

For the Northwest Anthropological Conference, Pullman, 17-18 April 1964

Abstract

Space and Time, Wind and Tide— Some Halkomelem

Modes of Classification

In Halkomelem, the Coast Salish language spoken on the Lower Fraser and the shores of Vancouver Island directly across Georgia Strait, relationships in space and in time may be expressed by the same grammatical means and even by the same words. An article system used with nouns and nominalized verbs distinguishes three positions differing in nearness, visibility, and certainty of existence; reference seems primarily to position in space, but in certain usages it is to time. Two stems used in ways resembling the use of auxiliary verbs in English seem basically to express notions of "be here" and "be there" but also often seem to imply "be now" and "be then". However, as in English, past time is most clearly indicated by a suffix and future time by a modal particle. Location and direction of motion are expressed by a series of stems and their derivatives having reference to shoreline, flow of water, fire, house, canoe, etc. Common elements occur in the expression of motion in relation to flow of water, fire, and center of house. Time is not involved in these, but in indicating sequence, words like English "before" may refer to both space and time. Units of both space and time are counted with the same numerals.

Cardinal directions are not named in Halkomelem. It is easy to elicit wind names identified as "north wind", "south wind", etc., but checking usage shows that direction, which is quite variable, is only one component of meaning, others being season, temperature, and precipitation. However, the region as a whole has an axis in that the northwestern end of Georgia Strait seems equated

with "upstream" and the southeastern end with "downstream".

Time is reckoned in months and years, but it is not altogether clear how in earlier times intercalation was achieved to make a properly functioning calendar. Astronomical observations were certainly made, but it is also likely that certain annual regularities in the tidal cycle were used as checks. Thus the flow of water may have been important in reference to time as well as space.

All considered, the data do not seem to permit any conclusion that Halkomelem speakers keep categories of time and space any better separated than do speakers of English, or that Halkomelem gives its speakers any very different view of time from the view English gives us. Greater differences exist in what the two languages require us to express when we talk about location or direction.

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Time and Tide

The Coast Salish of the Fraser Delta and the shores of Vancouver Island directly across Georgia Strait formerly practiced a food-gathering way of life in an environment of considerable spatial and temporal variation in the abundance of natural food resources. The evolution of Coast Salish technology in this area was surely influenced by these environmental conditions and so probably were features of Coast Salish social organization. To gain the greatest reward from nature, men had to be at the right place, at the right time, with the right equipment, and with the right complement of personnel. It would be unwise to suggest that this always happened or even that it ever happened with the greatest possible reward. But it does appear that the Coast Salish of this area were sufficiently well equipped and well organized to have multiplied and prospered for many centuries and to have become the possessors of a value system powerful enough to survive to the present day. It also appears that they must have had, besides technology and organization, sufficient means of describing and interpreting what we call space and time in order to be -- often enough -- in the right numbers, with the right gear, at the right place, and at the right time. It was originally my intention to make this paper a kind of preliminary exploration of that means. However, restrictions in the temporal dimension in relation to reading papers at meetings require that I concentrate on one or two points. Therefore I shall not cover everything implied in my abstract but speak only of time reckoning and the tide. Native terms cited will be in the Musqueam dialect of Halkomelem.

Speakers of the Halkomelem language have terms for day, night, and several segments of the day, for lunar months, for the year, recurring periods of time within the year, and even recurring kinds of years. Also, for longer than the life time of any living person, it has been possible to talk about time by the clock, the day of the week, and important dates in the Western calendar. This last fact has made it difficult to get very clear information on aboriginal time reckoning.

