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Coastal lakes and lagoons as dynamic sites of exchange among the Tlingit of Alaska

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Abstract

Among the maritime Tlingit of the Northwest Coast of North America, little lakes or lagoons are defined by several terms, the most common of which is *áak'w*. The Tlingit term is applied to both freshwater lakes and salt water lagoons, and is relational (lagoons are small as compared to large freshwater lakes or saltwater bays) and processual (involving seasonal changes, permeability and even long-term transformation vis-à-vis contiguous features, such as rivers, bays, and wetlands) in its portrayal of these dynamic coastal features. Lagoons are also conceptualized, and in some cases even engineered, as rich and liminal ecological edges and sites of exchange. Birds, mammals, fish, amphibians, insects, along with humans, exploit them intensively at particular stages of the seasonal round or life cycle, while at other times they are perceived as relatively dormant, even forbidding, landscapes. This paper examines the complex Tlingit perceptions of and interactions with lagoons and their implications for contemporary coastal management.

Introduction

Recently, I sent off to a linguist colleague a list of place names gathered from an Alaskan community of Tlingits, well-known for their status as complex hunter-gatherer-fishers of the Pacific Northwest Coast of North America. The list came back with orthographic corrections, as expected, but also with a high number of unexpected red lines through the translation of a common land and seascape term, *áak'w*, which had been variously translated as “little lake,” “lagoon,” or even “little bight” or “eddy.” The linguist insisted that *áak'w* was most properly a “little lake,” and there were other clear generics for bights and coves and such. Interestingly, however, he yielded that lagoon, that brackish lake-like body of water that lies on the dynamic exchange zone between fresh and saltwater bodies, was typically translated as *áak'w*. Literally, the suffix *k'w* is a diminutive, meaning a “little __,” and *áa* is typically translated as a “lake,” so the linguist had cause to question alternative interpretations. Why might the Tlingit apply this basic term *áa* to such a wide variety of geographic features, including both saltwater lagoons and freshwater lakes? Is there something special and uniting about these ecological edge zones that Tlingits apprehended, which is more basic to their classification than the type of water the features contain?

This essay explores these questions through a study of Tlingit concepts of *áa* (and *áak'w*) as an ecotope (Hunn and Meilleur 2010), the smallest ecologically distinct landscape unit in a classification system. I argue that lake/lagoon features are unique and

dynamic sites of land-sea interface, exchange and production, which are marked in Tlingit environmental linguistics and ontology, and in the distinct practices and bioculturally diverse engagements that define dwelling in these liminal ecological edge zones. Finally, the essay suggests some fundamental ways that Tlingit perspectives on these features, and especially lagoon estuaries and anadromous lake-riverine systems, can improve integrated conservation and management of vital coastal zones amid climate change, development, and other threats which they now face (cf. Brown et al. 2002).

Marinescapes

Looking seaward from the shore of any Tlingit coastal village, the marinescape presents itself not as an unvarying blue expanse, but a network of features. The open ocean lies *deikee* or “far out,” while closer to shore are islands, reefs, banks, rocks, fish holes, currents, tides, sloughs, estuaries, points, beaches, and lagoons around and through which the maritime Tlingit navigate and make their living. As Drucker (1955:7) points out, perhaps overstating the case, “It is certain that the Indians of the Northwest Coast were not deep-sea navigators in the same sense as the Vikings or the Polynesians. They sailed along the coast, from point to point, and hated to get out of the sight of land.” The Tlingit are not so much oriented towards land or sea as to coast. The coast, the dynamic interface and interchange between land and sea is their home, their *lebensraum*. Correlatively, knowledge, place names, and generic terms for geographic features are highly differentiated and elaborated on the coast in contrast to oceanscapes far out to sea or terrestrial landscapes far inland. The vast majority of the Tlingit geographic nomenclature is concentrated in the coastal zone within a mile or so of the tidelands, where most lagoons are found. There are exceptions to this, of course, including the coursing rivers, highland lakes, and overland trails which Tlingits made expert use of in expanding their trade and cultural oecumene. But coastal marinescapes remain the defining feature of modern Alaskan Tlingits, even those settled in upstream marine environments, such as the Chilkats of Klukwan.

