



*North Pacific Ethnoastronomy:
Tsimshian and Others*



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Jay Miller, editor and assistant director of the D'Arcy McNickle Center for the History of the American Indian at Chicago's Newberry Library, has published over four dozen articles and six sole-authored or edited books on various Native American peoples. We required an almost impossible task from him: summarize Northwest Coast ethnoastronomy. Although these several societies are both well-studied and well-known, there is very little known about their indigenous astronomical systems. Truly this is salvage work, for the systems are no longer intact.

Overcast skies and steady rain may not seem conducive to astronomy, but along the North Pacific coast, observations made from fixed locations ("seats") played a vital role in these maritime societies. Families ranged widely between routine camps and towns at strategic locations on the landscape, using resource locations which were owned and inherited by members of a House, a feudal-like corporate group identified by heraldic emblems. The heads of households led the kin groups and towns, assisted by specialists like artists, environmentalists, and advisors. Foremost among these specialists were elders knowledgeable about the skies in terms of stars and planets, along with winds, tides, and other shifting indicators of time. Skyclore had both practical application for the extensive navigation typical of the coast and cultural import for the ranks within society. In this region, members of the elite were and are believed to have a special rapport with nature. Their lives reflected the divine favor of Heaven, as indicated by peculiar combinations of social and environmental events. Thus, the summer birth of an elite baby might be accompanied by a brief snowfall, or the

death of an old chief by a sudden squall. To predict and monitor such convergences, specialists watched the skies and seas to advise the leader of changes in nature that were both expected and spectacular.

Indeed, the American-Canadian Northwest remains justly famous for the complexity of its societies and the richness of its environment. Here, too, the sky is reflected on the earth, with varying degrees of intensity. More provocative than comprehensive, available data indicate the importance of the sky for understanding how and why things function on the earth. While early travelers, missionaries, explorers, and traders were quick to note a belief in a sky or heavenly God, they were not generally concerned with details of astronomical lore. Thus, our first reliable information was collected by some of the most famous early anthropologists as part of their general interest in recording ethnographic details. This paper briefly summarizes what is generally known of Native Northwest Coast astronomy before considering the Tsimshian in greater detail.

Quinault

The most succinct statement on skylore for the region comes from the Quinault of the coast of Washington State, as summarized by Olson (1936: 176-77):

In a region where the winter season is one of almost continuous rain and storm one scarcely expects to encounter the reckoning of the winter solstice, yet the Quinault kept definite track of both solstices. At several villages there were "seats" (a stump or stone) where the old men watched both sunrise and sunset. Usually they sighted from the seat to a pole placed in the ground, or to a designated tree. [Note 70 adds that the sighting was done by marking on a stick placed horizontally the spot where the shadow of a certain tree fell at the moment of sunrise. One such mark indicated fifteen days until the solstice.] If the sun traveled farther north than in ordinary years(!) it was considered a sign that a good year with a heavy run of salmon would follow. If the solstice occurred during a waning moon it moved but little each day, indicating that it was heavily loaded (with food) for the year to follow. But after a solstice which occurred during a waxing moon the sun traveled far each day and indicated a lean year to follow, with sickness and famine certain to come. The winter solstice was called *xa'Ltaanm* (comes back, the sun). There was no name for the summer solstice but it was observed in the same fashion. It was believed that at the summer solstice the sun set four or five times at exactly the same place.

As indicated, observations of the sky were to mark both seasonal and nightly events. Thus, winter solstice was also the time for exceptionally high tides, when Quinault whalers made contact with their supernatural patron (*ibid.* : 177), drawing spirits, humans, and whales into a complex network of preparatory ritual and energetic sea hunts. Only a few star and constellation names were recorded. Bob Pope, a Quinault said to have been born in the 1830s, was able to identify the Evening and Morning Stars (regarded as chiefs), Pleiades, Orion(?), North Star, and Great Dipper. If someone were able to count all nine of the Pleiades, that person would become rich and a chief, presumably because such attention to detail and knowledge of the sky could be put to use for the greater good of the community.

