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THE MIDDEN

Publication of the Archaeological Society of British Columbia ISSN 0047-7222 Vol. 30, No. 4 — 1998



Household Archaeology at the Maurer Site

THE MIDDEN

Published four times a year by the
Archaeological Society of British Columbia

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The **British Columbia Heritage Trust** has provided
financial assistance to this project to support conservation
of our heritage resources, gain further knowledge and
increase public understanding of the complete history of
British Columbia.



ASBC Diary

MEETINGS featuring illustrated lectures are held on the
second Wednesday of each month (except July and August) at
8:00 pm. Meetings are usually held at the Auditorium of the
Vancouver Museum at 1100 Chestnut Street in Vancouver.
New members and visitors are welcome.

10 March—**Dr. David Burley** (SFU)

In Search of Polynesian Origins.

Joint meeting with the AIA

14 April—**Daryl Fedje** (Parks Canada)

Shifting Shorelines and Early Holocene

Archaeology in Haida Gwaii.

12 May—**David Schaepe** (Stó:lo Nation) topic t.b.a.



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More About Archaeological Site Protection

In an earlier *MIDDEN* editorial (Vol. 29/4), we expressed concern about the destruction of an archaeological site in Maple Ridge, and raised the question whether the current heritage legislation is adequate. Now, as reported in the newspaper article printed below, the Crown has decided not to prosecute the perpetrators because they were not caught red-handed. Clearly, the protection of archaeological sites in this province is in jeopardy.

In an editorial article on the following pages, ASBC Vice President Terry Spurgeon proposes a coordinated site protection program.

From: Maple Ridge/Pitt Meadows News, Sunday, February 7, 1999, page 3

CROWN STAYS CHARGE IN CASE OF BURIED NATIVE FISHING SITE

BY ROXANNE HOOPER
STAFF REPORTER

A local couple was scheduled to go to court this week to face charges of destroying a 3,000-year-old native fishing site.

But due to a lack of evidence, the charges have been stayed against Stephen and Ann Telep, as well as David Laird and his company Damax of Vancouver, said Crown prosecutor Sharlein Smith. They were originally charged following the construction of several homes north of Dewdney Trunk Road, along the east side of Meadow Gardens golf course and of Telep Avenue.

They were charged under the Heritage Conservation Act, accused of moving or disturbing a designated heritage site between May and October of 1997.

But those charges were stayed because there's no evidence to prove the offence occurred during that time frame, Smith said. It was suggested that damage to the site could have been caused more than a decade earlier when a large portion of the Telep homestead was leveled for development.

Further, she noted that the accused were only responsible for bringing more fill into

the site, which it was argued did not damage or destroy an archaeological site that was already buried.

The site was identified during an archaeological study completed in 1981, at which time a variety of artifacts were found amidst what appeared to be large mounds of dirt. It was determined that the mounds were remains of a garbage dump used by the native people of the day.

About a year later, it was concluded by the archaeologist that the site was a late autumn fishing camp that was populated some time around 1500 B.C. by members of the Locarno Beach native culture. It was subsequently identified as a protected heritage site that would likely be fully excavated by a team of archaeologists.

At the time that the Teleps and Laird were charged, the Crown argued that it was a valuable archaeological site.

Prior to subdivision of a large property north of Telep Avenue, the Telep family lived on the site for about 50 years. Stephen and Ann Telep still live on a section of the former homestead, near the native fishing site.

Table of Contents

More About Archaeological Site Protection	1
Proposing a Coordinated Archaeological Site Protection Program for BC <i>by Terry Spurgeon</i>	2
Debitage	3
Dating the Likeley Mammoth <i>by A.K. Carlson and R.L. Carlson</i>	4
Revisiting the Maurer Site <i>by David M. Schaepe</i>	6
Recent Surveys of the Lower Lillooet River Valley <i>by Maurice DePaoli</i>	12
Mountain of Glass <i>Review by Jeff Baily</i>	16
Skookum Wawa <i>Review by Helmi Braches</i>	18
Recent Publications	19
Better Late than Never! <i>Review by R.W. Mathewes</i>	20
Conferences	Inside back cover

Front Page

Maurer site: Photograph of exposed house structure taken at the end of the 1973 excavation. Photo: R. LeClair. See "Revisiting the Maurer Site," by David M. Schaepe on page 6.

PROPOSING A COORDINATED ARCHAEOLOGICAL SITE PROTECTION PROGRAM FOR BC

by Terry Spurgeon

The ASBC has a long history of lobbying for improved legislation to protect the archaeological resources of BC. Despite many gains there remains concern that the present Heritage Conservation Act (HCA), while providing a legal base for heritage protection, is at the same time fostering an unwarranted and undeserved sense of well being regarding the safety of archaeological sites. This is due to the low public profile of the HCA, the almost total lack of effective education, monitoring and detection programs, and an abysmal enforcement record. The lack of committed, effective support programs has been with us almost since the first heritage resource protection legislation was enacted.

In BC, government isn't very committed to funding HCA support programs. To be effective, education, monitoring, detection, and enforcement programs must support legislation. Without these vital ingredients the intent of the legislation cannot be fully realized. Of course, if marginal outcomes are acceptable we should ask why the legislation even exists. However, if there is widespread agreement that legislation is needed, then it should be enthusiastically supported with meaningful programs that effectively deliver desired outcomes.

Prosecution results under the Act have been less than satisfactory. Such results lead to intentional non-compliance, and experience elsewhere shows that prosecutions resulting in small fines are soon regarded as the "cost of doing business" or as just another licensing fee by the unscrupulous. Shifting monitoring and detection programs onto overloaded police forces, while in keeping with legal niceties, is simply "passing the buck", especially when the police have other priorities and are poorly informed regarding the archaeo-

logical implications of the HCA. Also, the almost total lack of heritage education programs to inform specific groups, i.e. the public, municipal officials, developers etc., perpetuates an "out of sight, out of mind" approach to heritage protection. The absence of targeted, pro-active public heritage protection information essentially condones regular violations of the HCA.

Governments proclaim legislation and hence must be in favour of both the legislation and its necessary support programs. Is this the case in BC? Government agencies charged with supporting heritage legislation already exist but they labour under serious resource limitations. Currently, the Archaeology Branch is clearly staking out territory as permit issuers and not as enforcers. The Branch, while staffed by dedicated, hardworking individuals, lacks the resources to implement effective education programs. Nor are they organized to effectively monitor and detect infractions throughout BC. Recent pronouncements by the Branch clearly place the onus of enforcement upon the police, but are the police any better equipped or capable?