It seems very unlikely that the aboriginal Coast Salish knew the number of days in the solar year or the exact number of lunations in the solar year. But they had names for months and kept some count of them. However, as Leach has pointed out (1950, 1954) with regard to primitive time-reckoning generally, a series of moon names is not a calendar and counting moons endlessly would result in chaos; to allow prediction there must be some means of intercalation. Evidently one such means used in several parts of the world is to begin a moon count from some event occurring at a regular time in the solar year, count ten moons from this time, and then stop counting until the next occurrence of the annual starting point; this allows the intercalary period to vary -- as it must-- between two and three lunations, whether the users of the calendar are aware of this or not. Leach infers that the Trobriand Islanders' calendar was of this type and suggests that the earliest Roman calendar was the same.

This also appears to have been the type of calendar used by at least two Halkomelem speaking groups on the Lower Fraser, the Chehalis (Hill-Tout, 1904, data given in Cope, 1910) and the Katzie (Jenness, 1955, and WS field notes), by many of the Interior Salish (Tait, 1900, pp. 237-9; 1906a, pp. 223-4; 1906b, pp. 517-8; 1950,

pp. 95-6, 247; Cline, 1938, pp. 180-1; only Ray, 1932, pp. 222-3 is exceptional), and by the Quinault (Olson, 1936, pp. 175-6). For example, the Thompson started their moon count from the rutting season of the deer or some other animal in the fall, counted through eleven months (other Interior counts use ten), and then left a period as "the rest of the year." As Teit says (1900, p. 239), "This indefinite period of unnamed months enabled the Indians to bring the lunar and solar years into harmony." The Quinault counted ten months beginning with the southward migration of geese in the fall (Olson, *ibid.*). The Chehalis and Katsie counted ten months with an intercalary period in the summer but it is not clear what observation was used as a starting point.

As far as I have been able to look in a rather hasty survey, I have not found as clear an indication of this principle of intercalation among the nearer neighbors of the Salish. It is not reported for the Northwest Coast northward until we reach the Tlingit, who numbered some months, as did the Kodiak, Aleut, and others, according to data compiled by Cone (1919). But it is not clear to me how they achieved intercalation. Southward, Ray reports numbering of months for the Klickitat (Ray, 1942, p. 189), Spier for the Klamath (1930, pp. 218-9). Barnett for the southern Oregon Coast (1937, p. 176). Kroeber (1960, p. 26) describes the Yurok use of two conflicting systems. The scattered distribution outside the Salish area and the occurrence of the principle in clearest form on the western and eastern ends of Salish territory-- Quinault and Coeur d'Alene-- suggest that a ten-month count with a late summer or early autumn intercalary period may have been a part of proto-Salish culture.

However, the salt-water people on Georgia Strait and Puget Sound did not seem to use this principle, or if they used it, they

did so inconsistently: moons were not numbered at all but simply given descriptive names and, while some lists leave gaps in the summer, others run throughout the year. Statements differ as to when the year begins, but most say fall or winter (Gunther, 1927, p. 228; Ballard, 1950; Barnett, 1939, p. 287; WS field notes). If the Coast Salish of this area once had a moon count like that of the Quinault or Thompson, capable of predicting, it seems unlikely that they would have abandoned it, unless it was made less useful by the presence of other means of reckoning the passage of the year.

It is clear from the data from salt-water Halkomelem-speaking groups that people took note of a variety of regularly occurring phenomena. The month names themselves refer to seasonal habits of animals, changes in vegetation, and human activities related to natural events. Also there is evidence that people observed the solstices and the changes in position of certain constellations, especially the Pleiades. These astronomical observations would provide the most precise points in time to start a month count from—and their use for time-reckoning has been reported for the Yurok, the Kwakiutl, and others. But these observations also require clear enough weather for the sun or the Pleiades to be seen, conditions not always present on the Northwest Coast.

There is however, another phenomenon that occurs in a cycle that shows certain regularities with the solar year and yet is observable throughout much of the area in any kind of weather--- the tide. As Arthur Ballard pointed out in relation to his Puget Sound informants' vague references to tide in relation to calendar, this is a phenomenon that deserves much more attention by anthropologists than it has received. I offer what I have discovered here, admitting that the data are still fragmentary.