Living on the outer coast and looking toward the western horizon, which other Salishan speakers called "the edge of the world," the sky filled the Quinault universe. Knowledge about it was pooled among the elders of the present (or the nobles of the past), who checked it against the periodic observations made from fixed locations. The movements of the sun played a major role in these systems, probably because it so dominated the day, when people were actively pursuing economic and social pursuits. For long-distance voyagers hugging the coast, some skylore also had navigational significance.

Kwakiutl

For the Kwakiutl, living along the Inside Passage of British Columbia, the universe had four realms: the sky of immortals, the earth of mortals, the underworld of ghosts, and the undersea of wealthy immortals, which included the land of the salmon people on its rim (Boas 1935: 125-40).

Of these realms, the sky had priority. A world like that of earth—except that its inhabitants, houses, and resources were all vastly more significant—the heavens were the home of the sun, moon, stars, Thunderbird, and ancestors who came to earth to found many of the tribal houses. The sky chief, associated with abalone and the sun, governed this realm. In some town histories, the sun is called his son and the clouds his daughters. In others, the chief, whose tribe is the stars, is called Post of Heaven, and he went down to earth along a copper pole to establish hereditary treasures and trails of benefit for human communities. In other instances, the ancestors of many of the Kwakiutl tribes were believed to have lived in the sky as birds,

generally the Thunderbird and his younger brothers, who flew down to earth and assumed human form to become the founding ancestors of important Kwakiutl social units, called *numaym* in this native language.

Even now, some mortals can still go to the sky and stars during dreams in order to receive important revelations. Coming to various people at different times, such dreams are individual events, separate from the sacred histories which validate the claims of corporate houses to hereditary crests: inherited, heraldic art forms involving song, dance, design, and drama. Crests have two contexts for expressions, with winter ceremonials—dramatizing the rituals of ancestors holding sacred names—and potlatches when families give away food and wealth in honor of other, more historical names. Ancestors believed to come from the sky were described or impersonated during both of these events. Taken together, such dreams, winter ceremonials, and potlatches served to emphasize the importance of the sky for individuals, families, and towns.

Bella Coola

According to Bella Coolas, the sky is the location of *Nusmatta*, the gigantic house of the Creator (Ałquntam), who was and is the first cause (McIlwraith 1948). It is from the sky that everything came and it is to the sky, specifically *Nusmatta*, that all return. The Creator sent the ancestors of various kindred families to specific locales on the earth, often wearing the skins of specific bird species when alighting on particular peaks. There, they removed the skin cloak, which went back to heaven and assumed human form. Ever since, the route between earth and sky via such a peak has been followed by the souls of members of the same family as each is born and dies. Named immortals made these passages and constituted the actors of the sacred history, which is transmitted through the families and households of their descendants, enabling each generation to perpetuate these immortal names.

At the beginning, the Creator set up a tally post in *Nusmatta* for every Bella Coola who would ever live. Since mythic names were and are hereditary, it seems likely that these posts represented ancestral names, rather than specific individuals, since each post is emblazoned with a crest (species cloak) of the first ancestor. When the person linked with the post becomes ill, the post leans. Shamans will sometimes go above to straighten it up, if possible, or to estimate the duration of that life by the precariousness of its angle.

Also in the beginning, the Creator set up an enormous wash basin with many little compartments holding water. Each one holds the water of life for a designated individual (or name), and shamans also may have gone to inspect these in ancient times. Even now, the washing of patients during shamanic cures seems to be related to the symbolism of this basin.

At death, a person divided into corpse, shadow, and ghost. The spirit becomes a ghost and travels back through its generations of ancestors until it reaches the spot where the first of them was sent to earth by the Creator, dons the cloak of the species it used to float to the mountain top, and ascends to heaven to live in *Nusmatta*. Existence above is like that on earth, but all personal skills and abilities are enhanced.

When a member of a secret society died, a drama was enacted to make it appear that the body itself was carried away through the smokehole by the ancestral crest, graphically representing the journey of the dead along its ancestral route back to the sky.

After the funeral, memorials were held, of which the most significant was the Bella Coola version of the potlatch, whose hallmark, setting it apart from that of their neighbors, is the central importance given to the dramatic enactment of the return of a deceased relative in the guise of a crest (McIlwraith 1948: 458). Equally unlike similar ceremonies by other tribes, there was singing but no dancing (McIlwraith 1948: 470). As described for the Bella Coola with unusual clarity during such rituals, the priority of the sky is expressed through the association of life, death, and immortality with *Nusmatta* and the Creator.