What can be done to improve this situation? Opportunities exist for a co-operative pursuit of new heritage protection education and monitoring/detection programs. The solution to providing more efficient and effective heritage protection exists in the form of non-aboriginal and aboriginal heritage interest groups, and the administrative checks and balances currently available. Organized with First Nations groups taking leadership positions in their traditional territories alongside non-native heritage groups, a more consistent message could be delivered while providing an effective "on-the-spot" monitoring and detection presence.

Coordination of effort would be the key to success. The Archaeology Branch has an important role to play in this effort.

The monitoring and detection program would utilize volunteer resources of the aforementioned groups to give much broader field coverage and presence. The Streamkeepers fisheries program provides a working model for the proposed program. Committed volunteers, trained to properly record evidence and utilizing pre-determined communication and contact networks, would be equipped to make timely and legally effective detection reports. Such reporting permits authorities to take fast action against illegal destruction of archaeological sites, while providing factual information in support of subsequent prosecutions.

An effective education program is needed to inform municipal councils of their heritage protection duties and responsibilities. The program, delivered in the form of pre-packaged presentations to targeted groups, would distribute contact lists and protection information. In addition to elected officials, the program would be directed at planning departments, development permit issuers, the general public and developers. While less can be done to directly affect the outcome of prosecutions, save for proper collection of evidence and timely infraction reporting, it is appropriate to provide similar education information to the police, crown counsel and the judiciary on the seriousness of the destruction of archaeological resources. The same materials should also be directed at other regional and provincial government officials to heighten their awareness of heritage protection problems. Surely there is no shortage of qualified persons to deliver the message in BC.

Realistically, no single organization can

be held accountable for the successful protection of archaeological sites. Indeed, the current state of affairs, on closer examination, shows a total lack of real accountability for heritage protection. Strong legislation is nice, but in the absence of effective, consistent and coordinated efforts by all interested parties there can be no real protection. If even known sites cannot be protected (see newspaper clipping on page 1) by the present HCA program, with its lack of structured education, monitoring and detection resources, and poor accountability at all levels, one can only wonder how many unregistered archaeological sites are destroyed each year in BC, wilfully or through ignorance. There needs to be renewed commitment from all involved groups, and the provincial government must provide funding for the needed support programs.

When the Regional Advisor Program—an earlier monitoring effort—was canceled in 1987, a letter from the Minister of Tourism, Recreation and Culture

stated: "Despite the ending of this particular program, I can assure you that we intend to invest in the future development and support of heritage volunteers and heritage organizations". The same mailing—essentially fallout related to Project Pride—included a letter from the Director of the Heritage Conservation Branch claiming that: "We have begun to develop a strategy which will be focused on involving a variety of volunteers, particularly through provincial societies, in developing a strong heritage delivery program". As upbeat as the Minister's letter, it went on to discuss certain volunteer training and promotional initiatives intended to: "strengthen their regional support networks and work more closely with them in the development of a delivery system which is regionally and community based etc...." Well, I leave it to the reader to assess whether any of this was ever achieved in whole or in part.

An ever strengthening First Nations heritage interest and the creation of the Brit-

ish Columbia Association of Professional Consulting Archaeologists complement the long heritage protection interests of the Archaeological Society of BC, academic researchers and cultural resource managers. With this broadened base of committed groups, and with the full inclusion of First Nations people, it is time to deliver on past promises, to create properly coordinated monitoring, detection, reporting, and public education programs supporting the HCA. The challenge is to change the often-heard developers' after-the-act ignorance of the law and project delay complaints to an informed, before-the-fact involvement of all parties. Heritage protection must become a regular part of doing business rather than being an afterthought. The cost-effective use of human resources already in the field would go a long way towards meeting the promises of the past and the needs of the future. In addition to teeth, let's put some real *pride* back into heritage protection in BC.

DEBITAGE

Judging by the proliferation of web sites, "armchair archaeologists" are rapidly being transformed into internet aficionados. An interesting tidbit at http://www.foxnews.com/js_index.sml?content=/scitech/012999/iceman.sml tells about a new technique that measures amino acid in bones and looks set to be extremely accurate.

Closer to home (arguably an inappropriate phrase in context of the internet), the **Royal BC Museum's** WEB site has, among other things, the contents of its *Discovery* magazine (all issues since 1995) as well as several *Museum Notes*. You might want to check out **Grant Keddie's** article "Hunting the Devil" about aboriginal methods of catching octopus, in the January 1999 issue of *Discovery*. The address is <http://www.rbcm.gov.bc.ca/discover/ds010199/hunting.html>.

Want to know what the archaeological consulting firms are up to? You guessed it, look for their web sites. **Millenia Research** has pictures of its staff and information about culturally modified trees at <http://www.islandnet.com/~millres/>. **John Dewhirst's** company, **Archaeo Research Ltd.**, has a home page with hot links to other sites of potential interest; it's at <http://www.pinc.com/~archaeo>. However, for information about what's happening at the BC Archaeology Branch you'll have to rely on traditional media (such as *The Midden*). In anticipation of another round of budget cuts in the new fiscal year, the atmosphere at the Branch is... low. **Milt Wright** has already jumped ship and is now working for the Aboriginal Relations Branch of the Ministry of Aboriginal Affairs.

For those who still have an armchair, be assured that books are not (yet) obsolete. The Royal BC Museum recently published **Kathryn Bernick's** *Basketry and Cordage from Hesquiat Harbour*—a technical study of material recovered on the west coast of Vancouver Island in the early 1970s. This as well as other forthcoming RBCM publications are timed to complement a major exhibition "HuupuK'anum: Treasures of the Nuu-chah-nulth Chiefs" scheduled to open at the RBCM in Victoria on July 3, 1999. The exhibit will show until the end of December and then go traveling. **Alan McMillan's** book on West Coast archaeology, a revision of his PhD dissertation, is forthcoming from UBC Press in the Pacific Rim Archaeology series initiated by the UBC Laboratory of Archaeology.