The richest and most biodiverse places are those which transect the land and sea in salient, phenomenal ways, and in doing so literally compose the coast. These are sites of tremendous productivity, vibrancy, and exchange. Thus, the river (*héen*) includes (and co-creates with the tides) its estuary (*héen wat*) and its headwaters (*héen shaak*), and the lagoon its saltwater (*tuk*, “rear end” or “anus”) outflows and freshwater (*x'e* or “mouth”) intakes. Following their courses, like a salmon or a duck, one finds the wealth of resources these watersheds contain. But the wealth is patchy and ephemeral depending on shifting relationships between land and sea and season. Frederica de Laguna (1972:17) stresses these qualities in her detailed ethnography of the Yakutat Tlingit, whose country is perhaps the most lake/lagoon-laden and shifting of any Northwest Coast aboriginal group.

Many lakes dot the flats or lie at the feet of the glaciers. Because so many streams enter the sea laden with silt and the ocean currents in general set northwestward along the shore, bars form at the stream mouths, often creating a maze of shallow tidal lagoons and estuaries behind the beach, and the streams may have to follow these for several miles westward before they can empty into the sea. The ocean far out in front of the major rivers is discolored with glacial silt. Changes in sea level that often accompany earthquakes, glacial advances and retreats even within the

Christian Era, winter storms, and the never-ceasing deposition of the muddy burden of the streams continually modify the pattern of the shoreline.

The coastline is thus a living, permeable body, with various organs, systems, orifices and exchanges continually modifying its form and contents.

At a basic level these shifting relationships must be understood in relation to geomorphology. According to recent studies, the fastest rates of uplift to be measured anywhere in the world are in Tlingit Country, in what is known today as Glacier Bay National Park and Preserve, a 2 million acre + World Heritage Site. The land is rising as much as 30 mm per year here (Larsen 2008). In the process, glaciers are becoming bays, lagoons are becoming lakes, and lakes are going dry. Tarr and Butler (1909:104), observing the Yakutat coastline just north of Glacier Bay Park and Preserve a century ago, describe how uplift drives a continuous process of lagoon formation and deformation on the coast: "Altogether there are three beaches in different stages of dissection and vegetation growth. In time the inner beach will become dry land; the barrier beach will become what the inner now is; the bar will become a barrier beach; and a new bar will develop out in the ocean." These barrier beaches, in turn, provided sheltered habitation sites and canoeing corridors for Tlingit, as well as rich microhabitats for key shellfish, fish, and a variety of other plant and animal resources.

The dynamics of these geological processes were captured in Tlingit toponyms for these marinescapes. For example, the name for Glacier Bay itself is not literally "Glacier Bay," as in English, but *Sít' Eeti Geeyí*, "Bay Taking the Place of a Glacier" (Thornton 1995). Similarly, there is the name *Áak'w Kakúxti*, or "Dried-up Little Lake," referring to a small sockeye salmon (*Oncorhynchus nerka*) lake-stream system that goes dry; at one time it was very likely a lagoon, and before that the icy underbelly of a glacier. The aboriginal name for Yakutat Bay was translated (from its original Eyak) by some of de Laguna's (1972:59) oldest informants as "salt water pond," or "a lagoon is forming," referring to the open water which gradually appeared as the Yakutat Bay Glacier melted back." The capacity of the indigenous language to capture these endemic flows and formations between land and sea is itself an adaptive technology.

At another level, the dynamism of lagoons relates to climate and season. Not only do the geologic states of the lagoons and rivers shift, but so too do their seasonal flows and contents. The migration of salmon was of paramount importance to Northwest Coast Natives. The archaeologist Randall Schalk (1981) argues that it is the migratory or "clumping" quality of salmon (and other schooling, estuarine or anadromous species, such as eulachon, steelhead, herring, and many marine mammals) in space and time that "account[s] for the organizational complexity of foragers who exploit them...rather than their abundance." For example, as salmon move from salt water to freshwater, they acclimatize and then follow the vascular pattern of the drainage system, concentrating in greater numbers and diversity near the deeper mouth, and dispersing across the land in thinner quantities in the more shallow upstream tributaries. The exceptions to this rule are lake-fed streams, which often contain the much valued sockeye salmon, a species that can be harvested over a longer duration than other salmon because it remains alive in the lakes after spawning. Salmon harvesting methods traditionally varied according to these constraints and other dynamics of particular watersheds (Langdon 2006a, 2006b; Thornton 2008), and even after the advent of open-water commercial fishing, Tlingits still returned to the rich estuaries to pursue their own subsistence needs. As de Laguna (1972:71) observes for Yakutat Tlingits,