In contrast to the cognatic/ambilateral societies of Salishans and Kwakiutlans along the southern coast, those of the northern coast are matrilineal. Here the crests, lore, and offices belonging to a household are passed from mother's brother to sister's son.

Tlingit

Among the northernmost of these nations is the Tlingit, where astronomical knowledge was also important, although we know little about it. In a fine collection of narratives, arranged as poetic verses, Dauenhauer and Dauenhauer (1987: 95, cf. 330) include within a sacred history of a clan house:

People who were elders
routinely
sat outside.

We used to call it "a.an."
 Here they checked
 the stars,
 Venus
 and
 the Milky
 Way.
 They would check where they were now,
 and where the moon was rising from
 and where the sun was setting from.
 They would check.
 People used this as a map.
 They used it also to work by.
 That's what he would look at toward evening.

Thus, from opposite ends of the coast, we have accounts of elders at fixed seats checking the sky and stars. Presumably, they were watching the weather, the seasons, the winds, and the availability of resources which are influenced by these.

Probably all peoples in the Northwest shared these beliefs, but they have not been well reported in print. To suggest some of the richness of such knowledge in the past, I now consider the better known Tsimshian peoples of the Skeena and Nass Rivers, in addition to offshore islands, of northern British Columbia.

Tsimshian

Among the Tsimshian, areas of knowledge were controlled by specialists acting as advisors to the royalty, the most elite members of the heraldic houses of their communities. Alas, the last of the traditionally trained sky watchers for the Tsimshian town where I have been most involved died two weeks before I made my first visit there. My information has been drawn, therefore, from conversations with his heirs and from the available literature.

The Tsimshian have had a complex development. Over ten thousand years ago, there were people living along the North Pacific Coast near the mouths of the Skeena River and trading for obsidian from the interior. Trails in this territory were part of an established trade network by five thousand years ago and have been in continuous use since then, now as

paved roads. By three thousand years ago, prestige goods were traded within a ranked society like that of historic times. Graves indicate warfare as well as trade, with a trophy head cult that echoed the Old Bering Sea Complex of Alaska and Siberia and of Shang (1600 B.C.) China. Sites in Rupert Harbor show cedar-plank houses and towns gradually increasing in size and layout. By two thousand years ago, Tsimshian society stabilized, with resource areas claimed and utilized by uncontested owners. Members of Tsimshian Coastal towns wintered near Metlakatla in Rupert Harbor, went to the Nass River for spring runs of candlefish, and utilized tributary streams of the Skeena during the summer. These aboriginal patterns continued until Russian traders began modifying them about 1750.

While the complexities of Tsimshian culture and society have been difficult to grasp, the new generation of Tsimshianists has made significant contributions by building on the turn of this century work by native collectors like Henry Tait and, particularly, William Beynon, and by working together with scholars such as Franz Boas, Marius Barbeau, Viola Garfield, Wilson Duff, and others. My own work has been both community-specific and comparative so as to present a holistic model of the Tsimshian.

As now understood, Tsimshian society was consistently structured in terms of a series of fourfold divisions. Politically, there were the Coastal/Southern and the Nishka/Gitksan tribal–drainage–linguistic polities. Socially, there were four classes of royals, nobles, commoners, and slaves, with the freeborn classes having membership in the semimoieties of Blackfish–Wolf or of Raven–Eagle.

The most common associations of these fourfold divisions had to do with habitat zones associated with various immortals. The sources of greatest power are at the bottom of the sea or the height of heaven, with the life zones grading from sea to beach, to forest, to peak, to air, and to sky.

The basic unit of the overall system was the House, a feudal corporation localized in a cedar-plank building with interior space arranged by class, rank, and sanctity. Slaves stayed nearest the door, the most vulnerable location, and the ranking family lived at the rear beside the carved and painted screen that set off the compartment where the treasures (crests and wonders) were stored.

The House had four aspects: (1) an architectural building, decorated with heraldic art; (2) a corporation whose membership descended through females, a matrilineal descent group of householders from lineages, clans, semimoiety, and moiety half; (3) a repository for corporate treasures, inherited artforms such as songs, dances, designs, and outfits based upon

sacred histories detailing the adventures of the primordial holders of the immortal names; and (4) real estate, the named sites of the House, seasonal camps, resource-gathering areas, and fishing places.

