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Coast Tsimshian pre-contact Economics and Trade: An Archaeological and Ethno-historic reconstruction

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Archaeological Research

Archaeological research began in the Prince Rupert Harbour in 1909 with the work of Harlan I. Smith, Dominion Archaeologist with the National Museum of Canada (Smith 1909). He tested a number of shell middens along the right-of-way of the Grand Trunk Pacific Railway on Kaien Island on the outskirts of Prince Rupert that were traditional sites of the Gispaxloats tribe of the Coast Tsimshian. Smith attempted to estimate the time depth represented by the deep shell midden deposits by counting the annual growth rings of trees growing on them (Smith, 1909). He thus determined that there was at least 500 years of tree growth on the middens in the inner harbour since they were abandoned.

Phillip Drucker of the Smithsonian Institution excavated several hundred preserved bone artifacts from middens in the Prince Rupert Harbour in 1939 but follow- up work was sidetracked by the Second World War (Drucker, 1943). Charles Borden from U.B.C. was the first West Coast archaeologist to run radio-carbon dates on middens the area from limited excavations at the Co-op site (GbTo-10). The dates obtained were just over 2,000 years old. Gay Calvert published the first extensive analysis of this site (Calvert, Gay: 1968).

In 1966 The North Coast Prehistory Project was launched by the National Museum of Canada under my direction, which over the next decade excavated eleven sites in the harbour area. Excavations began on Garden Island (Gbto-23) which was a shellfish processing site with deep shell deposits but very restricted living space. Larger scale excavations were pursued by the project at the Dodge Island site in Dodge Cove on the Digby Island side of the harbour in 1967. It was primarily a salvage operation on a badly disturbed village midden and was analyzed and published by Patricia Sutherland (1978). It was the first midden site to produce occupation dates more than 5,000 years old.

The most extensive excavation in the Prince Rupert Harbour was at the Boardwalk Site (Gbto-31) which was an intact shell midden that covered approximately three acres. There were clear traces of the houses that were last occupied on the site more than 1600 years ago. They were large dwellings arranged in a closely spaced row parallel to the beach. The refuse from shellfish were piled in mounds and ridges behind and between the houses. The ridges formed convenient platforms for burial boxes that were stacked in piles and weighted down with rocks to discourage interference from dogs that were abundant at the site.

The Boardwalk site, which was abandoned between 1600 and 2000 years ago, provided graphic evidence of the conflict raging at that time with the Tlingit from Alaska who for a period of time held the outer coast portion of Tsimshian territory. Close to 100 burials were excavated from the Boardwalk Site, mostly of mature males, many of whom had fore-arm and skull fractures typical of casualties of hand to hand warfare. In addition, several varieties of decorated war clubs and portions of copper wrapped body armour were recovered from the graves along with a number of severed trophy heads that also bespoke intense warfare over control of the harbour between 1500 and 2,000 years ago (MacDonald and Cybulski 2001:8).

Other projects of the North Coast Prehistory Project included a remarkable waterlogged site on Kaien Island (GbTo-33) called the Laxane site by its Gispaxloats owners (Beynon: nd, Map 1), This site yielded more than 500 organic artifacts that were preserved in the mud of a stream bed that transected the site. Of particular note were a sample of close to two hundred completed or partial baskets dating back as much as 2500 years that show the distinctive weave of Tsimshian basket makers. Throughout the sequence they are totally different from those of the Haida or Tlingit (Croes: 2001:152). Most of the baskets recovered related to gathering shellfish from the intertidal zone adjacent to the site. Occurring in the wet deposits with the baskets were clam digging sticks and rods on which large fish were strung or smoking. The rods of fish were then hung in smoke houses, whose presence on the sites was indicated by hearths in front of those of the dwellings themselves.

Many of the students who worked on the NCPP continued their graduate studies on sites in the region. Richard Inglis, Ken Ames, Gary Coupland, Frances Stewart, David Archer, Gaye Calvert, Bjorn Simonsen and others have added extensive new knowledge about the first inhabitants of the harbour. Important excavations were conducted over a six year period at the McNichol Creek site on the Tsimshian Peninsula side of the Prince Rupert Harbour by Gary Coupland (Coupland 1994) that demonstrated the importance of salmon (over 90% of identifiable faunal remains were of Salmon and Eulachon) in the diet of the villagers. Andrew Martindale, one of Coupland's students, concentrated his attention and wrote his dissertation on the interior part of Coast Tsimshian territory within the watershed of the lower Skeena River. He was the first to excavate the summer camp sites of the tribes who had their winter villages in the Prince Rupert Harbour (Martindale, 1999: ii), thus providing a fuller picture of their economic activities throughout the year.
At this point almost two dozen sites have been excavated in the Prince Rupert Harbour region, most of which are shell midden villages. Outlying sites such as Grassy Bay and Lucy Island show the specialized harvesting of birds and their eggs. Together, these sites provide an occupation record of more than 5,000 years, with direct evidence that it was Tsimshian speaking peoples who occupied the Prince Rupert Harbour and adjacent areas of the Skeena River below the Kitselas Canyon for the entire period.

In brief, the sequence of village occupations of the Prince Rupert Harbour has been divided into Early (5,000 to 3,500 BP), Middle (3,500 to 1,500 B.P.), and Late (1,500 B.P. to 1784) Periods. In the Early Period the use of shellfish is restricted as to species, with blue mussel being favoured. The shell lenses accumulate slowly in the middens indicating a relatively small human population. Fish remains are poorly preserved in the lower levels of the middens due to chemical factors but there are stone and bone artifacts to indicate fish were of major importance in the diet and probably in trade as well since there are clear indications that exotic trade items, such as greenstone adze blades are being imported to the villages of the harbour from quarries on the central coast.

Population growth and the expansion of the middens during the Middle Period is clearly indicated in all of the excavated sites along with clear evidence of expanded trade, slavery and warfare, but not on the major scale these activities achieve in the Late Period.

Using recent archaeological work in the area and the traditional narratives of the Northern Coast Tsimshian, Martindale and Marsden (2003:18) argue that the Middle Period is defined:

> not by the emergence of cultural traits characteristic of the later ethnographic cultures, such as a delayed return economy, but by a complex series of historic events related to westward and southward migrations by interior and coastal peoples. This movement of peoples, for which there is evidence in both the archaeological and oral history records, amplified local population growth and resulted in socio-political changes that culminated in a period of warfare between the Tsimshian and invaders from the north and east. The formation of alliances between various Tsimshian tribes as a result of this invasion created much of what is recognizable as ethno-historic Tsimshian culture.

More than a hundred sites have been recorded in the region and many have been tested to determine the time depth and pattern of occupation. Archer (2001) has sampled the last occupation levels of many shell middens in the Prince Rupert Harbour and found that there was a dramatic shift away from sites in the inner harbour in the Late Phase to locations around Venn Pass as well as to the southern mouth of the harbour. The Late Period villages were also more populous with clear ranking of houses by size and location reflecting more differentiation of rank and status among the house groups and their chiefs. Houses in the Late Period villages were more tightly clustered for defense and were often fortified. Fortified villages were strategically placed at both the western and southern entrances to the harbour as a direct result of the Tlingit invasions in the late Middle Period around the beginning of the Christian era.

Earlier sites that date back more than 6,000 years, comparable to other areas of the coast, have not been found in the harbour which is probably the result of the extreme fluctuations of sea level in post glacial times that would have either elevated the sites high above the tide zone, or currently under it as the rebound of the land and the rising of sea level produced an extreme fluctuating shoreline from the end of the ice age until six millennia ago (Fladmark, 2001:35).

Ethnographic overview

Language

The Tsimshian peoples speak a group of related languages that are not all mutually intelligible and are not clearly related to any other language family. There is a suggestion that they are part of the Macro-Penutian language family, but this is based on little evidence and is highly speculative. It is more evident that they were part of populations that were in place on the northern mainland coast of British Columbia since the end of the last Ice Age, between ten and eleven thousand years ago.

The Northern Coast Tsimshian had their permanent villages to the north of the estuary of the Skeena River in the Prince Rupert Harbour area and their main resource harvesting sites on the lower Skeena River, below the Kitselas Canyon, and at the mouth of the Nass River. A southern branch of the Tsimshian extends down the coast to Kitisoo territory. Gitksan, a related dialect of Tsimshian is spoken by the people on the upper Skeena River, and another dialect, Nisgha, is spoken in the Nass River valley.

Tribal territories

In pre-contact times, there were ten groups of Coast Tsimshian occupying the lower Skeena River who maintained small villages located on the primary salmon spawning rivers that flowed into the Skeena. They included the Gitwilgyots, Gitzalklath, Gitsees, Ginakangeek, Ginadoiks, Gitandau, Gispakloats, Gilutsau, Gitlan, and Gitwilkseba (Duff, 1965:18).

These tribal groups harvested the bountiful runs of five species of salmon that spawned in Skeena and its tributaries. Most of the fish were sun dried and smoked for transport to their winter villages in the Prince Rupert Harbour and Venn Pass on the southern edges of the Tsimshian Peninsula. Recent archaeology and oral history analysis indicates that the Coast Tsimshian were the original occupiers of the Harbour area, but were displaced for a century or more around the time of Christ by the Tlingit speaking peoples from the north. Other language groups from the Interior came down the Stikine, Nass and Skeena Rivers at various times in the early post Christian era and were integrated with existing Coast Tsimshian in their traditional territories. Their individual migrations to the coast appear to have been triggered by a variety of natural disasters that affected their food supply, particularly blockages of the upriver migrations of salmon by periodic landslides, and are recorded in the traditional narratives of each group (Marsden, 2001:66-97).