In former days the winter villages, as well as the mid-summer and fall fishing camps, were on the sheltered waters southeast of Yakutat. Commercial fishing during the summer is now done off the mouths of the larger streams draining the coastal plain between Dry Bay and Yakutat Bay (and even farther away), but in autumn, when the season is over, a number of families still go inside the sloughs or lagoons to put up fish for their own winter use. Fall and winter hunting and trapping camps were usually located up the streams near the mountains; others were closer to the shore in order to hunt seals on the sandbars. From mid-summer to fall, berries were gathered and edible roots were dug on the flats.

Lagoons and intertidal eddies were the inspiration and the setting for the original tidal fish traps found on the Northwest Coast. As Steve Langdon (2006a) illustrates for Prince of Wales Island Tlingit, these ingenious estuarine technologies, some dating back some 4,000 years, allowed for the selective capture of ample salmon while also providing for necessary escapement to maintain the watershed's productivity, even during periods when salmon populations may have been at depressed levels. He notes,

Three important principles are apparent in the operations of these devices that ensured they would capture only a portion of the salmon presenting themselves at the structures...

The first principle was that the structures were located at approximately half tide in the intertidal zone. Whether constructed of stones or wooden stakes, this positioning ensured that at high tide, the structures were completely below water—that is no portion of them stuck up above water to obstruct or deflect the salmon...[or otherwise impede their progress upstream]

The second operating principle is that the techniques [the traps] are designed in virtually all cases to harvest fish only on the ebb tide. This means that the fish are free during the incoming tide and at high tide to advance freely up the estuary and into the stream without obstruction or capture. However, on the ebb tide, some of the salmon that did not ascend will be caught in the traps. Thus, the number captured would only be a portion of the number that endeavored to ascend.

The third operating principle was not to block the stream channel above the title range. (Langdon 2006a:43–44).

Significantly, not all Tlingit groups appear to have built lagoon or estuarine-based weir and stake traps. Rather this innovation seems to have been a special adaptation to take advantage of small dog (*Oncorhynchus keta*) and pink (*Oncorhynchus gorbuscha*) salmon streams, which were more common on the islands. These species tend to spend more time in the estuarine environments than red, silver, or king salmon.

The richest lagoon systems contained both small lakes and true lagoons, allowing them to support the highly valued coho or silver (*Oncorhynchus kisutch*) and red or sockeye (*Oncorhynchus nerka*) salmon. The gold standard among these was perhaps the Ankau lagoon system near Yakutat, which was heavily settled and used by Tlingits, and later colonized by the Russians as their first settlement in Southeast Alaska. It was in fact a system of nested and linked lagoons. As de Laguna (1972:73) relates,

The Ankau area is important because it was on the innermost lagoon that the post of “New Russia” was established in 1796. One reason for its destruction by the natives in 1805 was that the Russians denied the Indians access to their traditional fishing grounds in this region. Unfortunately, military regulations during World War II also kept them out. From 1902 until 1925, when Federal law closed the Ankau to commercial fishing, this area supplied the saltery and later the cannery, but even by 1913 the runs of reds and cohoes had been seriously depleted (Rich and Bell, 1935, p. 447). However, enough salmon still come to the Ankau to make this a place where the natives go in the fall to put up fish for their own needs.

The Tlingit conceptualized the lagoon system in anatomical terms with innermost chamber named *Kaa Gukk'iyik*, or “Inside the Little Ear.” The lagoon beyond this one was called by the prominent rock that defined it, *Anax Tanaashuwu Yé*, “Lake Where the Rock Sticks Up,” while the largest lake came to be known simply as *Gus'k'iyee Kwáan Aayí*, Cloud Peoples’ (Russians’) Lake, though this was obviously not its original name. The streams and tributaries connecting these lagoons also had names and formed a network of *yakw deiyi* or “canoe roads,” each leading to different settlements, refuges, and subsistence areas. The routes chosen would vary according to whether one was going to gather seaweed on the coast, cockles in the lagoon, or fish in the streams. In the Yakutat forelands, the system of canoe roads was so elaborate that one could travel some 60 miles along the coast between Yakutat Bay and Dry Bay without resorting to the rough open waters of the Pacific.