DATING THE LIKELY MAMMOTH

by A.K. Carlson and R.L. Carlson

At one time British Columbia was part of the range of the woolly mammoth, the Ice Age elephant that roamed the grasslands of northern Eurasia and North America. In the United States mammoth remains have been found in direct association with spear points of the Fluted Point Tradition, the earliest well documented cultural tradition in North America. In British Columbia, while there have been a few documented finds of mammoth bones and of a late variety of fluted point (Fladmark 1996), there has never been a discovery of the two together. We were rather excited when we were told of the find of a mammoth tooth near the town of Likely on the Fraser Plateau east of Williams Lake. So in May, 1991, we hurried into the field to take a look before the provenience of the tooth became lost, and to see if anything else had been found with it.

The mammoth tooth had been found by two young men, Paul Lewand and Michael Mattice, in a gravel pit at the northwest end of Little Lake (52°37' N, 121°44' W) seven miles west of the bridge over the Quesnel River at Likely. We easily located the find spot. Some fragments of the tooth were still *in situ*. The gravel pit had been excavated into the east side of a glacio-fluvial dome of unconsolidated, alternatingly bedded, fine and medium gravels and sand. The tooth had been found on the slope of the gravel pit ten feet below the top of the dome which is about sixty feet above the lake at an elevation of ca. 2,850 feet above sea level. The surface of the dome had been cleared of trees and humus prior to the commencement of the gravel operation. Traces of soil in the interstices of the tooth indicated it had originated from the surface of the gravels and then slipped downslope as the gravel was mined. The original position of the tooth

suggests that it may postdate the gravel deposit on which it rested. We examined both the cleared surface of the gravel dome and the slope and lag gravels where the gravel had been removed. No additional bones and no artifacts were found.

Photos of the find spot and the tooth (Figure 1) were taken, and a sample of the tooth was submitted to Beta Analytic for

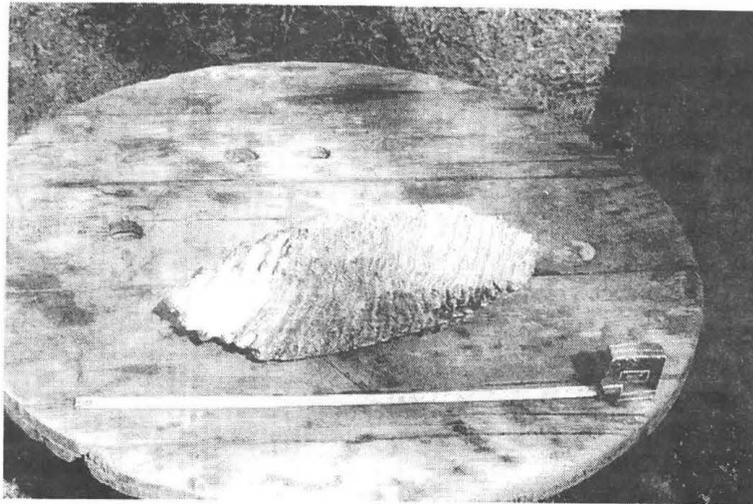


Figure 1. The mammoth tooth from near Likely, BC, dated at 20,190±190 radiocarbon years BP. The tooth is 33 cm long by 9 cm wide.

dating. The sample was dated at 20,190 ± 190 radiocarbon years B.P. (Beta 50901). Although this date is long before there is any satisfactory evidence for the presence of human beings anywhere in North or South America, it does give some indication of environmental conditions in the interior of British Columbia about 20,000 years ago. The preferred habitat of the mammoth according to Harington et al. (1974:298) is a cool grassland with streams where the herd can feed on tall grasses, shrubs, and some trees.

In British Columbia mammoth bones have been found at Babine Lake (Harington et al. 1974), in the Peace River country (Harington 1996), on the Saanich peninsula on Vancouver Island (Keddie 1979), and in the lower Chilliwack and Stave Lake localities in the lower Fraser Valley (Hicock et al. 1981). The bones from the lower Fraser have several radio-

carbon dates ranging from 21,400 ± 240 to 22,700 ± 320 B.P. which place them at the same time as the Likely mammoth and indicate that a habitat suitable for mammoth existed at that time both high on the Fraser Plateau and along the lower Fraser River. The Saanich find is dated at 17,000 ± 240 (Keddie 1979:20) which suggests that on the coast environmental conditions suitable for mammoth persisted to at least that time.

Single dates on a bone can always be viewed with skepticism. However, the date on the Likely mammoth falls in the same time period as the dates from the lower Fraser cited above and also fits with a much larger series of dates on fossil bones from Alberta. Burns (1996) lists dates on samples of fossil bone from 18 sites in Alberta that fall into a continuous series of twenty-one dates ranging from 33,500 ± 2530 to 21,330 ± 340 radiocarbon years ago, and a second series of eight dates ranging

from 11,620 ± 170 to 10,240 ± 325. With no dates in the interval between these two series, Burns infers from this distribution that non-glacial conditions in Alberta from 43,000 to 21,000 years ago were interrupted by a late glaciation from 21,000 to 11,600 years ago. The earlier non-glacial episode is sometimes called the Olympia Interstadial, and the 20,190 date on the Likely mammoth places it at the end of this non-glacial period. There is some suggestion, however, that non-glacial conditions may have persisted somewhat later on the Fraser Plateau than in Alberta, since fossil bones of land-locked salmon that are unlikely to have survived full glacial conditions have been found at Kamloops Lake and radiocarbon dated to 18,110 and 15,480 radiocarbon years ago (Carlson and Klein 1996:278).

Many more samples of dated fossil bone are needed to help resolve questions of

paleo-environments and the advances and retreats of the glacial and non-glacial events of the Pleistocene in British Columbia. Accidental finds of fossil bone, such as the Likely mammoth tooth, brought to the attention of archaeologists and paleontologists, can eventually greatly increase our understanding of the events of the past. Although our field investigation of this discovery and the radiocarbon dating of the tooth did not result in an increase in our knowledge of early peoples in the province, we did learn that it was possible for mammoth and by inference other mammals (perhaps humans?), to have lived in the Williams Lake area some 20,000 radiocarbon years ago.

Acknowledgements

We thank Anna and John Roberts of Williams Lake who brought this discovery to our attention, Paul Lewand and Michael Mattice who guided us to the find spot and permitted us to sample the tooth for dating, and to the SSHRC Small Grants Committee of Simon Fraser University who granted the funds for the radiocarbon date.

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We want to thank Dr. Roy Carlson for his encouragement to publish this article which he co-authored with his son, Arne Carlson, who died in December 1998.



Figure 2. The gravel pit at the northwest end of Little Lake where the mammoth was found.