Families moved with the seasons to these hereditary resource areas, gathering together in fall camps for games and festivities before settling into the large plank houses, along sheltered bays and banks for the winter ceremonial period.

Tsimshian chiefs, those holding the immortal “great name” of a House—and with it a ranked position (a “seat”) within the hierarchy of clan, community, and tribal houses—held two roles during a year. In summer, the season devoted to economic pursuits, the chiefs were known as “real people,” who celebrated the successful harvesting of their resources at potlatches when House members hosted guests from other houses at feasts sharing their bounty while displaying and validating their crests in public. The most important crest of a House was usually a special hat, worn by the chief during the potlatch. During winter, the sacred or religious time, chiefs “put away” their crest name(s) and “put on” their wonder (*naxnox*) name(s), each associated with a mask.

All of Tsimshian society responded to these summer/winter, economic/religious, crest/wonder dualisms that subsumed the foursomes also permeating the society. Within each town, moieties were distinguished as Owner or as Other. The Owner moiety was descended from the immortal name who founded a House and used that place and territory. The House of the greatest name of the Owner moiety occupied the center of the town, with cadet houses on either side of it and the houses of the Other moiety farther along the row of buildings facing the beach or river.

This pattern was jumbled by Eurocanadian contacts and the movement of Tsimshians to the vicinity of trading posts and mission stations. It was in the newly settled neighborhoods at Port Simpson, Prince Rupert, and both Metlakatlas that most fieldwork before the 1970s was conducted. Members of all four of the semimoieties, various towns, and the full array of ranks and classes shared space there, complicating the data. Within this novel context, Tsimshian leaders sorted themselves out by staging elaborate events, called rivalry potlatches, whereby chiefs strove to outdo each other and assume a position in an overall ranking of town chiefs. These rivalry potlatches caught the attention and ire of government officials and missionaries, who managed to convince the Canadian government to ban potlatches and wonder displays in amendments to the Indian Act in effect between 1890 and 1950, when these were decriminalized.

rivalry
potlatches

The Wonder System was abandoned by the Tsimshian when they became Christians through the efforts of William Duncan, an Anglican lay missionary who devoted his life to their conversion and to the development of successful economic cooperatives in the model town of Metlakatla in British Columbia. After an argument with his bishop about dispensing communion, Duncan led his converts to an island near Ketchikan, Alaska, where the community continues in American jurisdiction.

The modern Tsimshian now celebrate potlatch-like feasts during the Christmas holidays when most family members are able to return home. Crests are still made and displayed, but Christian humility has somewhat muted prideful one-upmanship. Other vestiges of the ancient society also remain, and among these is a keen interest in the environment.

While the society has changed, its cultural underpinnings have been maintained. Tsimshian culture is based on an axiomatic tension of related oppositions (between open and closed, lenses and lids, wonders and crests) expressing the fundamental importance of Light as the source for existence.

In the beginning, the universe was in twilight and its apex was a deity called Heaven, who was very sensitive. If angry, pleased, or touched by humans, he sent radiant messengers ("shining youths") to earth, each accompanied by four flashes of lightning and four crashes of thunder. Several fathered human children and started royal lines. One such father, wearing a bright garment decorated with a rainbow with stars above and the sun or moon on either side, brought his sons back to earth (Barbeau and Beynon 1987: 268–69). Alas, the design is only verbally described, so we have no idea whether the stars related to a specific constellation or the general symbolism of the sky.

One shining youth became contaminated by humans and grew ever more greedy and lustful, becoming Raven, the Tsimshian culture hero who eventually stole Light (sun, moon, and stars) from its primordial owner and released it over the earth while greedy for candlefish (eulachon). Ever since, light and dark have alternated. At that moment, Tsimshian learned to regard the sky, the movement of the luminaries, and the will of Heaven (Dunn 1978: 57, #1102: LAXA; noun: heaven, sky, storm) as basic to their universe.