In Ankau, too, could be found streams with stone weirs and evidence of hydrological engineering to facilitate canoe travel and landing, and perhaps to allow salmon to swim upstream. It was also a place for refuge during extreme weather or conflict, and numerous forts (*noow*) are said to have been located there, especially in the vicinity of the Lost River, itself named for the “Slough Inside” (*Éix' Yik*). Freshwater springs and lakes were marked with descriptive place names, and one village on the lower Lost River was given the apt moniker *Diyaaguna.éit*, or “Where the Salt Water Comes Up and People Moan for Fresh Water,” apparently from the Eyak settlers who preceded the Tlingits. The transition from saltwater to freshwater could be subtle, but critical. As Schwatka (see de Laguna 1972:75) describes on his 1880 journey with the Tlingit through the Ankau system, just above one of the salmon weirs,

a pretty little rivulet came through gravel and small stones, and I noticed that these had been scraped out of its bed to the two sides, forming a sort of diminutive levee on either bank, and my first idea was that it had thus been cleared to allow the salmon to ascend, for the stream was actually so small that obstructions would have to be taken out to allow such large fish as salmon to swim up it....[The party dragged the canoe up this stream, which was] small and shallow, [although] very swift....Another portage through a creek full of boulders and where we had to wade and we entered our first fresh-water lake.

This freshwater lake was called *Áaka*, or “On the Lake” in Tlingit (and now known as Aka Lake in English), and supported two robust fishing settlements, while the larger lake was called, *Éil' Áayi*, or “Salt Lake,” and was considered less ideal for habitation.

Even the soils were better in the lagoon systems, and they often became choice plots for Tlingit potato gardens, after that species was introduced. Similarly, there is also evidence of “clam gardens,” human modified beaches, typically fortified with rock walls designed to minimize erosion and optimize clam production, as indicated in names like “Clam Hand Fort,” (*Gal'jinoowú*) in the Alsek River estuary. Undoubtedly, further research in this area, as has been done recently in British Columbia (Deur, et al. 2015; Harper n.d. 2005; Lepofsky and Caldwell 2013; Williams 2006), will reveal more evidence and details of intertidal habitat modification by Tlingits and other aboriginal inhabitants of Southeast Alaska.

Another source of wealth in the lagoons was their birdlife. As de Laguna (1972:73) observed for the Ankau system, “the lagoons and lakes are visited annually by thousands of migratory waterfowl, and many breed here.” Especially in spring and late fall, when they were abundant and salmon more scarce, these birds could be valuable sources of food, especially the large species of shorebirds, like swans, Canada goose, brants, and various ducks (de Laguna 1972:42–50; see also Hunn and Thornton 2010 for an ethno-ornithology of Tlingit). There is a well-known story of a Tlingit man taking a brant for his wife, and another detailing how a Tlingit boy became lost in a lagoon system and was able to survive on the same roots that the shorebirds ate; eventually he is aided by a “duck helper” to return to his village (see Swanton 1909:55–57; 206–209). As a result of these encounters, many of the lagoon-based shore birds, including sand-hill cranes, herons, and brants, are held as crests by Tlingit clans.

In summary, the coastal zone, especially the rich lagoon and lake systems, is where the wealth of the Tlingit and other maritime groups of the North Pacific resided. Not only were the food stores to be found there, but also the ecosystems that produced and supported them, as well as the transportation corridors, the refugia, and choicest settlement sites. The Tlingit valued the ecosystem services of these habitats and thus held them in high regard. When Russians and Euro-American threatened these systems, Tlingits objected and even attacked them (victoriously at Yakutat in 1805) to insure that the productivity of their ecosystems were not jeopardized. At the turn of the 20th century, the following appeal was made to the US Government by Sitka Tlingits:

We ask that Mr. Smith, the superintendent of the Baranof Packing Company, would be forbidden to take away our lagoons, bays and streams where we used to fish long before the arrival of white people. We wish that he would do the necessary fishing only with our consent. We demand that he stops throwing pieces of wood and tree trunks across the streams to prevent fish from going there to spawn. His fishing methods in the last 8 years have made such places as Redoubt Bay, Cross Sound, Hoonah, Whale Bay, Necker Bay, and Redfish Bay virtually empty. (In Kan 1985:135)

The Tlingits' concern was not only with property rights but also with the very survival of these fragile ecosystems, and by extension their own being (Thornton 2008:153).