Figure 3. Close-up of the gravel pit. The figure near the top of the slope is standing where the mammoth tooth was found. The tooth originated from the surface 10 feet above the find spot

REVISITING THE MAURER SITE

HOUSEHOLD ARCHAEOLOGY IN THE UPPER FRASER VALLEY

by David M. Schaepe

Introduction

Aboriginal societies of the Northwest Coast culture area have been generally typified as being organized at a household level (Donald and Mitchell 1988), that is, comprised of household units which are the centres of production and social organization. Rarely, however, has household archaeology been applied to the investigation of prehistoric Northwest Coast societies. The prevalence of a culture-historical focus in the archaeological investigation of pithouse features (abundant in the Fraser Valley) and the general difficulty in identifying prehistoric plankhouse remains on the Northwest Coast have both contributed to the present paucity of applied household analyses in this area. In this paper, I present the results of one of the few such studies conducted to date—the household analysis of a 4,800-year old plankhouse located at the Maurer site (DhRk 8 - see Figure 1) in the Upper Fraser Valley of southwestern British Columbia (Schaepe 1998a). Data presented in this paper were extracted from my recent analysis (*ibid.*) of material originally collected by Ron LeClair¹ during his 1973 excavation of the Maurer site (LeClair 1973, 1976). In this paper, I will present descriptions of this structure and its associated radiocarbon dates and artifact assemblage. I will then outline some of the household interpretations which I was able to make from my analysis of this rare and ancient feature. I will conclude by briefly discussing the implications of the Maurer house on the development of social complexity among the aboriginal societies of the Central Northwest Coast.

Structural description

The Maurer house is a north-south oriented, 7.5 m by 5.0 m, semi-subterranean (0.3-0.4 m deep), rectangular structure (see Figures 2 and 3). The observed posthole pattern—large postholes at the

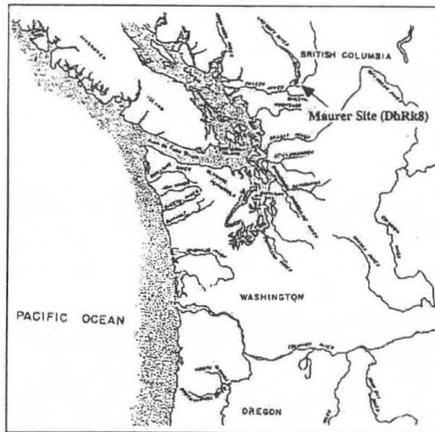


Figure 1. General location of the Maurer site (DgRk 8)

corners of the structure and smaller postholes placed in between—suggests a “rafter support-post/wall-pole” system, as found in the plank-walled structures at the Ozette site of coastal Washington (Mauger 1978:142-143, 151-152). Large corner posts would have functioned as weight-bearing supports, while planks would have been lashed to the smaller, intermediate retaining posts or stakes. Thus, while no super-structural remains were preserved, it is believed that the Maurer house was a plank-walled structure.

Remnants of plank retaining walls, lining the floor pit side-walls, extended vertically between 30 to 40 cm from the floor



Figure 2. Photograph of the exposed house structure taken at the end of the 1973 excavation. (Photo: R. LeClair) See front cover.

surface to the prehistoric ground surface into which the floor was recessed. Small interior posts (stakes) abutting the retaining wall appear to have acted as reinforcements, preventing the retaining wall from collapsing inward. A 3 m long by 0.35 m wide by 0.30 m deep hearth, with fire-cracked and thermally altered rock concentrations at its extremities, was located in the southern third of the structure. Four possible postholes were located in the northern half of the floor. Refuse—primarily fire-cracked rock—was deposited around the perimeter of the structure, forming a midden. The accumulation of a 10 to 15 cm thick floor deposit, confined within the floor depression, indicates intensive use of the structure over an extended period of time. No substantial evidence exists for the location of an entrance, although an east wall entrance is suggested by the pattern of artifacts identified on the floor (discussed below). Thus, the Maurer structure represents a quasi-permanent structure. While elements of the structure such as the wall planks were likely transportable, portions of the structure, for instance the recessed floor and large corner-posts, represent permanently set, non-transportable features.

The age of the Maurer house was assessed by radiocarbon dating and comparative assemblage analyses. Two calibrated radiocarbon dates of 4,850 cal B.P. and 4,870 cal B.P. were derived from samples collected from the hearth.² The house artifact assemblage was generally consistent with other Eayem Phase (ca. 5,500-3,500 B.P.) site assemblages from the surrounding area.

Artifact assemblage

A total of 230 tools and 1,189 pieces of debitage (i.e. waste flakes) were found in direct association with the Maurer house floor, representing the floor assemblage of 75% of the total floor area.³ An additional 45 tools and 224 pieces of debitage

were located within floor features, primarily the hearth. Three of the tool classes in the floor assemblage have high relative proportions: acute-edged utilized flake fragments (26% of assemblage), acute-edged utilized flakes (22%), and core fragments (12%).

Microblade and pressure-flake⁴ cores, pebble core tools, spalls, leaf-shaped and lanceolate bifaces, blade-like flakes, notches, graters, a burin, a drill fragment, ground and battered stone tools, tabular palette fragments, and a few miscellaneous types are present in low frequencies. A number of these tools are depicted in Figures 4 and 5. Functionally, the floor assemblage tools represent a wide range of activities: producing and maintaining stone tools, cutting, scraping, incising, pecking/percussion, and grinding/mashing.

Artifact spatial distribution

Comprising data from 75% of the floor surface, the Maurer assemblage represents the most completely sampled floor assemblage of its age on the Northwest Coast. To attain the highest degree of resolution possible, only those artifacts directly associated with the top 10 cm of the floor deposit (excluding cultural material from posthole and hearth fill) were used in the following analysis of artifact spatial distributions.

A computer mapping program (SYSTAT) was used to produce shaded contour maps—distribution plan maps—for various types of artifacts found on the house floor. Reading these distribution plans is simple. Shading increases with frequency. Dark areas indicate high frequencies of artifacts, while light areas indicate low frequencies of artifacts.⁵ Statistically extrapolated data are fit across units for which no real data exist. In this manner, distribution plans of the complete floor surface were produced based on the available data from 75% of the total area. To illustrate this technique, the artifact distribution plan for cores and core fragments is presented in Figure 6.

