention, anthropologists contribute to art creation from the perspective of student, in an intriguing example of exemplifying how Natives and settlers together contribute to the ongoing history of culture. In their book on colonialism in New Guinea, Chris Gosden and Chantal Knowles (2001:xix) acknowledge the involvement of both local and imperial participants in the colonial encounter:

Chemists make a distinction between a mixture and a reaction. A mixture is a solution in which different chemicals combine, but retain their original form, whereas a reaction creates something new out of its original constituent parts. Colonial New Guinea was a reaction to which all parties contributed, so that there can be no question that all had influence and agency.

Going on to criticize those who insist on an essentialist concept of culture, they assert “anthropologists have tried to undo or ignore the reaction and focus upon one part, New Guineans, creating a partial and static picture in the process” (Gosden and Knowles 2001). What I especially liked about these papers is how none limited its study to the Native creator – although implicit was the primacy of Native inventiveness and tradition – but included him or herself in the process of understanding. Each speaker and his or her teachers had, as Gosden and Knowles (2001) would put it, influence and agency in the creation of new works of art.

Marita Sturken and Lisa Cartwright (2001) pose three more questions for a cultural biography of visual objects: What do images tell us about the cultures in which they are produced? How do viewers look at, utilize, understand and make meaning of images? How do images circulate between and among social arenas, different cultures, and around the world?

Cultural meaning is thus a highly fluid, ever-changing thing, the result of complex interactions among images, producers, cultural products, and readers/viewers/consumers. The meaning of images emerges through these processes of interpretation, engagement, and negotiation. Culture is a process, in a constant state of flux (Sturken and Cartwright 2001:69).

Hensel, Blackman, Paneak and Linn, as viewers, consumers and creators of culture, have contributed to that flux.

Some insights that emerge from the activities of these participant-observers could have come about only as a result of their experiences. From his Yup'ik instructors, Hensel learned truths about learning, and teaching, that have stayed with him forever. Especially interesting is his comment that the skills he learned over the decades have in some cases become almost obsolete, as culture change – the kind of “flux” to which Sturken and Cartwright refer – moved relentlessly ahead. Blackman, the highly successful academic, experienced a “leveling” process during which those who typically would be her consultants became her teachers, she exposing herself as someone not quite so competent. Balancing that was the true connection between two women that resulted from her apprenticeship in mask making. Linn, under the guidance of Paneak, had a different experience, for she herself did not “make it,” but instead helped make it possible for the kayak to be re-covered. She learned something about her own discipline, collections management,

first worrying about the ethics of subjecting an artifact to treatment well outside museum conventions, then reconciling its origin as a museum piece with its ongoing educational value. Even Lee, who resists the very idea of making the baskets she studied, admits reluctantly that learning techniques does enhance her understanding of the subject.

Perhaps the most striking feature of these papers is the experience they describe. There is far more activity in making a ladle than watching someone make one, or reading an ethnographic text describing the procedure. The anthropological process involves not just watching and listening, but feeling and doing. And it is profoundly social. Each of the authors describes how by participating in making something, he and she attained a new and different level of communication. Thus, “making it” becomes a transformational experience, of the raw materials at hand, of the scholar’s understanding of material culture, of the relationships that solidify during the creative process. And it is through such transformations that new knowledge can emerge.

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