Lakes and lagoons as powerful features

In addition to caring for and protecting fragile lagoon systems, Tlingits recognized their dynamism and potential to shift and transform rapidly. Such powerful sites were also the locus of spirits.

Among the most powerful figures in Tlingit cosmology is Wealth-Bringing Woman, (*Tlanaxeedakw*) in Tlingit, or Property Woman (*Skil djā'adai*) in Haida (Swanton 1908:460). In hopes of benefiting from her largess, a man who sensed *Tlanaxeedakw's* presence in the woods (typically manifest as the sound made by a sucking child) would shed his clothing, bathe, and then pursue her. If he was destined to gain her wealth, he would overtake her, whereupon she would scratch him with her long fingernails. The scabs from these wounds were the source of wealth and had to be preserved and treated according to ritual protocols in order for the beneficence to occur. Her complementary male figures in the upland environment were Taxgwas (the forest dwelling wealth-bringer) and Shaakanaayí (the mounting dwelling wealth-bringer); and in the sea, the monster, Gunakadeit (Swanton 1908:460).

One place *Tlanaxeedakw* reportedly lived is in the depths of a small sockeye lake, known simply as *Áak'w*, or, in English, Auke Bay, in Juneau, Alaska's capital city. As the story goes:

A boy at *Áak'w* heard that a woman [*Tlanaxeedakw*, "Wealth-bringing Woman"] lived in the lake back of his village. He heard this so often that he was very anxious to see her. One day, therefore, he went up to the lake and watched there all day, but he did not see anything. Next day he did the same thing again, and late in the afternoon he thought that he would sit down in the high grass. The sun was shining on the lake, making it look very pretty.

After some time the youth noticed ripples on the water, and, jumping up to look, saw a beautiful woman come up and begin playing around in it. After her came up her two babies. Then the man waded out into the lake, caught one of the babies, rolled it up in his skin coat, and carried it home. (Swanton 1909:173–74)

In this instance Wealth-Bringing Woman is not unlike the proverbial "creature of the black lagoon." *Tlanaxeedakw* is hostile to the man's failure to ritually prepare himself, to return the baby or to pay proper tribute to her. As a consequence of his disrespect, the boy's village is wiped out by her baby, who gouges out the eyes of its inhabitants while they are asleep. Later, however,

a man of the Wolf clan named Heavy Wings (*KítcidA'lq!*) was out hunting [near Lituya Bay] and heard a child cry somewhere in the woods. He ran toward the sound very rapidly, but, although the child's voice seemed to be very close to him, he could not see what caused it. Then he stopped by the side of a creek, tore his clothes off, and bathed in the cold water, rubbing himself down with sand. Afterward he felt very light and, although the voice had gotten some distance away, he reached it, and saw a woman with an infant on her back. He pulled the child off and started to run away with it, but he did not escape before the woman had given him a severe scratch upon his back with her long copper finger nails. By and by he came to a tree that hung out over the edge of a high cliff and ran out to the end of it with the child in his arms. Then the woman begged very hard for her baby saying, 'Give me my baby.' As she spoke she put her hand inside of her blanket and handed him a copper. When he still refused to give her the child she handed him another. Then he gave

the child back, and she said, “That scratch I made on your back will be a long time in healing. If you give a scab from it to any one of your people who is poor, he will become very rich. Do not give it to anybody but your very near relations.”

And so in fact it turned out. The sore did not heal for a long time, not even after he had become very rich. Everything that he put his hand to prospered, and the relations to whom he had given scabs became the richest ones next to him. (from Swanton 1909:173–75).

The scab, it could be said, represents a covenant and reminder that relations with productive but sensitive habitats, such as lakes and lagoons, must be guided by principles of respect and reciprocity. At the same time, the largess of Wealth-Bringing Woman should not be hoarded selfishly, but rather must be shared with relatives to promote broader social welfare. The association of mineralized copper and scabs with wealth is indexical of the earthly and bodily interflows and exchanges that support life, and the products and byproducts that accompany these exchanges.