Tsimshian Society

The Tsimshian were organized into matrilineal clans that were in turn, grouped into four phratries that were not allowed to intermarry (Garfield, 1966:180). The phratries were known as Eagles, Wolves, Ravens and Blackfish (or Killer-whales). Members of each clan shared a common natural or supernatural ancestor from which they could trace descent which formed the basis of the regional social organization that operated in each village. Hence, a village group could act coherently and autonomously in economics, feasting, trade and warfare (Martindale 1999:115).

Thus the village, identified with a tribe by the Tsimshian, owned territory in common that was distinct from adjacent villages at their resource territories on the Nass and Skeena Rivers and in their winter villages in the Prince Rupert Harbour. Each village held at least two clans whose obligations cross cut village group allegiances. Most villages were exogamous which served to link the higher ranking families through affinal ties with

clans in other villages. According to Marsden and Gallois (1995) these linkages may have underlain longstanding alliances for trade and warfare between lineages of different villages.

Villages, therefore, consisted of locally based house groups, or corporate clans, that took their names from their resource territories on the lower Skeena River (Garfield 1934: MacDonald, 1979:7). Each house group was a kin-based, resource holding, corporation that was rigidly ranked in hierarchical order. The names of villages were announced in rank order at feasts and potlatches and they were seated in that order.

Allaire (1984) describes how the Adawx record the special food containers and their food contents that were served to particular village groups and leaders as symbolic reinforcement of this rank order. While some territories such as berry collecting and some intertidal areas were held in common by villages, the most productive territories were held by a single house group and controlled by its chief.

According to (Martindale 1999:116):

> Ownership of land was related to the ownership of crests. Crests were symbols which acted as title to the territory as well as denoting the specific Ada'wx which explained and legitimized the ancestral claim of a linage to the territory. Crests and their perquisites were held by individuals within lineages and there was a clear correlation between high ranked individuals, powerful crests and valuable territories.

Rank and Class

Coast Tsimshian society, like others throughout the coast, recognized three classes of people (Garfield 1939: 178) Chiefs and their close family and advisors were Simoget, meaning "real people" or nobility. The commoners were the Liq'akiket or "other people" and the lower class were the Wah?a?ayin, or "unhealed people" which refers to the fact that they had not gone through ceremonies in which they were given a ranking name.

Each tribe had a chief of the highest-ranking house who served as the headman. All of the other clans were arranged in a single rank order under his house. Each tribal chief acted as the representative for his tribe with others and was advised by a council of house-chiefs, or Lakagiget, whose consent was necessary for any important decision. For example, it was the tribal chief who gave the order for his group to move to the Nass River for the eulachon run. As Garfield notes (1939:182) for the chief: "He is responsible for their economic welfare, must feed them when necessary and has to lay aside supplies for this purpose."

High ranking chiefs were also known by the term Wihalait (literally, big dancers). They were believed to be inspired by their supernatural "power" name. According to Halpin, (1990:74). "The basic premise of the Wihalait role was that the chief had greater supernatural power than others and could impart this power to the people." The

supernatural power came from the Spenaxnox (Supernatural being of this place) that dwelled within their respective territories and controlled all of the resources.

The high ranking chiefs wore a uniform set of regalia that consisted of elements of clothing all of which appear to have originated among the Tsimshian. Sometime during the millennium before contact with Europeans, the ceremonial regalia of the Tsimshian chiefs was adopted by the Haida and Tlingit as the quintessential attire for trading partners in the extensive system of inter-tribal trade that embraced all of the communities and their resources throughout the north coast zone. The required set of regalia for the North Coast trading chiefs consisted of a Chilcat blanket of woven goat wool, a dance apron with tassels adorned with deer hooves or puffin beaks, leggings of woven goat wool (later trade cloth) a carved wooden frontlet and a pair of raven rattles.

It appears from the archaeological record that as far back as 2,500 B.P. at the Boardwalk Site (GbTo-31) that exotic materials including amber, jet, jade, obsidian and argillite were being imported to the Prince Rupert Harbour to be made into labrets, beads, pendants, bird effigies and other indicators of rank and status. Full dog skeletons that were purposefully buried in the cemetery areas of the Boardwalk site suggest the practice of typonomy in which the soul of the chief resided after death in the body of a dog for the period of a year, according to Tsimshian elders, after which they were interred near their masters. During the time the chief's soul was in the body of the dog, it was called by the chief's name (Florence Davidson, Haida elder, personal communication 1972).

The demand for exotic items to serve as markers to distinguish people of rank led to the establishment and maintenance of routes of long distance trade which included large scale exchange in other regionally available materials and processed food items. Although the hub of the trading network over the past two millennia was certainly at the mouth of the Nass River where tribes from all over the north coast converged to fish and trade every spring, other inter-tribal trading alliances are often described in the Adoak (MacDonald and Cove 1987).

Slaves

At the bottom of society were the slaves or xa', who were without any status and were considered property (Boas, 1889:832). They were usually war captives or were purchased from other tribes or were the descendants of slaves. They contributed much of the menial labour to the houses of the high ranking chiefs and were kept both for their productive capacity as well as the prestige attributed to their owners. The children of slaves could be given the status of the "healed people" with the consent of the chief of the family to which they belonged.

Trafficking in slaves captured in raids was a quick path to wealth for aggressive nobility and represented stored value that could be quickly converted to other forms of wealth, like coppers and canoes, or used as dowries. On rare occasions, slaves were sacrificed at funerals to serve high ranking chiefs in the afterlife (Leland, Donald 1984:124).

The dynamics of the ranking changed with each group's response to constraints and opportunities that arose. This was particularly evident during the period of European contact when opportunities to expand traditional trade and warfare practices were enhanced with new weapons and trade items (Coupland, Martindale and Coupland, 2001:221).

"Old" Chief Legaic of the Gispaxloats (who died in 1840) for example, used traditional Coast Tsimshian patterns of trade, warfare and marriage alliances in the early period of contact with Euro-Americans in the 1830s to extend his control up the Nass and Skeena Rivers and over to the Haida on the Queen Charlotte Islands. His successor, Paul Legaic, monopolized much of the trade into the interior from his base at Lax Kw'alaams, next to the Hudson's Bay Post of Fort Simpson, until his death in 1869. The Company was obliged to rely on his fleet of canoes to conduct their trade with the interior tribes.

The Adawx

The Oral histories of the Tsimshian, or Adawx (meaning "the true, witnessed histories" of the people) provide much richer details about events that occurred in prehistory than does the archaeological record, but together they constitute an unusually rich record of the past that covers some ten thousand years since the end of the Ice Age that is unmatched elsewhere in North America. Scholars like William Beynon, (Halpin : 1973) who was himself a high ranking chief of the Gitandau, and the anthropologists, Marius Barbeau, Viola Garfield, Wilson Duff and many more recent ones, have collected literally tens of thousands of pages of Adawx that has carefully recorded Tsimshian oral history over millennia.

Dramatic changes in Tsimshian economy and culture was the result of contact with Europeans and the introduction of devastating diseases and guns that created depopulation of all of the coastal tribes. With the collapse of the maritime fur trade due to the near extinction of sea otter by 1830, a land based fur trade commenced with a series of fortified trading posts built by the Hudson's Bay Company along the coast from the Columbia River to the frontier with the Russian American Company in Alaska. Beginning in 1834 the nine surviving tribes of the Coast Tsimshian (the Gitwilkseba having perished entirely) moved their winter quarters from Metlakatla Pass and the Prince Rupert Harbour to their traditional camping grounds adjacent to the Hudson's Bay Company post at Fort Simpson, called Lax Kw'alaams. In the early 1860's two hundred of the villagers moved back to Metlakatla village in the Prince Rupert Harbour with the missionary William Duncan to establish a model Christian town on the old village site just as a small pox epidemic swept the coast. Those who moved with Duncan were inoculated and saved, while many of their relatives who stayed at Fort Simpson perished.

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Pre-Contact Seasonal Economic Cycle

Prior to contact, the Northern Coast Tsimshian pursued an economic cycle in which they harvested the seasonal availability of anadromous fish, particularly salmon and eulachon, at their summer/fall villages on the rivers where they were most effectively caught and processed for delayed consumption or trade. This annual cycle was pursued from a permanent base of villages located in the Prince Rupert Harbour area (including Venn Pass and Metlakatla village). Each village was inhabited by a particular tribe which also owned smaller villages on the lower Skeena River and fishing camps at the mouth of the Nass River.

Each permanent winter village was located next to intertidal flats that were rich in shell fish and other marine invertebrates which were intensively harvested from November through February. Boas observed (1916:45) "Clams are dug on the beaches and are dried for winter use. This work devolves on the women: in olden times it was done by women and slaves." Game was hunted as weather permitted during the winter including deer, elk, mountain goat, sheep, mountain lions, lynx, bear, raccoons, porcupine, hares, marmots, seal, sea lions, sea otter, swans, geese, ducks and other waterfowl (Stewart and Stewart, 2001: table 3 p188-89), MacDonald (1985:105).