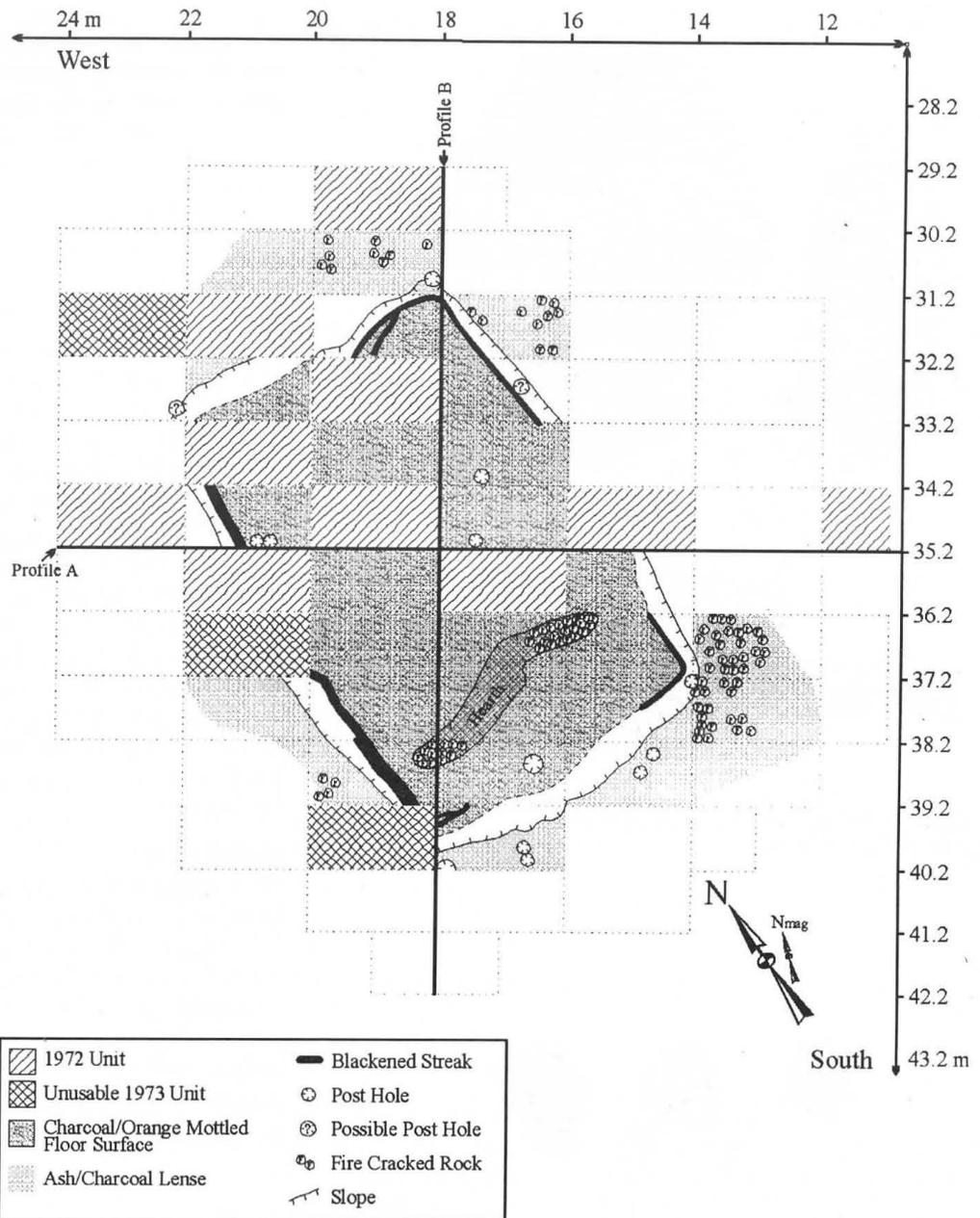


Figure 3. Schematic floor plan of the Maurer plankhouse.

Artifact distribution zones

Artifact distribution plans were produced for the entire assemblage of artifact types found on the house floor. Comparison and combination of these plans allowed the division of the floor into five discreet distribution zones (see Figure 7). Functional division of the floor area was then assessed by identifying the tool types from each of these zones. For example, Zone 1 has by far the highest frequency of tools on the floor. While acute-edged expedient tools are most abundant, tools from each of the analyzed categories are present in this zone. Biface points, biface fragments and complete cores occur in low frequencies.

Comprised of cutting, scraping and incising tools, and cores and debitage, the Zone 1 assemblage incorporates a number of functionally mixed categories. The range of activities represented by these tools is varied. Alternately, Zone 2 has few tools and is comprised of spalls, a notched tool, debitage and cores, including the sole microblade core. Functions associated with these tools are primarily limited to scraping, stone tool production and maintenance. The types of tools found here are likely associated with hide and wood working.

It is interesting to note the distribution

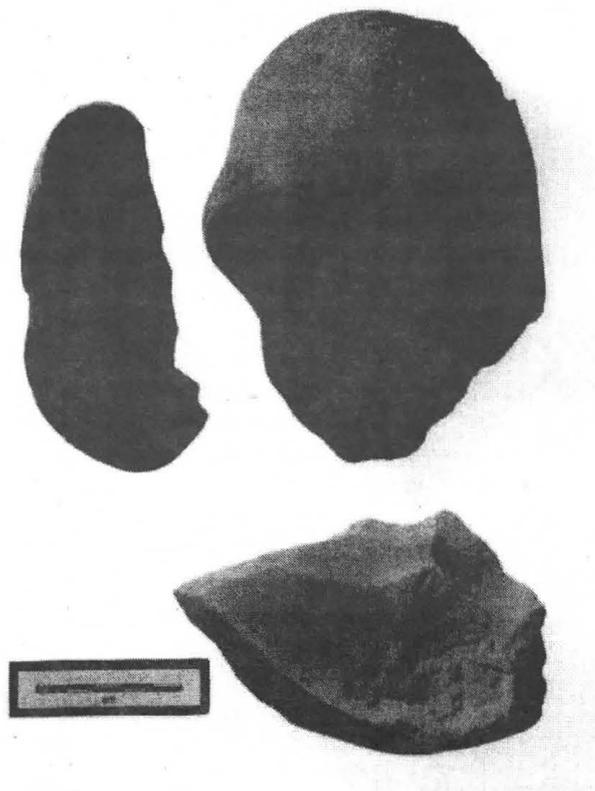


Figure 4. Pebble core-tools from the house floor. (Photo: D. Schaepe)