Above all, however, the little lake represents the fragile yet powerful nature of social-ecological “edges.” In ecological terms, ‘edge effect’ (Turner et al. 2003) is the phenomenon of ecological zones between habitats, which are themselves quite diverse, containing species not only from the adjoining ecosystems, but often distinct species of their own. The Northwest coast of North America is dominated by such landscape ‘edges’ due to its rugged coastline punctuated by a plethora of streams, bays, and glacial fjords, and sharp-rising coastal mountain gradients. The many ecological zones and their fuzzy edges lead to a high degree of biological and cultural diversity in these environments. Be they saltwater-to-freshwater estuarial interchanges, social organizational boundaries, or the metaphysical relational intersects between human and “other-than-human persons” (Hallowell 1960), social-ecological edges are not only transactional and liminal spaces, but also potent and transformative ones. If managed with respect and care, these are the richest of habitats. If not respected, the other-than-human inhabitants of these environments could turn on humans, leaving scars without wealth, as it were, and obligations for restitution. Swanton (1908:463), for example, reported, “There were spirits in the lakes and swamps, and if a man urinated in these places he became weak. He urinated in bed and all the time, and suffered a great deal when he tried to cohabit. The only way to avoid this was to cut a dog open and throw it into the swamp.”

Lagoons are explicitly conceptualized as sources of power in Tlingit cosmology. In the famous story of the Salmon Boy, told up and down the Northwest Coast (see Thornton 2008: 73–80), a boy disrespects the salmon tribe and is captured by them and taken to live in their marine world until maturity. When the salmon boy returns to his natal stream he is caught in an eddy (*áak’w*) and recognized by his family. The family employs a shaman to transform him back into human form, after which the boy becomes a powerful shaman, who instructs his people in the ways of the salmon people and the collaborative reciprocity that exists between them and humans. To maintain his power, the shaman, who (in the Sitka Tlingit version) takes the name *Aak’wtaatseen* (“Alive-in-the-Eddy”) from his return to and rebirth in the estuarine eddy of his natal stream, bathes and drums for power in a place called *Xijaa.eix’i* (“Beating Time Slough”), which lies at the nexus of the coastal saltwater-to-freshwater exchange. It is here that the anadromous

salmon pause to transform themselves from marine to riverine creatures, before continuing their terminal upstream journey to provide sustenance for Tlingits and the myriad birds, wildlife, and other constituents of the forest ecosystem that depend on their nutrients. Like the lagoon, the slough can be a potent source of wealth, sustenance, and power.

Embracing the dynamism and ambiguity *Áak'w*?

Given the importance and transformational qualities of the lake/lagoon in Tlingit cosmology, it is worth considering how the concept of *áak'w* embraces its dynamism and ambiguities. *Áak'w* is neither a simple “little lake,” nor a lagoon, but both. The Tlingit are neither reductionist, collapsing two different features, or confused, not knowing their saltwater features from freshwater features. Rather, for them an *áak'w* is most poignantly a set of processes by which water -salt or fresh- is pooled, but not hermetically enclosed and thus still permeable and flowing, taking in elements of the marine ecosystem and exchanging out those of the forest. It is largely in the nexus of these exchanges that the Tlingit dwelled and made their living. Thus, *áak'w* is both an ecotope and a social-ecological edge.

For humans and other animals, these uniquely rich environments provide certain affordances (Gibson 1979), namely prospect (food and materials), refuge (shelter), transport (canoe roads), and power (shamanic and other-than-human spirits). As edge habitats lagoons are great repositories and producers of sustenance and wealth, and their features of cultural interest are well identified in toponyms. At the same time, their liminality and inbetweenness makes them unique sites for transformations and mixings of land and sea, of tide and current, of salmon and shaman.

From the phenomenological perspective of the “embodied mind” (Varela, et al. 1991), lagoons are a kind of orificial inner sanctum, typically conceptualized as the inside of a mouth. Lagoons take in, “digest,” and exhale salt and freshwater material flows; *xak'a* means not only “its mouth” but also “its estuary,” and *x'ayik* is “inside its mouth” or tidal estuary. Pink salmon are said to prefer spawning in the foamy “saliva waters” (*X'as'tuhéen*) at the mouths of these living, breathing lagoons and estuary systems (see Thornton 2008:78).