Recent archaeology by Coupland and his colleagues (Coupland, Martindale and Marsden: 2001) has clearly shown that the main protein at the village sites was supplied by dried salmon that was brought in from fishing camps on the tributaries of the Skeena River. Small quantities of salmon as well as herring and a wide variety of shallow water species were also caught in seine nets and tidal fish traps and on trolling lines during the spring and summer in the Prince Rupert Harbour. From this permanent base in the Prince Rupert Harbour, the tribes traveled to their economic territories that took them to the mouth of the Nass River in late February until April before the ice breaks up for the annual run of eulachon, or candlefish, that peaked in April.

Arctander (1909:68) describes the scene probably based on Duncan's observations when he first encountered the eulachon fishery around 1860:

> On the banks of the river, and in hundreds of canoes near and on the bar, from five to eight thousand Indians, all crying and yelling 'You are all chiefs, every on of you', as they attempt to fill their canoes with the shining, silvery fish.

The eulachon were both dried and rendered into a congealed fish oil, or grease that was traded in large quantities to other Tsimshian tribes further south on the coast and up the Skeena River and especially to the Haida on the Queen Charlotte Islands and the Prince of Wales Island in Alaska. The grease trade followed established canoe routes and a network of interconnected trading trails into the interior. (MacDonald, G.F., 1979).

Prior to the trading activities which occurred throughout the summer, the bulk of the grease and dried eulachon were brought back to the permanent villages in the harbour to be stored in the large lineage houses for eventual consumption and trade to the Gitksan, Southern Tsimshian and Haida peoples. As James MacDonald has noted (1990:269) "The Tsimshian monopoly of the grease trade brought them wealth". The archaeology of the harbour villages attests to this wealth and the extensive trade which returned many exotic items to enhance the wealth displays of the Tsimshian chiefs.

For a short period in late May, most tribes collected and processed seaweed and herring spawn at kelp beds around the Prince Rupert Harbour and further offshore. Large quantities of herring spawn were collected by suspending branches of coniferous trees in the water on which the herring would spawn. Grasses and kelp with coating of herring eggs were also collected and cut into short strips that were sun dried and kept in wooden boxes for later use or trade. Herring roe was considered a prime delicacy at feasts and were a significant item of trade to the interior, (for a full list of trade goods see MacDonald, Coupland, Archer, 1987:Pp.32-33). Shell fish were also collected in the spring and much of the harvest was smoked or sun dried as part of the trade to the interior.

At seaweed harvesting camps where they would spend about a month, the women collected and dried the seaweed from the rocks, and the men caught on long kelp lines, halibut that the women sliced into thin sheets that were stored in bundles for delayed use and trade. Flounders and Pacific cod were also caught in the harbour on set lines with floats and sinkers that positioned the hooks at the appropriate depths (Niblack 1890:291-293).According the Arctander (1909:69): "Halibut from 75 to 250 pounds greedily snap at their rudely constructed, but very effective hooks, usually baited with a herring or an oolakan". Literally thousands of the sharpened bone barbs from halibut hooks were recovered from the village sites of the Prince Rupert Harbour by the North Coast Prehistory Project of the C.M.C.

Fish were also stored in baskets made from cedar bark that was stripped from the living tree while the sap was running through the inner bark layer and long sheets could be easily removed for basket and mat weaving during the winter. Bird's eggs, including gulls and oyster catchers were gathered on the islands just to the west of the Prince Rupert Harbour in June. At one specialized site in the Prince Rupert Harbour, Grassy Bay (GbTn-1) The rhinoceros auklet was heavily exploited on its breeding grounds nearby from June to September (Stewart & Stewart 2001:197) Abalone was collected for both meat and decorative shells during the lowest tides and dried through the summer. Both the dried meat and the shells were used for trade to the interior.

Archaeological sites in the harbour are rich in sea otter remains throughout the entire sequence which suggests that the otter were hunted on the kelp beds in conjunction with the activity of collecting the herring roe. There teeth were highly prized for inlays on carved box lids and ceremonial boards. A grave at the Boardwalk site yielded a coffin lid that had been inset with hundreds of sea otter teeth. Sea otter teeth also provided a trade item in much demand by tribes in the interior for decorative purposes. Sea otter furs were sewn into long cloaks worn by chiefs and were also traded to the interior tribes.

When not tasked with processing fish at the river villages, the women would collect berries from their respective house territories. Salmon berries were the earliest to ripen and lasted all summer until the crabapples and high bush cranberries were ready in the fall. Berries were either dried in sheets or preserved in grease. Crab apples in particular were stored in boxes of grease and were a favored trade item for use in the potlatches that were hosted during the winter. Roots and tubers were collected for immediate use at the camps.

Other food resources, like tree bark, especially that of the hemlock, were processed into dried food commodities that could be consumed later or traded to others. Hemlock bark was cooked in boiling boxes and the pulp was pressed into bent wood molds to create square cakes that were dried on racks over a wood fire, or sun dried, for storage and/or trade. This was considered a standby food in cases of food scarcity.

One recently excavated the Psacelay village site on the Gitnadoiks River on the lower Skeena (Martindale 1999: 310) specialized in producing dried blueberry “leather” for trade with the coastal tribes. The production process included mashing the berries and boiling the pulp but it was then spread in sheets over skunk cabbage leaves on a drying rack and sun dried. It was then cut in strips and rolled up for storage or trade. This was considered a highly desirable food for feasts. At other sites, the inner cambium layer was shaved from the inside of panels of hemlock bark that were removed from the tree in early spring when the sap was flowing up from the roots.

Fish Resources

The Salmon Fishery

The main economic activity of the year was the salmon fishery for five different species that began running in June by trolling in the Prince Rupert Harbour and adjacent coast during seaweed season, and continued at the villages on the Skeena as the run of one species replaced another, into the fall. . The Skeena River salmon runs were harvested with a range of strategies and equipment that included large basketry fish traps and dip

nets suspended from platforms on the banks of the river which were maintained by particular house groups, to long conical traps and fish weirs that spanned the tributary rivers.
In order to forecast the timing of the salmon runs a variety of strategies was used that included keen observation of the activities of seabirds and marine mammals that preyed on salmon to shoreline and water surface conditions that indicated the beginning of the runs for the five subspecies of salmon that spawned in the Skeena and its tributaries. Harvesting the salmon required a large and investment of labour and it was critical that the timing of the moves to and from the fishing villages were as precise as possible. weirs consisting of thousands of stakes driven into the river bed and lashed together with bark rope were used to funnel the fish into large basketry traps (Prince, 2005). The fishing stations were controlled by the "houses" or corporate lineages under the direction of the house chiefs.The bulk of the catch was smoked in special smoke houses for consumption at their coastal winter villages. The flesh of each of species varied in fat content and had individual preservation characteristics. Chum salmon were preferred for their low fat content that retarded them becoming rancid.

Women gutted the fish with blades of deer bone, ground slate, or shell that were constantly sharpened on sandstone abraders. The thin salmon fillets were threaded onto skewer sticks about one meter long, which were suspended from wooden rails set next to the rafters at the top of the smoke house. A smudge fire of dried, rotten wood was maintained in the smoke house to discourage insects and cure the fillets. Salmon were dried to various degrees called half smoked, and fully smoked. A third category, now called "candy salmon" is hard-dried like jerky and can be taken on hunting and trading expeditions as a lightweight food source.

The chum salmon were favored as their low fat content made them ideal for drying and were less likely to spoil. Specialized weather and fishing shaman kept the villagers apprised of the movement of the fish and intervened with ritual solutions when fish runs were delayed or failed to occur. There were specialized weather and fishing shaman who often worked in small groups to predict as well as to influence the activities of the fish if the runs were late.

Occasional major failures of the fish runs resulted in various degrees of starvation. These episodes are clearly recorded in the Adoak (Cove 1978). For that reason each house controlled a number of fishing stations and had access to all five species which provided some measure of protection. Thin lenses of barnacle shell and other inshore invertebrates in the Prince Rupert Harbour middens are claimed by modern day Tsimshian to have been starvation diet food when the salmon failed and the local shellfish were depleted or unavailable due to weather conditions. Cybulski has noted that there is relatively few growth arrest lines in the bones recovered from the Prince Rupert Harbour middens that would indicate periods of starvation at any time throughout the five thousand year sequence they represent.

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All five species of salmon could be roasted or boiled fresh, or smoked and preserved for future use according to McNeary (1976:97). Women gutted and filleted the fish with blades of deer ulna bone, or of ground slate or shell blades that were kept constantly sharpened on sandstone abraders. All of these tools occur in abundance in the shell midden deposits in the harbour. The thinly sliced salmon filets were then hung on wooden rods about one meter long and hung in the rafters of the smokehouses. Men brought the rotten cottonwood for the smudges and tended the fires. McNeary provides a detailed description of the processing of spring salmon which was more or less the same for all species (1971:97):

> The fish is cleaned and the head and tail are removed. The fish is then spread out and the meat is cut again from the backbone to the sides and folded out again. This is best done in the morning so that the fish can be left in the smokehouse until evening, when the flesh will be firm enough to cut into strips. If the half-smoked salmon is desired, it is cut thick. Fully smoked salmon is obtained by slicing the meat into thin slabs and allowing it to smoke and then dry hard. There are many variations in manner of cutting, placement in the smokehouse, the level of heat, and the timing of the operations, depending on the species of fish, the desired result, and the "recipe" of the individual.