Though proverbs are rare among Native Americans, the Tsimshian have a saying:

Heaven looks down on him; said of a poor man who is suddenly favored by good fortune. Heaven is considered the Deity, and the man upon whom he

casts his eyes is successful in all his undertakings. Therefore it is a common prayer of the Tsimshian: O Heaven, look down upon us, your children! (Morison 1889: 285, #5).

As Heaven had his retainers and messengers, so too did every Tsimshian chief.¹ Although the same chief changed from summer crests to winter wonders by wearing different outer garments, his (rarely, her) staff was divided into seasonal specialties based on participation in the Crest or Wonder dichotomy. For example, there were separate artists for heraldic crests or for religious wonders. The first was concerned with natural phenomena and the second with Heaven in his majesty. A few members of the staff with general skills served year around, particularly the astronomers who advised the House and its members about the proper time for scheduling events involving resource harvesting or predicting the fate of various activities. Thus, during an expedition to counter witchcraft, disguised as a war party, the leader, after reversing the sorcery, called off the warriors.

That night, Mediks who was a seer and astrologer, read in the stars and said, "I see a very bad omen for us. It is well we shall return and delay our attack on the Kitselas (Barbeau and Beynon 1987: 154).

Although sometimes called an astrologer because of this ability to prophesy, the Tsimshian term is more precise.

GYEMGAT. noun. astronomer (specifically, a moon reader, a person who can predict the food seasons) (Dunn 1978: 31, #575).

The term means someone who is literally "moon-struck" (fixated, or obsessed), derived from GYEMK (verb intransitive: hot, warm; noun: heat, month, moon, sun. (Dunn 1978: 31, #576) and GYEMGMAATK (noun: moon. [same: 31, #577]). As elsewhere, each astronomer used a fixed location from which to make observations. Some, often an old man, sat on a stump that was chopped out like a chair with seat and backrest (cf. Quinault and Tlingit). He visited his seat every day at the same time, usually just before sunset to observe where the sun went down. The horizon line of the Northwest is quite rugged so it is easy to trace the course of the sun as it moves north and south with the seasons to mark the yearly calendar.

While the sun was watched daily, and particularly at the solstices, it was the moon that defined the months, when particular resources and festivals were celebrated. Based on such observations, the astronomer advised the chief on the proper time for undertakings by house and community.

A comparison (Dunn n.d.) of seven versions of Tsimshian calendars indicates nine food moons divided into three seasons, along with winter, which had three recognized winds in the first of two stages. During the winter season of overcast skies, the astronomer relied on the winds, which were both obvious and seasonally specific: "Winds drive the cycle of the seasons" (Dunn n.d.: 4). By name, these three seasonal heralds were Leaf Scabber, a strong North wind bringing the first killing frost of the year; Mould Flusher, an ESE wind coming immediately after Leaf Scabber to purge the streams of the fungus that grew on the bodies of spawned-out salmon; and Blizzard, a NNW wind with powder snow that marks the start of Famine Winter, the second, dreaded stage of that season.

In sacred history, everything has a human form under the cloak of its kind, with immortals being much more powerful than other species. Thus, Stars, Sun, Moon, and four Winds are all humanoid immortals living in plank houses in the sky. Sometimes vengeful, they used their powers to punish a boy who mocked the Stars by taking him into the sky and tying him outside their smokehole so sparks would fall on him (Barbeau and Beynon 1987: 306-8). In stories, the four Winds are variously treated as men or as women. Confirming the calendars, North Wind was opposed by South Wind, whose allies were East and West Winds. The daughter of South Wind married the son of North Wind and nearly froze to death until rescued by her youngest brother. Together, South, East, and West Winds forced North Wind to confine himself to four months of the year (Barbeau and Beynon 1987: 47-49).

Other famous sky dwellers, born to the son of the Sun and a woman who survived the massacre of her town, were the Heavenly Children sent down to earth with crests on their house fronts.

On the house of the oldest was Sun; on the next were Stars; on the next Rainbow; the next, Sky-Above; and on the youngest's house, Mirage. They were all on the front of the houses, and were painted in bright colours. The paintings were as if they were alive and supernatural (Barbeau and Beynon 1987: 263).

Ever since, their Tsimshian descendants have had the right to portray such designs on their own housefronts to represent their relationship to the original Heavenly Children.