However, the Tlingit model of *áak'w* was influenced by more than the phenomenology of perception, the ecological psychology of affordance, or even the exigencies of cultural interest and practice. In addition, there was a bio-spiritual dimension to environmental apprehension, especially in dynamic environments like lagoons, set within broader, dynamic physiographic environments like the uplifting, glaciating, Ring of Fire that comprises Southeast Alaska. These more elemental processes, too, were conceptualized as driven by spiritual beings, like Wealth-Bringing Woman and her offspring, who could enrich or destroy humans. Like the salmon, which might be driven off by the disrespect of not being allowed to ascend their streams, lake and lagoon-dwelling spiritual beings could turn on humans if they were not treated respectfully. Similarly, like glacier-dwelling spirits (Cruikshank 2005), the spiritual inhabitants of *áak'w* could listen to humans and respond according to their moral fitness in adhering to prescribed behaviors and taboos.

As biological and spiritual centers of activity, *áak'w* systems were the centerpieces of larger networked landscapes. This central feature pattern is evident in Tlingit place naming. The greater Auke Bay ecosystem is an example of this. The anchor feature of the landscape is the little lake (*Áak'w*), probably once a lagoon, that supports runs of the prized sockeye, as well as other salmon. Nearby sites are linked to *Áak'w* through

naming. In total, this critical network of places comprises the Tlingit cultural model of a suitable living space, complete with subsistence, settlement, transport, and defensible refuge sites. This prototypical cultural model of the ideal coastal ecosystem is also evident in the genre of “discovery narratives” in Tlingit oral literature, wherein the people come upon a landscape for the first time and assess its suitability for habitation. The Auke Cape discovery narrative goes as follows:

They came by Outer Point and came to Auk Bay. The Chief then told his people where they would make their new settlement. They landed in Fairhaven [Indian Cove, or *X'unáxi*] and started building. They put up big houses, huts, and smokehouses [and later a fort, *Áak'w Noow*, nearby]. At the same time most of the people explored the whole bay. They soon found Auk Lake [*Áak'w*]. And they found out the creek [*Gaat Héeni* or *Áak'w Héen*] [that] runs from the lake is a good sockeye creek. They also found out the herring spawns in the spring. There were all kinds of berries, game, and shellfish food.

The name “Aukwón” [*Áak'w Kwáan*] comes from the lake. In Thlinget [Tlingit], lake means “auk” [*áak'w*, literally “little lake”] and “quwón” [*kwáan*] means the people [dwelling there]. That’s how the people who go there were named Aukquwón. The name of Auk Bay in Tlingit is “Auk-ta” [*Áak'w Ta*]...

They saw ducks of all kinds, many animals like bears and mountain goats. This place suited them and they went right back to report to the Chief. He came and looked the place over. He told his people they will make their settlement in Auk Village to live in winter time... (Joseph n.d.)

Even after the main *Áak'w Kwáan* village was moved to downtown Juneau in the historical era to have greater access to jobs and services, Tlingits continued to use Auke Bay for subsistence fishing and gathering, especially of salmon and herring eggs. (Thornton 2009). Unfortunately, despite indigenous protests, major development in the Auke Bay area has compromised the ecosystem’s productivity.

Similar tragedies have befallen other watersheds with precious lake and lagoon systems, although their conservation has become a higher priority since the late 1970s. Among the most spectacular of these systems is the Naha Bay watershed (*Naa.áa*), also a thickly-named Tlingit dwelling area (Thornton 2012:188–189), which contains more than seven mountain and valley-bottom lakes and a major lagoon, hosting numerous species of salmon, trout and other animals, as well as the tallest known Sitka Spruce (Carstensen, et al. 2014:66).

Conclusion: Re-valuing lagoons and related ecotopes

If landscape classification is motivated by environmental perception and practice, then we need to understand the natural and cultural processes that create a concept like *áak'w*. As recent work in the fields of ecological psychology, phenomenology, and anthropology suggests, perception and practice are not so easy to separate (Levinson 2008; Thornton 2011). Practice becomes a way of perceiving, engaging, and classifying environment through the exigencies and affordances of everyday life on the land and sea. As Tim Ingold (2000:316) points out:

For acting on the world is the skilled practitioner's way of knowing it. It is in the direct contact with materials, whether or not mediated by tools—in the attentive, touching, feeling, handling, looking, and listening that is entailed in the very process of creative work—that technical knowledge is gained as well as applied.