Whole dried salmon, less their head and entrails, were bundled in cedar mats if they were to be traded soon, or packed into bent cedar boxes for longer term storage. These were transported down river in large cottonwood canoes made on the river, or even larger red cedar canoes brought with them on their move from the coastal villages.

According to McNeary (1976:98):

> All parts of the salmon except the blood found some use. The guts were used for dog food or trap bait. The tails were roasted and smoked for winter food and formed a substantial part of the diet in January and February. The heads, particularly those of the spring salmon, were split and treated in a similar way. After the meal, salmon bones were carefully returned to the river to create new fish for future runs. Salmon eggs, particularly of dog and coho, were smoke for a few days and put into boxes lined with skunk cabbage leaves and allowed to ripen. Dried provisions for hunters were made by fully smoking salmon eggs in packages.

Archaeological evidence confirms the importance of dried salmon from the Skeena was found in the winter houses of the Prince Rupert Harbour villages. The McNichol Creek site for example, produced large quantities of salmon vertebra but few cranial elements, indicative of importing smoked fish on which the heads had been removed elsewhere. As Stewart has noted (2001:194), 94% of the total number of faunal remains identified at least to species, were fish, including those caught locally as well as the dried fish brought from the Skeena fish processing sites.

There were strong prohibitions, bolstered by traditional narratives that warned the people that salmon should not be stored for more than one winter or it would mold. The story of the retaliation of Moldy Nose, a salmon prince who was left in a storage box for more than a year which prompted the Chief of the Salmon to abduct one of the princes of the village in revenge in order to instruct him and his townspeople in the proper way to respect the salmon people and secure their annual return to the river.

Pre-Contact Coastal Villages

The main occupation of the permanent villages of the Prince Rupert Harbour was in the winter months and for a shorter period in the spring, after the eulachon runs on the Nass River were over. In the spring, small numbers of salmon came into the harbour and were caught by trolling and were eaten fresh, as shown by small quantities of bone plates from salmon heads found in spring layers within the middens (Coupland 1999). Bones of herring show that they were also caught in the harbour. Villages on the coast, particularly those in Metlakatla Pass (Venn Pass on the charts), and the Prince Rupert Harbour, were occupied year round by at least a few old people who guarded the stores of food supplies and objects of value stored in the houses

Both entrances to the Prince Rupert Harbour were protected by forts, one on either side of the channel. Starting from the south on the Kaien Island side the Gitwilgyots tribe had

eight village locations which formed an almost continuous band along the shore. Only two village names were recorded for them by William Beynon. The southern one was named Laxane. It was the fort of the Warrior Aksk who drove the Tlingit out of the harbour around 1600 years ago. Severed heads, indicative of war trophies, were found at his fort (GbTo-33) dating from this period, (Cybulski, 1996a) as well as large timbers that might have been part of his fort that has been well described in the Adoak. Further north on the shore was another Gitwilgyots village which according to Beynon was called Totsipim Galtsap (Galtsap means village in Tsimshian).

On the opposite side of the harbour mouth, on Digby Island, were villages that belonged to the Gispaxloats tribe who had ten localities marked by shell midden deposits. There is a fortified locality on the heights of a rocky prominence which was primarily a lookout site which provided a good view south towards the Skeena to warn of approaching enemy invaders. Coupland has recently tested the shell deposits at this locality partly because they are higher up from the water than at any other locality in the harbour. Just to the north of that is a village site of the Gispakloats named Nlalthgaxs, and in Dodge Cove to the north of that on the back side of a bay that could not be seen from the harbour channel, there was the major Gispakloats village called Kanagatsiot, according to Beynon (nd. Map 1).

While there are other localities with shell middens up towards tuck inlet on both the Kaien Island and Tsimshian Peninsula side, they were abandoned before the Tsimshian reoccupied the harbour and are not named nor claimed by any of the bands. The villages that are claimed and for which village names survive form a continuous line on both sides of Venn Pass on as far as the current Metlakatla village site. The southern most, on Digby Island is in Crippen Cove. According to Beynon, it was called Kteit and belonged to the Ginakangeek.

To the northwest, where the airport ferry docks today, was the village of Laxtsute which was in the possession of the Gitlan. At the next point of land to the northwest on Digby Island were two Gitandau villages, named Ksagagum and Laxtep Further round the point was a village of the Ginadoiks, named Kthekute. On the northern tip of Digby Island was the Gitzalklath village of Goedu. Two other villages were located on an island just off the mouth of the Venn Pass. One called Laxspj'aus belonged to the Ginakangeek and the other, Laxkibeo was owned by the Gilutsau.

On a small island at the Tsimshian Peninsula side of the Venn Pass, starting at the harbour end was the village of Laxwilgiyeps which belonged to the Gitsees. On the mainland opposite it was a much larger village which probably also belonged to the Gitsees. It was here that the famous petrogyph of "the man who fell from heaven" was located. The next village towards the coast was a Gispaxloats one by the name of Laxmesola. The next point along was the location of Gitwilkseba village which undoubtedly belonged to the tribe by the same name.

A major fortified village stood further along Venn Pass in a large bay. It was called Knu GcTo-1), and belonged to the Gitsees. It was excavated by a crew from the National

Museum as part of the North Coast Prehistory Project (Inglis 1979). The village contained multiple houses of which one was very large, measuring 55 feet wide by 50 feet long. A large, bolder lined, canoe skid ran up from the low tide line to the front of this house. This house had been built in late proto-historic times and it timbers had been well preserved which provided detailed measurements of the support posts and timbers. The preservation was due to the fact that this village site, and many others, was cleared for gardens and the timbers were thrown into the house pits and covered with earth when the Tsimshian moved back to Metlakatla with the missionary Duncan, in the early 1860s.

Knu village (GcTo-1) was located on the end of a point and had a defensive palisade which ran from one shore to the other behind the village. The palisade stood on a ridge of shell deposit and appears to have had an entry gate through the ridge near the northern end. It is probable that in the case of a major enemy raid, people from the numerous villages around it would have sought shelter within the palisades of Knu.

At the western mouth of Venn Pass was a large village of the Gitwilgyots, named Lpuunmqalts'ap which has three archaeological Site designations, (GbTo-3 & (and GcTo-2) which is now known as Metlakatla village. Many artifacts have been found there during excavations for modern housing and waterlines, but no systematic excavations have been conducted there.

On a small island just off Digby Island, several new village sites have been recorded which may have protected the opposite shore of Venn Pass. These sites, including GbTo-89, have been mapped and dated and appear to reflect a defensive positioning of the houses in a tight, defensible cluster, but no palisade ridges have been described (Archer, 2001:216).

Intertidal Resources

The Prince Rupert Harbour has a wide tidal range which results in extensive exposure of mud flats and rock shoals that are prime habitat for invertebrates as well as for shallow water species of fish. The remains of shellfish harvested over 5,000 years have resulted in the accumulation of extraordinarily large midden deposits which surround much of the harbour as well as through Metlakatla Pass as far as Tugwell Island and the west side of Digby Island. More than 100 distinct shell middens have been recorded to date in this zone.

Although dried salmon from the Skeena villages made up a major element of diet for these villagers, intertidal resources, especially invertebrates, as well as salmon, halibut, herring and cod were very significant. They also contributed greatly to the processed foodstuffs that were traded into the interior for a variety of other foods and raw materials.

According to McNeary shellfish added variety to the diet, he comments (1976: 100): "Large barnacles, the chiton, the sea urchin and the sea cucumber were all eaten. Several species of crab were speared and roasted over the fire or cooked in an earth oven". Evidence of earth ovens has been found at most village sites in the Prince Rupert Harbour.

Most villages were located on intertidal flats that were rich in shellfish and marine invertebrates such as octopus. The largest village midden deposits match closely the most extensive shellfish beds. There is extensive evidence within the harbour that the beds were maintained and used for a variety of purposes and activities. Rocks were cleared from shellfish digging grounds and frequently arranged into rows that held the skid poles over which canoes were run up onto the beach. The canoe skids were arrayed in front of the houses of the principle chiefs whose house group, particularly slaves, maintained them for the exclusive use of the chief and his guests or trading partners.

On the coast, stone fish weirs were constructed near streams that supported spawning runs to trap anadromous fish by tidal action. Again, the building and maintenance of the stone weirs was undertaken by the leading village chiefs who also controlled their use. Some weirs have stone walls that originally stood up to a meter high and were fifty meters or more in length. Weirs were built to conform to the slope of the beach so that where the beach was controlled by variation in the contour of the underlying bedrock, multiple weirs were constructed to accommodate this variance yet maximize the harvest by entrapping the greatest number of fish. In some areas such as at the mouths of important spawning streams on the Tsimshian Peninsula, as many as six stone weirs interlink. The weirs had to be cleared with each tide so a small group was required to remove the fish and process them for transport back to the villages in the harbour. Activity at the stone weirs on the outer coast of the Tsimshian Peninsula and Digby Island occurred just before the runs occurred on the Skeena River which allowed the redeployment of labour from them to the fishing villages upriver with little time to spare.