There is no term in Halkomelem corresponding precisely to the English "tide," though qá' water may often be translated thus. The following more specific terms occur: sqémel flooding tide, qeqémel be flooding (with such a verb the noun subject, if any is used, would be simply 0ə qá' the water), sáém' ebbing tide, k'ííam' be ebbing, salalíé high tide, (from a stem lóó full), lóóléé be just high water, sxám'xám' low tide, k'ík'íyam be in a period of half tides, x'íánex'əm be slack water, i.e., at the turn of the tide.

The tide was of great importance not only to the people of villages on the salt water, but also to those on the Fraser for some distance up from its mouth. At times when the tides are running strongest and when the river is low, the flood tide is said to produce slack water as far up as Mission, which is about fifty miles from the mouth and is, perhaps significantly, about at the boundary between the upriver and downriver dialects of the Halkomelem language. The downriver speakers, including the Katzie on Pitt Lake, (which has a tide), were within the area of tidal water. The Musqueam, at the mouth of the Fraser, when they wanted to travel upstream, whenever possible simply caught the upbound tide. Under optimum conditions --- as in December when the river was lowest and the tides were highest -- it is said that on one flood tide you could make it to the Katzie village at Port Hammond, which, perhaps also significantly, is the site of a large shell mound. During the summer freshet, however, the water slacks to New Westminster only.

Tide conditions on the river were important for fishing as well. Nets are most effective when the water is muddy. Thus the best times are when the tides are running strong or when the river is high. In winter when the water is low, during periods of half tides, the water is too clear to use a net. I need not dwell on the importance

of the tide for salt-water fishing and shellfish gathering.

The Coast Salish were of course aware of the co-occurrence of the great st highs and lows with the dark and full moon, a co-occurrence that is not as precise in this area as on the open ocean, by the way. They were also aware of an annual cycle in the tides, since this too had some importance for subsistence activities. On Georgia Strait and Puget Sound the highest highs and lowest lows usually come within a month of the summer and winter solstices (Pickard, communication) and these lowest lows come during the middle of the night in winter and the middle of the day in summer. This fact seems to have escaped notice in the ^{anthrop} literature on this area, possibly because our formally learned notions about tides may still be based on the Atlantic tidal system wherein the two lows each day are of about equal height and so there is likely to be one low in the daytime and one low at night throughout the year. Here we have two lows of great inequality, hence the annual cycle through the twenty-four hour day. The economic significance of this cycle lies in the fact that the summer lows are most used for shellfish gathering, when people can camp and dry clams away from home---especially at the June low, while the winter lows at the dark of the moon are used for waterfowl hunting with flares, some species not even being present in summer. Four terms describe these phenomena: wáyelcəm shift to daytime, which begins about March; nítcəm shift to night-time, which begins about October; 0sʔtélca dark tide, i.e., a low at the dark of the moon (from 0éʔt dark and -áice low tide); and lqéléáice moon tide (from lqélé moon and -áice low tide).

This annual cycle of tides thus also provided, not as precise a series of points to count from as the astronomical observations, but a more readily and continuously observable phenomenon that already relates lunations with the solar year.

In concluding, I would like to suggest that, among the Coast Salish of this area, men specializing in different sorts of activities may well have used different observations from which to count moons in order to make different kinds of predictions. Also, several ethnographic works (e.g., Elmendorf, 1960, p. 27) mention arguments over what month it was. Sapir (cited in Cope, 1919, p. 131) reports that Nootka hunters even tried to deceive one another about the correct month. This jibes with the Coast Salish practice of keeping some kinds of technical knowledge as individual or family property.

Finally, I would like to suggest that with the diversity of kinds of resources and spatial and temporal variation mentioned in my opening remarks, a rigid calendrical system based on a single precise astronomical observation could have even been maladaptive. For those whose subsistence activities were closely linked with the tides, knowing what to expect of the tide was likely of greater importance than knowing precisely when the winter solstice occurs. Any reckoning from this event would have to take the tide into account anyway.

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