Knowing the materials and forces at work in creating the dynamic coasts of Southeast Alaska, the Tlingit practitioner embraces the vital ambiguities of *áak'w*. Indeed, these ambiguities signify the dynamism and vivacity of the feature itself. Coastal lagoons breathe, digest, shift, swell, and contract; and they even “scab” over. Their mouths stretch, empty and then fill with the tides, and in the process provide the material exchanges and pathways that nourish ecosystems and human life.

This is evident at Auke Lake, where we find traces of Wealth-Bringing Woman in the freshwater lake, and a constellation of networked names that constitute *Áak'w Kwáan*, the dwelling space of the *Áak'w* people. The *áak'w* systems of Yakutat and other Tlingit *kwáans* are similarly conceived, vividly named, and idealized as cultural and ecological landscapes.

As cultural and biospiritual landscapes, lagoon systems also are the provenance of ancestors who discovered the wealth of these unique systems and learned how to live from them and in them, and even to cultivate them in ways that made them more accessible, productive, and perhaps even more ecologically stable, resilient, and diverse. For contemporary Tlingits, following the paths of the ancestors is a process of enacting one's heritage and discovering one's destiny (*shagóon*) among hallowed landscapes and place networks and “meshworks” (Ingold 2011). The Tlingit concept of conservation is, at base, a realization of respect (*a yáa awuné*; see Thornton and Kitka 2010) for ancestral and cultural paths and the powerful cultural landscapes that connect them to their own being and belonging on the Pacific littoral. This realization necessitates having access, use, and dwelling rights to key lagoon and riverine-estuarine systems, and a meaningful role in taking care of them.

Contemporary coastal management largely ignores Tlingit and other indigenous conceptualizations of lagoons, and the littoral more generally, and thus the values, perceptions, and technologies of cultivation that underlie them. Ironically, it's very liminality and inbetweenness has often meant neglect of the littoral in the Western management frame (McKay 2007), which traditionally has made categorical distinctions between land and sea, emphasizing their separateness rather than their mutual interaction and dynamic exchanges. Through colonization and development, this has led to a fragmentation and neglect of lagoons and other potent edge habitats as socio-ecological systems.

Lagoons would be enhanced if these indigenous values were restored beginning with an inventory of the specific boundaries and processes encompassed by particular lagoons and *áak'w* systems as Tlingit cultural and ecological landscapes. This has been partially accomplished at Auke Cape, with the recognition of the site as Traditional Cultural Property under the National Historic Preservation system (Thornton 2009). However, Auke Cape is only part of a great network of *áak'w* systems in Southeast Alaska and beyond. Broader cultural recognition, stewardship, and restoration efforts towards these systems are needed. Yet, the gap between the ontology and practice of modern scientific management and traditional indigenous stewardship is severe to the

point of being nearly impossible to reconcile. Even co-management tends not to work well in most instances, due to the ontological disconnect and power asymmetries which favor Western notions of habitat and resource management (Nadasdy 2005). One experimental solution may be to manage sites on the Traditional Cultural Property register, like greater Auke Cape, in a more “indigenous” way, given that these sites have often historically been the product of significant cultivation to engender cultural keystone species, productive edge habitats, and valuable ecosystem services, as shown above. Promoting indigenous conservation models on recognized lagoon and *áak’w* sites would likely to be more successful than the current fragmented marine and terrestrial management regimes, which often do not give the same prominence to lagoons and *áak’w* as ecotopes.

The value of ecological edge systems and estuarine habitats in general is rising due to recognition of their importance in providing critical ecosystem services, and indigenous knowledge of lagoon and lake systems supports this enhanced valuation. The means by which the systems are valued is different, however. Wealth-Bringing Woman may exemplify the anomalous productivity of edge habitats and the value of their ecosystem services, but she cannot be reduced to them. For she is also something more: an animate, agentic and moral being who responds to humans in contingent ways.

Although Western and indigenous models of the coastal systems may be built on very different ontological bases, they may point toward the same management objectives and ends across diverse societies. This is a constructive kind of problem that marine managers and indigenous leaders must confront together with urgency, as coastal systems are under unprecedented pressure from human development and climate change. This essay suggests a way that inhabitants and policy makers can learn from historical and cultural ecology of fragile coastal lagoon systems, and how best to maintain and enhance them as vital marinescapes of human imagination and survivance (survival and resilience; cf. Vizenor 2008).

Competing interests

The author declares that he has no competing interests.

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