Processing of the salmon took place near the stone weirs in temporary camps of lean to shelters made of short planks brought from the permanent villages by canoe, or with sheets of red cedar bark harvested near the camp. Women did most of the collecting and harvesting of the salmon while men maintained or rebuilt parts of the weir and hunted sea otters, seals and sea lions at sea or deer on the land. During heavy runs a surplus of fish was harvested and preserved for delayed use or trade.

The Cosmology of the Intertidal Zone

The intertidal zone had a supernatural dimension for the Tsimshian. It was a liminal space where the spirit guardians of the upper world (which included the sky, the land and

the forests) and the underworld (the rivers and the sea) intermingled on a daily basis as the tide came in and out. It was hence a zone of transformation between the human and the supernatural worlds. It was there that young initiates to the secret societies would reappear after their period of ritual exclusion. Each village had specific areas where this would occur. At Lax Kw'alaams the initiates reappeared on a beach off the north point of Rose Island.

. Occasionally, totem poles were raised in the intertidal zone such as the pole of Legaic, the head Gispaxloats chief of Lax Kw'alaams raised near the palisades of Fort Simpson. Plate). This was another indication of the importance of the intertidal zone in the Adoak which were owned by that household. A similar pole stood in the intertidal zone at Kitkatla village for a century before it toppled about 30 years ago.

Petroglyphs in the Prince Rupert Harbour

There were three distinct categories of petroglyphs in the Prince Rupert Harbour with direct links to their belief system and their territorial prerogatives. One type consisted of graphic panels of human figures that are found at specific locations. They are tied to Adoak for that territory in reference to encounters by their clan ancestors with Spenaxnox, or the supernatural inhabitants, of that spot. A second type of petroglyph is linked to lineage records that occur near village sites, and a third type is associated with the activities of the fish shaman operating near the mouths of the harbour to entice the fish runs to enter the streams of the area. There are several thousand individual glyphs in the Prince Rupert Harbour area that occurs in panels ranging from individual figures to hundreds of images in a cluster. They fall into one or another of the categories of belief in the power of the intertidal zone to affect all aspects of human existence, from the birth of children to the bounty of the food supply from the sea.

Charter myths of the Tsimshian were also recorded on the rock outcrops in the center of the harbour which marked the center of the Tsimshian world. Most important were the memorials to the key episodes of the X'amsem, or the Raven myth cycle. It is important to note that there are no equally significant markers of mythic geography anywhere else in Tsimshian territory. It is also noteworthy that all of the petroglyphs in the Prince Rupert vicinity are found in the intertidal zone.

A good example of petroglyphs linking a charter myth to a locality is to be found at Robertson Point near the center of the concentration of villages. Two episodes of the Raven Cycle Myths are portrayed within fifty meters of each other within the tidal zone. The first is an unusual quartzite outcrop on a bed of dark gray slate. It is claimed by Chief Art Sterrit that it represents the primordial Raven as he first manifested himself as a raven with white feathers. After stealing the sun from the treasure box of the chief of the skies, Raven flew through the smoke hole of the house with the sun in his beak. He was turned black by the smoke and remains so today.

The second episode of the same myth is commemorated in the bedrock a few hundred feet from the first. It depicts Raven's image impressed in the rock after he and his brother Lagabula are expelled from the sky world. Lagabula wanted a soft landing and chose to land on a kelp bed. He plunged through the kelp and has never been seen since. Raven decided he would choose a more solid landing place and chose a bedrock outcrop in the intertidal zone off Robertson Point. He sank part way into the rock and had to be freed by a sharp tongued Flicker. The impression of Raven's human-like image is still to be seen off Robertson Point (Smith, H.I. 1936:309-312). Young initiates into the secret societies of the Tsimshian often chose to reappear after their month of isolation in the woods lying in the impression of Raven on the rocky shoal at Robertson Point.

Another category of petroglyphs occur on large boulders and bedrock faces at the entrance to the harbour around Metlakatla Pass. Here the rock art is primarily related to the shamanic rites that were employed to entice the salmon runs into the harbour. A shamanic "First Salmon Ceremony" of this type was described in detail by Boas (1916) at the Kitselas Canyon that marks the upper end of Coast Tsimshian territory on the Skeena River. Glyphs of human like figures with large circular eyes made of concentric rings are thought to represent the chiefs of the salmon who are described in the myths as welcoming their children, the salmon, back to their abodes at the mouths of inlets and rivers.

It is important to note that the Tsimshian believed in the existence of supernatural beings that inhabited important features of the marine world such as whirlpools, the upwelling of water or bubbles, and of rapids or rip tides. These phenomena marked the abode of "genii loci" who were known to the Tsimshian as Spenaxnox (Spe= place of, naxnox= supernatural being). There were probably hundreds of them, each with their own distinctive names and personalities spread throughout the territories of Tsimshian speaking peoples, including the Gitksan and Nisgha.

At Kitselas Canyon at the upper limit of Coast Tsimshian territories on the Skeena River, Thirteen individually Naxnox were named by Chief Paul Mason (personal communication 1978) who he claimed controlled the salmon runs as well as the fate of people who passed through the canyon. They were seen as guardian figures that controlled access to areas upstream from their abode. Susan Marsden (2002) notes that they were frequently paired with abodes of other Spenaxnox on either side of the river or stream, to secure their control of intruders to their domains.

Tsimshian traders who lead annual trade delegations up the Skeena were particularly respectful of the Spenaxnox in the dangerous waters of the Kitselas Canyon and the fast flowing waters beyond. These beings demanded silence in canoes that passed their abodes and particularly abhorred laughter or the crying of infants. If angered, they would upset the canoes which usually resulted in the death of the occupants. Marsden comments

(19 :120 "…like sentinels, the Spenaxnox monitor river travel past their territories. Several Spenaxnox have the prefix "mouth of" as part of their names, indicating their control of the gateways to the tributaries of the Skeena River as well."

Spenaxnox are discussed extensively in the Adoak (true narratives) of the Tsimshian. Many Adoak spoke of the encounters between them and their lineage ancestors on whom they bestowed benefits that were inherited through many generations.. Rights to exploit resources in the territories or waters within the zones of the Spenanox were the key benefits of these encounters. Performances that illustrated these encounters, and the prerogatives they bestowed, were a major aspect of the potlatches that installed chiefs to their positions or attended marriages of chiefly personages.

Marsden (2002) notes that the Adoak describe 'marriages between humans and Spenanox also create economic and sociopolitical alliances as they are the original and founding relationships of a lineage with the living landscape of its territory." She also summarized from the Adoak the involvement of the paired Spenanox of the lower Skeena tributaries as well as the marine Spenanox along the adjacent coast in controlling the intrusion of other tribes from the interior and from the north coast on the Coast Tsimshian. Intruders were forced to make their peace with the Spenaxnox before they could be successfully integrated with Tsimshian communities that were already resident in the area. Marsden observes (2002): "The Spenaxnox inhabit a parallel world of socially organized beings, who like their human counterparts, acquire crests, engage in ceremony, and feast among themselves. They are the original and founding relationships of a lineage with the living landscapes of its territory."

Prince Rupert Harbour Village Arrangement

Factors that determine the location of villages in the harbour included the availability of year round fresh water and a good beach where canoes could be drawn ashore with minimal damage to the hull. Southern exposure for maximum sunlight was a significant factor as well.

As Garfield notes in her study of traditional houses among the Lax Kw'alaams community (ms: 2):

> "The earliest innovation, wooden floors, made building on wet ground possible. All houses faced the sea and the front row was often built so close that extreme high tide washed under the front, and only, door. It was but a step from front door to canoe. Since most of the suitable sandbars and beaches were very small, houses were crowded together almost wall to wall. If the town was large, and the site permitted, additional rows of houses were built behind the first, all facing the sea."

And further:

> "Before the introduction of milled lumber the Indians lived in well-constructed large, rectangular houses in the winter towns. Some families also had such permanent homes at their camp sites. These were constructed on a framework of four upright corner posts of whole tree trunks, across the tops of which beams were laid. The walls and low, gabled roofs were covered with hand split cedar planks, pegged and lashed to the framework…… Temporary camp structures were small, with pole frames and shake or bough mats. Permanent camp dwellings were built like the town houses. Smokehouses, which were a necessity for every family, were built like miniature dwellings."

Archaeological confirmation of the pattern Garfield describes for the Tsimshian at contact is clearly demonstrated at the McNichol Creek site (GcTo-6) on the Tsimshian Peninsula shore of the Prince Rupert Harbour (Copland et al. 1999, Fig.2) Fifteen houses arranged in two rows with a narrow gravel beach was occupied 2000-1500 years ago, at the beginning of the late phase of Tsimshian culture immediately after the expulsion of the Tlingit from Tsimshian territory. The houses sat on a shell midden up to 3 meters deep at the back of the village, which was bordered by a small stream that supported a small run of salmon.

At the Lachane site (GbTo-33) on Kaien Island across the Prince Rupert Harbour, the remarkable preservation of a sample of more than 500 wood and fiber objects that also range between 1500 and 2,000 years was recovered from a water saturated deposit at the site identified in the Adoak as the fort of the warrior Aksk. In addition to the preserved wooden box remains noted previously, the site produced almost 100 drying sticks just under a meter long that were used in the smoke houses to hold the salmon and other fish over the smudge fires. Wooden fish hook shanks of several types were found along with large numbers of bone barbs for fish hooks.