In another legend, Heaven became angry at noisy children and sent down a pretty feather, which carried all of them into the air and dropped them to their deaths. A secluded girl survived and from her mucus were

created wondrous children who restored the dead.⁷ Her sons went on to marry the daughters of the women who controlled the Winds. North Wind's daughter was Northern Lights, South's was Cloud, East's was Ripener, and West's was Sunset (Barbeau and Beynon 1987: 54–55). In general, each Wind had an associated season: North and Winter, South and Summer, East and warmth, and West and ripening.

In the same way that the chiefs of each house and town joined together every winter as members of exclusive secret societies or orders, their specialists also held periodic meetings upon an elevated peak far up the Skeena River, an interior promontory—remote from most Coast, Southern, and Nass communities—and ideal for their observational purposes because surrounded by mountain ranges on all sides.

Pierce (1933: 152–53), the author of the following quote, was the son of a Tsimshian mother and an English father. Though a missionary noted for his strictness to Victorian ideals, his cultural and linguistic education as a Tsimshian obviously taught him the importance of such traditions, as he relates:

Andancaul is situated on the right bank of the Skeena River, almost five miles below Kitzeguella village. It was formerly a large fishing camp belonging to the Kit-wun-gah tribe. Behind this camp is a very high hill—the highest on the Skeena.

The name of this hill is Andimaul, meaning the "Seat of Native Astronomers." The top of this hill was a specially selected place for the astronomers belonging to the different tribes to gather on an evening watching the sun sinking away on the mountains. By watching the sun in the spring of the year, and again in the fall, they claimed to be capable of discerning just what the coming season would bring forth.

In the spring, they could tell whether berries were going to be plentiful or scarce, and whether there would be a good run of salmon or otherwise. Also whether the summer would be hot or cold, wet or dry. In the fall, they knew what kind of winter to expect; whether severe or mild and whether a light or heavy fall of snow, also whether any epidemics would be prevalent.

One branch of the "Grease Trail," extending from the Nass [River], led right past this seat on the hill, and along this route travellers were continually passing and repassing.

Today any traveller passing by may see several little spots, here and there, which is claimed to have been worn away from constant use as seats by these astronomers in the olden days.

When sitting there in consultation and each one agreed, then a messenger was sent to all the different tribes warning the people and telling them

what they might expect to happen. At the present time astronomy at Andimaul is a thing of the past. This place is now a fishing camp only for a few families from Kitzegeula who have made it their home, and as they joined the Salvation Army this is now a small Salvation Army settlement with an officer in charge.

It is fitting that the Tsimshian, one of the most complexly organized societies on the North Pacific coast, would also, as shown in the quote above, have one of the most sophisticated systems for coordinating astronomical observations. As each town had its "seats" at fixed locations for checking observations, so the nations had Andancaul, a hill still revered for its memorable links with the past.

All of the peoples of the North Pacific were mariners of a high order. As such, they had practical reasons for knowing and using the stars and sky, although their routes were within sight of shore rather than pelagic. Little of this practical knowledge has survived, although what did is sufficient to indicate that celestial observation involved several overlapping systems involving the sun, stars, winds, tides, salmon migrations, and seasonal harvests. Modern Canadian place names and landform charts now dominate marine travel, so the lore of crest displays and former wonders has now become the primary conveyor of traditional knowledge. In the past, such lore would have been subjected to complex interpretations passed on during the training of apprentices by family experts in various fields. What survives of this lore reiterates Heaven as high god and skyforms as beings, immortals having humanoid essences, living much like traditional humans. Throughout, the metaphor of the House pervades all; even the universe itself was considered one enormous dwelling.

But most important of all is the metaphor of "seats." The immortal names are treated as though they occupied fixed positions within a building. The present holders of these names, similarly, occupy fixed "seats" at potlatches and other public events. In a universe believed to be in constant flux, with concurrent movements in the sky, sea, and earth, it stands to reason that those with fixed points for observation would have a better view of the panorama of life, whether it was displayed in the sky or on the earth.

Notes

1. While Tsimshians are now avowedly Christian, Heaven reflects ancient Native American beliefs in a high god (Miller 1980).

2. According to one Tsimshian, this story took place on Digby island where the Prince Rupert airport is now located. As an outer island of the harbor, it has unusually good sight lines for air traffic which might have also been beneficial to earlier sky watchers.

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