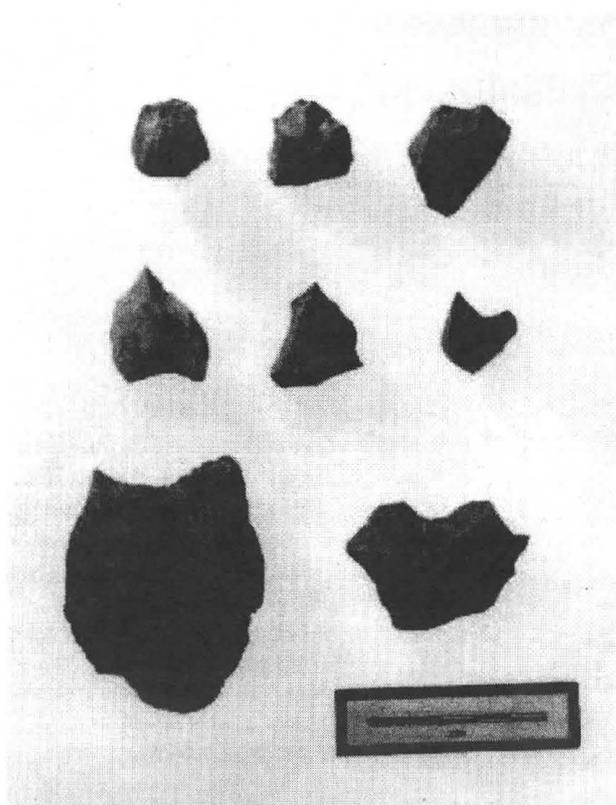


Figure 5. Bifaces and biface fragments from the house floor. (Photo: D. Schaepe)

of a number of individual artifact types for which valid distribution plans could not be made due to their low numbers. These include pecked tabular palettes, tabular palette fragments and edge/end-battered pebbles. Both tabular palette fragments (slate) were found near the east end of the hearth. These fragments, when refit, form a complete, slightly concave palette measuring approximately 20 cm long by 13 cm wide and 5 cm thick. One edge/end-battered pebble comes from a unit bordering the hearth. A second edge/end-battered pebble and the pecked tabular palette were located within the hearth matrix. The association between the hearth and the assemblage of edge/end-battered pebbles and palettes is very strong. Five of six such artifacts from the floor assemblage are located either within the hearth or on the floor in its immediate proximity. It is interesting to note that these types of artifacts are akin to mortars and pestles, items linked with food—particularly root—preparation (Ruscavage-Barz 1994:2). Thus, Zone 4, which overlays the hearth, is partially composed of a cluster of apparent food processing items.

Approached inductively, spatial patterning of artifacts is apparent among the floor-associated artifact assemblage. The nature of this patterning is based on the presence or absence of artifacts, artifact function and the proximity of artifacts to the hearth. Carrying this analysis one step further, the functional patterns associated with Zones 1-5 provide the foundation for inferring the use of space by the inhabitants of this ancient plankhouse.

Activity areas

The composition and spatial distribution of artifacts suggests the types of activities which occurred within this structure. The patterning of functional items allows insight into where the occupants of this house performed particular types of activities.

Three broad categories of activities—consumption, production and living—are inferable from the results of this spatial analysis. As I define them, consumption activities include: food preparation, cooking and eating. Production activities include tool production, tool maintenance, the production and maintenance

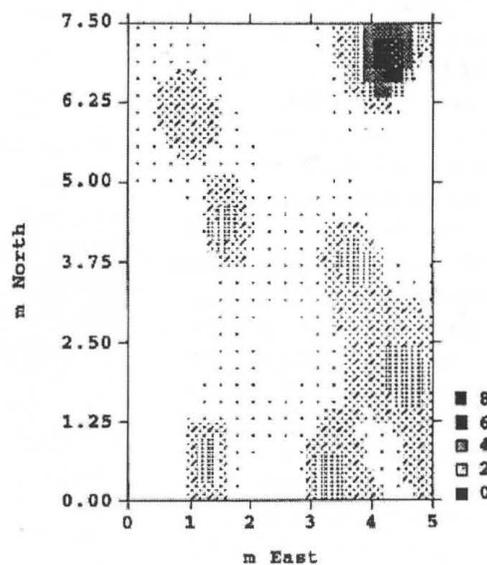


Figure 6. Computer-generated plan map showing the distribution of cores and core fragments across the house floor.

nance of various non-food items. Living activities include sleeping, socializing, entering and exiting the structure. Thus, the preceding spatial and functional analyses allowed the floor area to be divided into three general activity areas as depicted in Figure 8.

The low frequency of artifacts in Zone 5 (see Figure 7) is different from the artifact patterning observed across the rest of the floor area. I interpret this to mean that this portion of the floor may have served in a number of living capacities, such as a corridor for movement and as a general gathering place for eating, sleeping and socializing. Identification of social or traffic areas by other researchers has been based on similar observations (Hayden and Spafford 1993:128; Leroi-Gourhan and Brezillion 1972:254). Tools were either not extensively used or were routinely removed from this portion of the floor, which appears to have been deliberately kept free of debris. As well, the eastward flare of Zone 5—possibly resultant from the traffic flow across this portion of the floor—provides some indication of an entrance centrally located along the eastern wall of the Maurer structure.

Household Inferences

The results of analyses conducted for this study make it possible to estimate household group size and to describe household composition, as well as socio-economic and technological organization. The seasonality of use of the Maurer house and the degree of residential permanence could also be inferred. Due to space limitations, I am able to discuss only a few of these household inferences below.