Remnants of a number of birch bark berry baskets, and hundreds of fragments of cedar bark woven baskets and mats document the continuity of women's economic activities at the Lachane site. A wide range of woodworking tools demonstrate that all the men's technology that was recorded at first contact for constructing massive plank dwellings and large canoes had been in place for at least two thousand years.

Villages varied in size from a couple of houses to as many as sixteen. The houses also had a wide range of sizes from six meters frontage to as wide as twelve meters. The largest house at Knu village was 55 by 50 feet and would have held as many as fifty inhabitants including commoners and slaves as well as the nobles. The maximum population of a single village such as Metlakatla would have been under a thousand individuals. The population of the villages of the Prince Rupert Harbour is estimated at between three and four thousand people as part of a maximum population of Tsimshian speaking peoples in the order of ten thousand at the point of first contact with European explorers and traders.

Archaeological evidence indicates that house sites within each village were owned by corporate house groups which occupied the same lots in a succession of structures as long as a thousand years. Layers of floors were renewed with clean shell at each house chief's succession (which required a new house be constructed on the same site). House lots were separated by narrow ridges of shell refuse that accumulated between the houses and large dumps of shell behind the houses in which the deceased were often placed in bent cedar coffins, weighted down with large boulders. Within the past millennium there was a shift to cremation of the dead rather than cemeteries on the middens, probably as the result of absorption of people arriving from the interior who practiced cremation. House sites of high ranking chiefs often were built over streams to provide a source of fresh water just under the floor boards.

The Tidal Zone

The extension of the house lots into the intertidal zone in front of each village was clearly delineated in the case of high ranking families by the construction of canoe skids which consisted of poles anchored a few feet apart and parallel to the shoreline with large boulders collected from other parts of the intertidal zone. These canoe skids are often massive constructions that involved extensive efforts to construct and maintain. Natural decay necessitated the replacement of the skid poles on frequent occasions. The required labour forces were only available to the noble families.

Activities on the tidal flats were controlled by the matriarchs of the adjoining houses. This gave the women considerable importance as food providers in addition to their roles of collecting roots, bark and berries and processing fish and game that were caught by the men. The economic role of women in the winter villages of the Coast Tsimshian was analogous to those in farming economies whereby long hours were spent with digging sticks harvesting large amounts of protein from the intertidal zone. Much time was also required to prepare the clams for immediate consumption, as well as to process the surplus for trade to inland communities who valued dried shellfish highly. They were served at feasts by interior tribes as a sign of their trading connections with villages on the coast. Shellfish were steamed in large trenches that were filled with hot stones and layers of skunk cabbage leaves that retained the steam used to cook the shellfish.

Franz Boas quotes an earlier observer, Mayne as saying: (1916:254)

> When a large quantity of these clams has been collected, they make a pit, eight or ten feet deep; a quantity of firewood is put in the bottom, and it is then filled up with clams; over the top is laid more firewood, and the whole is covered in with fir branches. In this way they are boiled for a day or more, according to the circumstances. When cooked, they are taken out of the shells, spitted on sticks, three or four feet long, and exposed to the sun to dry, after which they are strung on strips of the inner cypress bark or pliable reeds, and put away for the winter store. When the Indians return to their winter villages they are strung along the beams, forming a sort of inner roof.

Identical steaming pits were found at the Boardwalk site (GbTo-31) and other shell middens in the Prince Rupert Harbour. If the shellfish were destined for trade to other communities, they were threaded onto thin split cedar sticks that were smoked until dry. These sticks of dried shellfish were then plaited using plain sticks, into roughly square mats that could be fitted in layers into a storage box. The boxes were of roughly uniform dimensions so that the number of shellfish in the container could be taken for granted and not have to be examined and counted to determine their contents. This was a distinct advantage for trade with other tribes in which equivalencies of the contents of boxes could be easily established during a trading mission.

William Beynon (nd. :4) notes that for camps that were remote from the village sites the ownership of clam flats was considered a common resource:

> Each tribe has their own village sites and each individual group in the tribe house groups have their own individual hunting, berry, sealion rocks and salmon rights. For other food gatherings such as orhehan (sic) herring spawn, dulse (seaweed), clams, all other shell fish, halibut fishing, there were many tribal camps used in common by each tribe.

As Boas noted, the work of digging the shellfish was done by slave women or commoners. There is forensic evidence from the Boardwalk site more than fifteen hundred years ago (Cybulski, 2001) that female slaves were traded from as far as the Fraser River. The low incidence of female burials in the shell middens is also taken as evidence that the incidence of female slaves in the pre-contact population was high but they were disposed of elsewhere than in the plots reserved for family members behind their houses.

Throughout the coast, dead sea mammals, driftwood and other salvage that washed ashore belonged to the householders on whose beach they landed. There were severe sanctions for any who transgressed this rule

Large tidal fish traps are to be found near the mouths of streams in the harbour area that represent enormous investments of time in construction and maintenance. Wooden fish weirs that have been maintained over thousands of years in the same spot have been reported in Gitanyao territory on the Kitwankul River and lake that document intensive harvesting of salmon from 770 BP to the present. (Prince: 2005:83). The tidal traps are owned and maintained by particular families with sanctions against trespass or misuse by others.

It is probable that the canoe ramps were indicators of house ownership of inter-tidal resources as were fish traps and beaches that were maintained as shell fish suppliers. House site evidence suggests that particular house lots were maintained by specific families over hundreds of years and in turn were linked to canoe skids and other features. Mapping of the improvements made to the intertidal resources by clearing areas or building fish weirs or canoe skids can still be reconstructed on the basis of air photos taken at extreme low tide.

Rock art images were also part of the intertidal ownership in which the emphasis on exaggerated eyes on the figures in the petroglyphs are related to the movement of anadromous fish in which supernatural keepers (Spenaxnox) constituted genii loci that regulated both the fish runs through the harbour and the use of other intertidal food resources by the villagers.

There is ample evidence that the supernatural chiefs of the fish inhabited specific locations along the coast and provided a higher level of justification of ownership by specific families through their hereditary chiefs. The abode of supernatural beings is marked by whirlpools or bubble streams that were interpreted as underwater smoke arising from the smoke holes of the houses of the salmon chiefs beneath the sea. The story of Nagunaks is a clear example of a chief beneath the sea (MacDonald:)

Shell fish formed an important part of the diet in the Tsimshian villages through much of the year, but on occasion they played a critical role in the month preceding the move to the Nass River for eulachon fishing in March. The carrying capacity of both the environment and the technology employed in harvesting shellfish was strained during the month of February when preserved stores of dried and smoked salmon would sometimes run out. The Tsimshian had a variety of emergency foods including dried hemlock bark and berry leather. Shell fish could also be depleted in the vicinity of the villages in which case other shellfish not usually harvested, like barnacles and periwinkles, would be used to keep starvation to a minimum. Consequently, the population density in the villages around Metlakatla and the Prince Rupert Harbour proper were maintained. The skeletal remains from the village harbour site show little trace of growth arrest lines that signal starvation.

In cases where large and productive tidal flats were not near good village locations, less desirable real estate was used to locate people within effective working range of the houses. A prime example of this is the Garden Island site which sits in the middle of a very extensive tidal flat. Much of the island, that is less than an acre in size, consisted of up to eight feet of shell midden deposit. This was a primary harvesting site where the volume of shell fish protein exceeded the needs of the locally resident population and was clearly a satellite village that processed shellfish for its parent village nearby which was likely at Robertson Point (GbTo- 4).

In the Prince Rupert Harbour, more than 100 shell middens mark intensive harvesting sites for the intertidal resources. Some of these deposits, like the one at Metlakatla village contain more than ten acres of shell remains that have accumulated to a depth of more than 16 feet over the past 5,000 years. Assuming a minimal population for the villages of 1,000 people over five millennia at an average life span of thirty years indicates a figure of more than half a million people who derived much of their sustenance from the intertidal and marine resources of the harbour prior to contact.

Trade and Exchange

Dale Croes, who has made a study of exchange systems throughout the Northwest Coast, has observed (2003:70)

> As complex societies emerged on the Northwest Coast of North America, and as territories became highly circumscribed and defined, exchange of both rare foods and wealth items became a major form of economic inter-action. Members of the nobility, in particular, had to acquire, display and distribute, through potlatching, large quantities of valuables, and some of this wealth acquisition had to be through long-distance trade."

Exotic trade goods that reveal the time depth and extent of long distance trade were recovered from the village sites in the harbour. They include dentalium shell from Vancouver Island used in personal adornment, amber and jet from the interior used for beads, argillite from the Queen Charlotte Islands used for labrets (or lip plugs) for the high status women, cold annealed native copper from Alaska, jade and greenstone for adze blades from tribes further south on the coast and whale bone from the outer coast for war clubs.

This partial list of exotic trade items clearly shows that the Prince Rupert Harbour Tsimshian were at the hub of north coast commerce, situated as they were between the mouths of two of the largest and most productive anadromous fish spawning rivers on the west coast, and at the crossroad of trade between the Dene peoples of the interior and the Haida to their west. The impressive quantity of occupation evidence provided by the shell middens and other archaeological evidence on the lower Skeena and coast between the mouth of the Skeena and Nass Rivers clearly show that an extensive trading system had been in place since before the start of the Christian era. Using advanced preservation techniques, the fish runs on the two large rivers and the coast in between were processed into exchange commodities that attracted trade exchange for hundreds of miles around the Prince Rupert Harbour.

An extensive trade in shell fish to the interior is evidenced by the development of standardized quantities to facilitate exchange with other tribes. Clams and cockles were threaded and smoked on sticks which were cross woven with plain sticks into mats about one foot square. The mats were placed in layers in a cedar box of standard dimensions noted earlier. Examples of these clam mats were collected by Marius Barbeau at Lax Kw'alaams in 1915 for the Canadian Museum of Civilization. Many examples of similar small pointed sticks were found in the Lachane site dating to between 1500 and 2000 years ago.

In addition to the harvest and trade in shell fish, other intertidal food resources formed a large part of the trade to the interior. These intertidal resources included dried octopus and sea urchin, as well as some twenty varieties of seaweed that varied in their gustatory qualities. High exchange rates were offered for certain rare varieties of seaweed that were favored for feasts. Seaweed processed by drying in racks in the sun and then chopping it in a wooden mortar into flakes that were then stored in boxes for delayed consumption or trade. One box of chopped good quality seaweed was equivalent of one similar sized box of eulachon grease.

Units of Exchange

As in many societies with extensive trading networks, the Tsimshian had standardized the size of the wooden boxes and root and bark baskets they used in intertribal exchange long before the contact period. Indeed there is evidence that this development had begun in the Middle Period, at least two thousand years ago. Remains of numerous bent wood boxes, similar to those used at contact, were preserved in the wet site deposits at the Lachane site on Kaien Island. Pieces of bark boxes and trays were also found along with a wide variety of spruce root and cedar bark food baskets.

Viola Garfield who worked with William Beynon and knowledgeable elders at Laxwilams from1932 on, commented on the standard size of storage boxes (1939:320): "Boxes for olachen grease and seaweed storage were three middle finger spans high and two first finger spans wide on each side. A finger span is measured from the tip of the outspread thumb to the tip of the finger." This is equivalent to 14 inches on each side and 24 inches in height. These dimensions are similar to those from boxes in the C.M.C.that were collected by Marius Barbeau from Ft. Simpson in 1915. The average box could hold approximately 5 gallons of eulachon grease which had the equivalent value of 2 boxes of chopped seaweed or two boxes of clams dried on frames that were specially made for the purpose. With containers of standard volume the time required to negotiate exchanges was improved.

Wet sites such as the Lachane site have also yielded more than 300 complete or fragmentary woven baskets, which like the boxes, also extend back two thousand years in this deposit. The smaller ones still contained berry seeds, and the large, open weave baskets of spruce root that would drain well were used for collecting shellfish, which was a daily routine at the Prince Rupert Harbour villages. Intermediate sized baskets with roughly the same capacity as a standard bentwood box, were particularly common in the Lachane Site. They were regularly used on trading expeditions as they could be fitted into narrow spaces in the prow and stern of the canoe where storage boxes could not be accommodated. No systematic study of the baskets from the Lachane site has yet been published but they form a counterpart to the trade boxes that were favored by the men over baskets that were closely associated with women's activities.

Garfield also noted that the pre-contact standard of value in trade was based on skins (1939: 329) "Before blankets were introduced caribou and groundhog skins were the standards by which the values of other articles were compared."

Garfield's assistants provided the equivalencies of different food stuffs traded in terms of skins. (1939:329-331)

> The following list of exchange values was given by three informants.
> One caribou skin exchanged for forty groundhog skins
> One small caribou skin for thirty ground hog skins

One caribou skin for one large box olachen grease
Ten ground hog skins for one hemlock bark cake, two to three finger widths in thickness
Ten groundhog skins for one box of pressed seaweed cakes, each cake two to three finger widths in thickness
Forty groundhog skins for one large box of olachen grease.
One groundhog skin for one box of dried herring or salmon.
One seaweed cake for one large martin or beaver skin.

Certain regions of the North Coast had particularly rich supplies of superior quality fish and refined their surplus produce for the status market. The Haida were famous for their dried halibut which they traded to the Tsimshian for their eulachon and their salmon. A famous incident that occurred in the 1840's at Laxwilams was recorded in detail by the employees of the Hudson's Bay Company nearby. It began when a Haida woman was not satisfied with the salmon she had been offered in exchange for her dried halibut and slapped her Tsimshian trading partner in the face with her own salmon. This quickly escalated to a battle between her Tsimshian relatives and those of the Haida woman. Forty Haida died in the ensuing battle on the beach while the Tsimshian losses were not recorded. Trading between the two was suspended for several years until the Haida made public amends. (MacDonald and Cove: 1987).

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The Grease Trail

The major event that initiated trade each year was the move of the Tsimshian from the Prince Rupert Harbour villages, including Metlakatla, to their traditional campgrounds at the mouth of the Nass River. Eulachon fishing had evolved for at least two millennia prior to contact as a highly efficient system of harvesting one of the greatest natural sources of protein anywhere in North America. Harvesting this vast resource was beyond the labour capacity of any local resident community and required the development of technologies and processes in order to harvest, preserve and distribute this bounty.

The eulachon harvest required drawing in much of the able bodied population of the Tsimshian on the Coast and the Gitksan on the upper Skeena as well as the Nisgha from the villages of the upper Nass. Each group had their own fishing areas and campgrounds near the mouth of the Nass River. The Tsimshian territory was on the lower Nass around Fishery Bay and Red Bluffs. The congregation of people for just over a month at the mouth of the Nass fostered expansion of trade in other foodstuffs, raw materials and finished objects amongst them.

The Haida and Tlingit also came to the area during this time specifically to trade with the Tsimshian. This was undoubtedly the catalyst that launched the trading enterprise that eventually needed a trade language (Chinook), standardized units of trade and slave labour to maintain. It was the main reason for the Hudson's Bay Company to locate their northern headquarters in the area, first on the lower Nass itself, and later at a more habitable winter site at LaxKw'alaams.

Fishing started in late March while the Nass River was still frozen. using an ingenious system of lowering long nets woven from strong nettle fiber through holes in the ice. Long lengths of net were then allowed to float downstream for approximately 50 feet. The downstream end was retrieved through another hole in the ice at which point the fish were pulled up and emptied onto the frozen surface of the river. The diminutive fish were then shoveled onto sleds and pulled shore where they were rendered into oil large vats that were heated with stones from adjacent hearths. Each vat measured approximately ten feet square which were each capable of rendering hundreds of gallons of fish oil at a time. Camps like Fishery Bay supported scores of such rendering vats.

The oil congealed in the cedar boxes to the consistency of grease which was transported by canoe, sleds, backpacks and dog packs along the water routes and inland "grease trails" throughout northern British Columbia. The Tsimshian of the Metlakatla region were prime participants in the grease trade both to the south on the coast and over to the Haida on the Queen Charlotte Islands as well as up the Skeena River. Wherever practical, the volumes of freight involved in the grease trade was carried by canoe as opposed to being carried in packs by either people or dogs.

Land transport of trade commodities used the standard bent wood boxes so that the grease and other foodstuffs did not need to be repackaged at the transfer points. The cedar boxes were waterproofed with special clay that has been found in burial boxes in the Prince Rupert Harbour villages and on the Nass River dating back nearly two millennia. Carrying the boxes of grease required special tumplines to support them on the back of the porter. The tumplines were woven by the women and became elaborated with geometric designs specific to the clans. Special belt looms evolved on which to weave the tumplines. Saddle packs and harnesses were developed for dogs to carry trade items on the trails. Particular breeds of dogs, akin to the husky, were maintained that were capable of carrying heavy loads.

Where overland routes had to cross rivers and continue overland to their intended destination, bridges of cedar poles and cedar bark rope were constructed to facilitate the crossing. This was particularly important where they spanned deep river canyons. Inland routes throughout Tsimshian territory were kept passable even during the winter. Where the rivers were frozen, it was often easier to use them as temporary trails that avoided the difficult topography of the land route. In fact the heaviest usage of some trails was in February and in March as the occupants of the inland villages made their way to the eulachon fishery on the Nass River. The return journeys with the cargo of grease were after the ice had gone and the land trails were cleared of snow.

Bridges were used extensively in pre-contact times. They were often elaborate structures that consisted of stout poles lashed together into bundles that were cantilevered from each side of a gorge. Where they overlapped, they were bound together with twisted spruce root lashing lines. Railings of poles and some decking were added to the support structure to facilitate the crossing. Because of the stout bundles of poles used to support them, there was little sway in the bridges which was appropriate for the considerable weight of freight that was carried over them. Bridges were constructed, owned and maintained by specific house chiefs who could determine who could use them. Tribute or trade privileges were regularly charged by them for the use of their bridges.