Household Permanence

Approximately 4,800 years old, the Maurer house is one of the oldest known quasi-permanent structures on the Northwest Coast. I equate the significant degree of permanence of this structure with a minimally semi-permanent occupation. I also suggest that this house was occupied, minimally, during the winter season, as based upon the documented winter season use of Coast Salish semi-subterranean houses in the ethnographic period (Duff 1952:46). Winter season use is also attributed to prehistoric pithouses of the Middle Fraser Canyon area (Hayden and Spafford 1993:108). The recessed house floor likely served an insulatory purpose

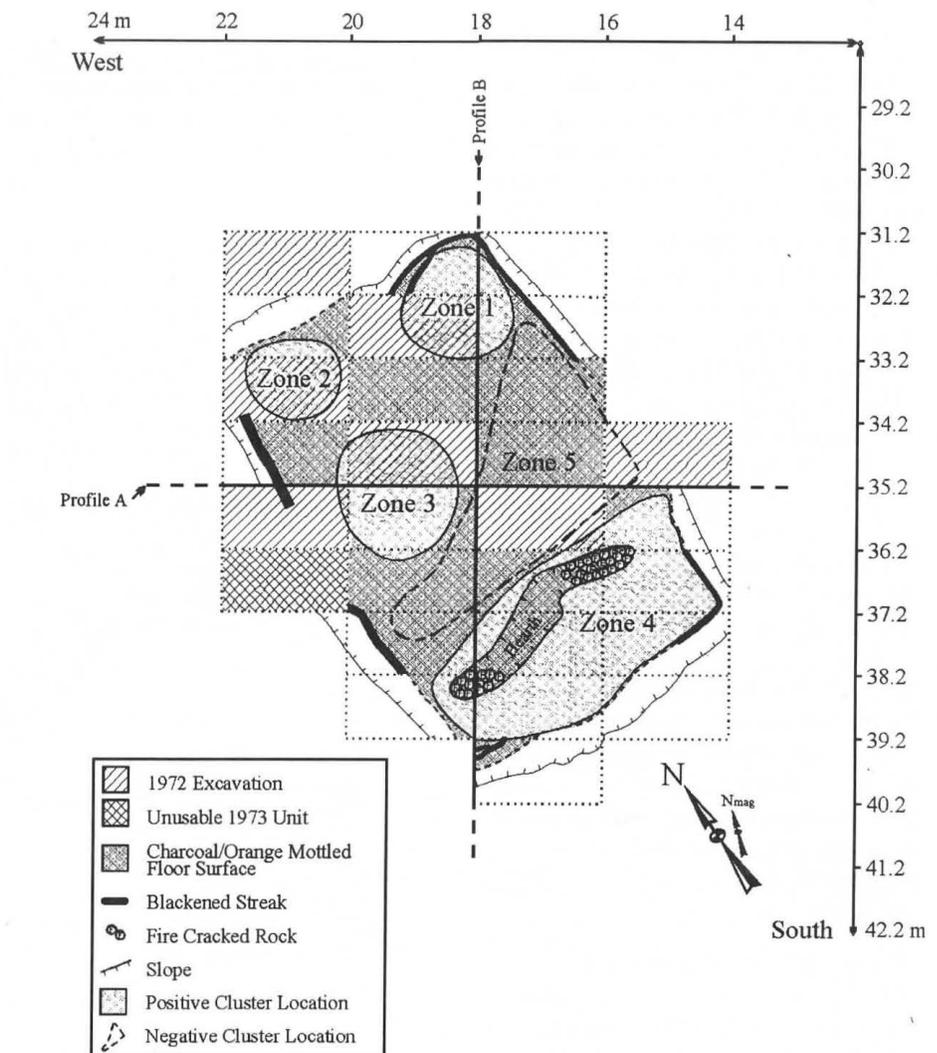


Figure 7. Floor assemblage distribution zones.

for heat conservation. On a slightly different note, the moisture content of recessed earthen floors, found to be higher than that of superficial earthen floors, serves to minimize the amount of airborne dust in earth-floored structures—particularly during the dry, summer season (Carlson 1987). The Maurer house may have been recessed for either or both of these reasons. These conclusions are significant in that they support the implication of a minimally semi-sedentary, winter season occupation of the Maurer house roughly 4,800 years ago.

Household Size

A fundamental aspect of household reconstruction entails estimating the actual size of the household group. The dimensions of the Maurer house provide the principal parameter for estimating the size of the Maurer household. Hayden and Spafford

(1993:116-117) estimate one individual per 2.5 m² of floor space in pithouses at the Keatley Creek site in the Middle Fraser Canyon Area. Alternately, Cook and Heizer (1968)—as applied by Ames in his analysis of the Meier site (Ames 1996)—formulate a total of 13.92 m² of floor area for the first six individuals (i.e., 2.4 m² per person) and 9.29 m² per person for each additional household member. Both of these household size estimators were applied to the Maurer house.

The Maurer house had a gross floor area of 37.5 m². Subtracting approximately 1.5 m² for the hearth area results in a net floor area of 36 m². Applying Hayden and Spafford's measure, the size of the Maurer household equals 14.4 people. Applying Heizer's formula, the household size equals 8.4 individuals. Thus, it is estimated that a household of between 8 and 14 people occupied the Maurer house.

Household Composition

From the household size estimates, and the distribution of floor features and activity areas, it is possible to provide some insight into the composition of the Maurer household. Composed of between 8 and 14 people, this household likely represented a single family. In Northwest Coast household contexts, hearth frequency strongly correlates with the number of occupant family groups (Mitchell and Donald 1988:330). Based on the presence of a single hearth in the Maurer house, a single occupant family is proposed. Furthermore, identified activity areas represent a single overall pattern. The presence of duplicate activity areas—comprised of sets of production areas, consumption areas, living areas, and so on—which constituted a basis for making multi-family household interpretations at Keatley Creek (Hayden and Spafford 1993:125) is not apparent in the spatial patterning of floor-associated artifacts and features from the Maurer house. Instead, the observed pattern is indicative of a single set of domestic activities, and therefore a single family group.