Trade Goods

The range of goods traded by the Coast Tsimshian up the Skeena included the following:

Food items traded inland

- Dried halibut
- Dried salmon (select varieties)
- Dried eulachon
- Dried cod
- Dried herring spawn
- Congealed eulachon grease
- Boxes of dried seaweed cakes
- Dried and smoked clams and cockles
- Sea urchin
- Dried seal meat
- Dried sea lion meat
- Dried salmon berries

Raw Materials traded inland

- Abalone shells (for decorative inlays)
- California blue mussel shell (for adze blades)
- Pectin shells for ceremonial rattles
- Dentalium shell for earrings and “shell money”
- Sea lion whiskers for frontlet masks

- Greenstone adze blades
- Whalebone for war clubs
- Sea otter skin robes
- White pigment (burned and ground clam shells)

Manufactured items traded inland

- Clam shell beads
- Wooden armour
- Sea Lion hide armour
- Weapons including stone and whale bone clubs
- Carved wooden crest helmets
-

The Tsimshian were also were intermediaries for trade goods from the Tlingit and Haida and other groups further south on the coast. These items included

- Native tobacco (from the Haida Gwaii)
- Native copper (from Alaska)
- Slaves (from all tribes)
- Pigments (green copper oxide from the Haida)

Tsimshian items traded to Haida Gwaii:

- Goat wool for robes
- Varieties of dried seaweed
- Eulachon grease
- Sheep horn spoons
- Goat horn spoons
- Obsidian for tools
- Bear claws for ornaments

In return trade, the Tsimshian received the following

food from Haida Gwaii:

- Dried halibut (from the Haida)
- Native tobacco (from the Haida

And manufactured items:

- Large (10 meter plus) canoes of red cedar (from the Haida
- Argillite for articles of adornment

Trade Languages

Tsimshian who were regularly involved in inter tribal trade, frequently spoke the Chinook language that originated among a tribe of that name on he lower Columbia River. Chinook was the Lingua Franca of the Northwest Coast in late pre-contact times. Many Tsimshian still know songs in Chinook dating from the days were songs were exchanged with trading partners along with more durable goods. (Doreen Jensen, Gitksan, personal communication 1972).

Many Tsimshian also spoke Tlingit with whom they both warred and traded over a long period. Others spoke Haida, particularly those like the Gispaxloats who had a special trade partnership with the Kaigani Haida of Prince of Wales Island, Alaska.(Martindale). The Kitkatla had a special trading relationship with the Haida of the village of Skedans on the Queen Charlotte Islands. George Mercer Dawson the Dominion Geologist who surveyed the Queen Charlotte Islands for the Government of Canada in July of1878, (MacDonald, 1983:90-91) photographed a large party of Tsimshian who had arrived for a potlatch and pole raising by Gitkun, the head chief of Tanu village. The carver can be seen finishing the adzing of the totem pole on the beach, while the Tsimshian are waiting beside rows of storage boxes of goods they had brought to trade with Gitkun's family.

The Haida from the large villages of Skidegate and Masset preferred to take their goods to trade with the Tsimshian of the mainland. Part of their motivation was based on the fact that they made the finest canoes on the coast which they traded to the Tsimshian for mountain goat wool and fat, sheep and goat horns and various select woods, like Saskatoon berry wood used for arrow shafts that were not available on the islands. Garfield records that large Haida canoes were valued as the equivalent of 30 boxes of eulachon grease. The Tsimshian on their part, charged higher prices for their goods to the Haida than they did to neighboring tribes on the mainland as they realized that many items like goat wool and horn used in ceremonial objects were scarce or missing from those islands.

Ceremonies were an important aspect of inter-tribal trade which gave rise among the three North Coast tribes, the Tsimshian, the Haida and the Tlingit, to an elaborate ceremonial costume that was eagerly shared by the trading chiefs of all three tribes. The outfit consisted of leggings and an apron of painted leather or woven goat wool and a dance blanket of goat wool that has come to be known as the Chilcat blanket, named for the famous trading village that controlled the major pre-contact trading trail into the interior known as the Chilkoot trail. It later carried many miners from the coast to the gold fields of the Yukon.

To complete the uniform of the chiefly traders, each was obliged to have a pair of wooden rattles shaped in the form of a raven. They were also required to have a headdress of ermine skins with a square plaque on the forehead that bore the carved crests of the chief's clan. The chief's danced in these costumes to welcome visitors and to initiate the trading activity. Captain Cook and other early explorers and traders to the coast in the late eighteenth century, regularly commented in their journals about the instance by the chiefs that they dance before the sessions of trading were allowed to begin.

Warfare

The counterpart of large scale trade is a commensurate level of militarism and occasionally warfare. The extensive trade in slaves has been well documented for the North Coast by Mitchell (1974). The provision of slaves was itself a function of the warfare pattern. There is strong evidence for warfare in the cemeteries of the Prince Rupert Harbour villages extending back at least 2,500 years. At the Boardwalk site a range of war clubs and daggers, pieces of copper armour (Cybulski, 1993, and MacDonald and Cybulski, 2001: fig 5, p.9). Three severed heads were also noted at the Lachane site (Cybulski, 1996), that was the fortress of the warrior Aksk, whose exploits in driving the Tlingit from the Prince Rupert Harbour were remembered in the Adoak of the Tsimshian two thousand years later.

Tsimshian warriors were sent to accompany the trading expeditions along the coast and up the Skeena River into the interior. Chief Legaic of the Gispaxloats tribe led annual trading expeditions as far as the Gitksan village of Kispiox, almost three hundred miles from the coast. He once fought a key battle at the island fort of the Kispiox tribe during one of his trading expeditions. Armed warriors were also necessary for Legaic to thwart the power of the chiefs who demanded heavy tribute for the passage of trade commodities through their territories. Chief Gaum and his predecessors, the head chief of Gitladzok Fort (MacDonald, and Inglis 1979), for many centuries controlled the passage of Coast Tsimshian traders up the Skeena. Chief Gaum's fort at the Kitselas Canyon was constructed tight to the river so that his warriors were able to hurl rocks large enough to break the canoes of those who attempted to pass his village without paying him the customary tribute.

An Adoak of the Kitselas tribe (Robinson: 1962) details the epic battle that Chief Legaic and Chief Gaum had to force open the canyon to Legaic's brigade of trading canoes he was taking upriver for trade with the Gitksan and Wetsuwetin tribes. In telling the Adoak of his people, Robinson was careful to note that the first trading parties that Legaic lead through the Kitselas Canyon occurred before the first white men had arrived in the country. (Robinson,W. .Wars of the Kitselas).

For the preferred trade routes between villages along the coast, the large freight canoes carried warriors and weaponry aboard since they were often attacked when going through narrow inland passages, particularly by foreign tribes. Since the objective of long distance expeditions was for the trade or capture of slaves, it was difficult at times o tell which motive, trade or raids for slaves and booty, prevailed.

Forts were constructed at critical points of convergence of trails and of river routes. For example at Kispiox where two trails merged with the Skeena River route, a fort was constructed on an island in the river to control the passage of goods between the various

routes. Both extensive petroglyphs and sculptured tree markers have been found near this locality which suggests the marking and ownership of these trade routes.

Another pre-contact fort at Kitwanga, lower down the Skeena, built by the warrior Nekt controlled the junction of the major grease trail from the Nass River with its junction with the important Skeena river trade (MacDonald, 1984).

Summary

The Coast Tsimshian developed permanent settlements, more than 5,000 years ago. on the coast where winters were mild and they were close to their winter food supplies in the intertidal zones and deep fishing waters of the Prince Rupert Harbour. Between 3 and 4,000 years ago, the villages increased in size and featured clear evidence of ranked social groups that exported processed food, raw material and manufactured goods derived from their corporate lineage land holdings and privileges to marine and river resources.

In return, the Coast Tsimshian imported many food stuffs, raw materials and manufactured items from all directions that added to their social rank and influence. Trade was conducted using relatively standardized units of trade, transported in large ocean going canoes or over well maintained trails between villages and junctions. The trails were secured at critical points by forts or fortified villages. Warriors maintained the security of the trading system utilizing full body armour and sophisticated military tactics. Chief traders wore distinctive robes of office to open trading sessions and to invoke spiritual sanctions for trade. Many traders were multilingual depending on the language of their neighbors or spoke the trade language known as Chinook Jargon.

At the time of first contact with Europeans, the Coast Tsimshian were noted as shrewd traders by the visitors. Old trade patterns and networks were quickly deployed to acquire and deliver furs from other tribes and the Coast Tsimshian head chiefs moved quickly to seal off and protect their river routes to the interior. The Hudson's Bay Co. negotiated with the Gispaxloats chief for space on their traditional camping grounds at Laxwilams Within two decades it had attracted a population that ranged between two and three thousand making it the largest community north of California at that time. Most of the Coast Tsimshian who lived there were involved in some aspect of the fur trade while maintaining their traditional economic activities on the Skeena River and Nass Rivers and in the Prince Rupert Harbour.

Jay Miller (1997:5) summarized the various developments of the Coast Tsimshian economy through time most succinctly:

> Coupland (1988) looked at the factors of residential permanency, storage of surplus, population aggregation in towns, household or house size variability, and prestige indicators to suggest that, beginning three thousand years ago, intensive specialization led to social ranking within Tsimshian towns.

> In the process, utilization of a broad range of foods began to narrow toward the use of shellfish, about four thousand years ago, and of salmon, fifteen hundred years later. Coinciding with this specialization, ranking provided the means for restricting access to the resource, now defined as corporate property, and for encouraging more intensive production, now under the direction of leaders, to benefit not just individuals, but also house, town and community".

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Illustrations Appendix A (power point program)