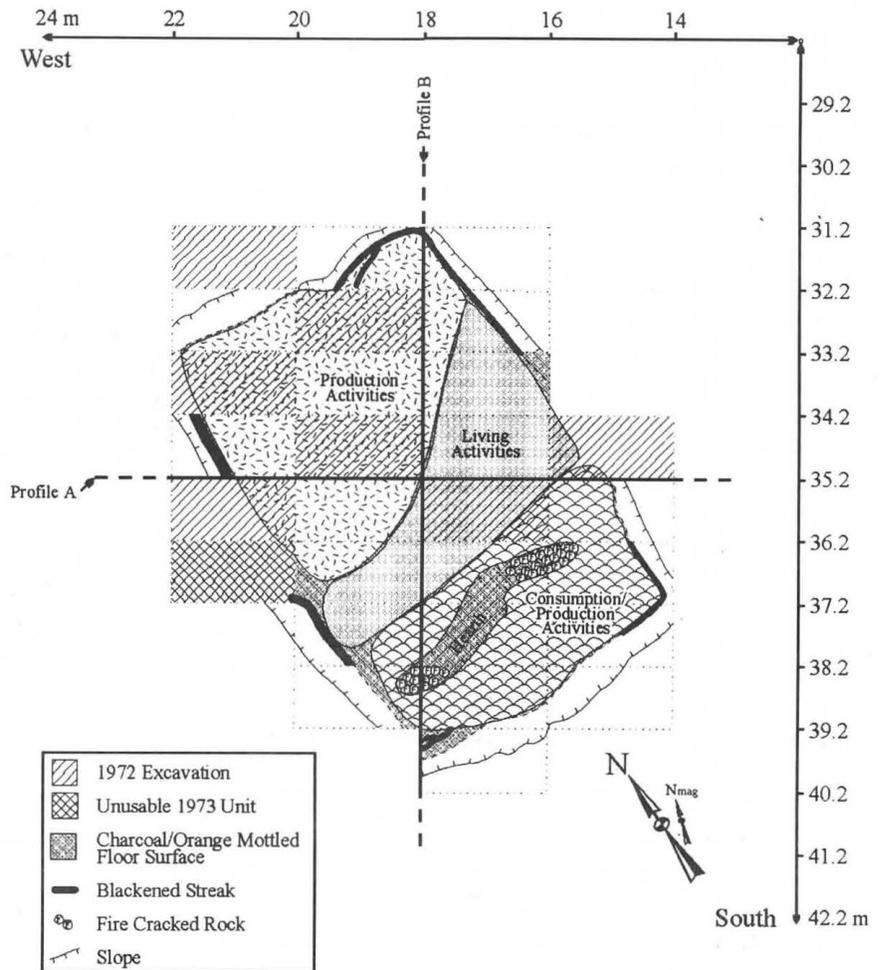
Household Social Organization

Some general propositions regarding household social organization can be made. The Maurer house assemblage is partly characterized by an absence of non-utilitarian items and tools, including decorative or stylized artifacts which may be associated with status display. Therefore, based on the lithic assemblage alone,⁶ there is no basis for inferring internal household status differentiation. The Maurer floor assemblage provides broadly patterned activity areas as the only apparent manifestation of household social structure. Household socio-economic organization is apparently manifest solely in relation to the division of labour. Ranking within this household group was likely appropriated on the basis of age, gender and achievement.

Discussion

As one of the earliest known permanent structures on the Northwest Coast, the Maurer house provides insight into the processes by which social complexity and inequality arose in this culture area. The concept of permanence is significant to this discussion of developmental social

Figure 8. Inferred activity areas.



inequality and social complexity. I suggest two social inferences which relate directly to a significant degree of structural permanence: (1) partial-to-full sedentism; and (2) ownership. Both ownership and sedentism have long been considered elements of the “social inequality equation” as applied to the Northwest Coast (e.g. Ames 1981; Maschner 1991; Matson 1983, 1985; Renouf 1991). Resource control, one of the basic elements of social inequality, is necessarily preceded by resource ownership. Significant structural permanence is considered, in this case, to signify such ownership.

It is possible that the degree of ownership at Maurer did not extend beyond the level of the community group, and was not family-specific or individual-based. In this event, resource control likely remained constrained by limits imposed by the larger social group (i.e. community) as a whole. What liberates Maurer from this scenario is the probable nature of the lo-

cal resource base. It is commonly accepted that salmon became increasingly abundant during the period 4,000-5,000 B.P. (e.g. Burley 1980; Carlson 1983; Fladmark 1975; Matson 1983). Less well known for this time period is the distribution of wapato (*Sagittaria latifolia*), a tuber commonly found in the backwater sloughs of the Fraser River valley, including Sumas Lake prior to modern urban development (Denis Knopp, pers. comm., 1998; Duff 1952:73). However, given the general similarities of environmental conditions in the upper Fraser River valley between 5,000 B.P. and the present, wapato likely grew in the backwater sloughs, ponds, shallow lakes and marshes in the vicinity of the Maurer site in that earlier period. I propose that both wapato and numerous species of salmon were available to the aboriginal inhabitants of the Maurer house.

Salmon and wapato can both be characterized as abundant, predictable, reli-

able, and localized resources. Such is the typical resource base of complex hunter-gatherer societies that are marked by significant degrees of social complexity and inequality. Undoubtedly, the availability of both large and small mammals, numerous avian species and a wide array of edible plants also enhanced the available food supply of the people inhabiting the Maurer site ca. 4,800 B.P. The proposition that such abundant and easily procurable resources existed in the context of the Maurer house is supported by the apparent semi- to fully-sedentary lifestyle, and the expedient technological organization inferred (though not discussed here) for this household.

Though presented here only in part, I raise this discussion to express the significance of the Maurer house as it relates to the development of social complexity and inequality on the Northwest Coast, particularly the Central Coast (see Schaepe 1998a, 1998b for more complete treatments of this topic). As presented above, direct evidence from the household analysis of this feature supports the inference of only primary forms of social complexity and inequality. Indirect evidence, however—based on notions of structural permanence and resource abundance—indicates a potential for the escalation of social complexity and inequality in the context of this site. As one of the earliest examples of such a “potential” situation on the Northwest Coast, the Maurer house factors significantly into the development of culture-historical scenarios for this culture area. Roughly 4,800 years ago, the roots of social inequality and complexity appear to have been developing in the Upper Fraser Valley.

Notes

1. I would like to acknowledge and thank Ron LeClair for his support of my analysis of his original work.
2. These two calibrated dates were based on original dates of 4,220 B.P. and 4,240 B.P., and were converted to calendric years following procedures defined by Struiver and Becker (1993).
3. No data exist for a number of excavation units which comprise approximately 25% of the total floor area.
4. “Pressure-flake cores” are micro-cores

from which micro-flakes, different than microblades, have been removed through the application of pressure.

5. The degree of shading is map-specific and is relative to the frequency of the specific artifact being depicted. Shade value/frequency scales are depicted along with each figure.

6. Faunal preservation at the Maurer site was negligible. The lithic assemblage represents the principle source of artifactual data from this house.

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RECENT SURVEYS OF THE LOWER LILLOOET RIVER VALLEY

by Maurice DePaoli

Introduction

This report is a summary of information acquired from archaeological surveys performed in the lower Lillooet River valley. The area discussed covers, for the most part, the Lillooet River from the head of Harrison Lake to the head of Little Lillooet Lake (or Tenas Lake), in southwestern British Columbia. The surveys were conducted during the period beginning in the summer of 1997 and ending in the fall of 1998.

An attempt was made to locate and record sites that were previously known to Dr. Douglas Hudson (University College of the Fraser Valley), Pauline Peters and the author. All three are currently conducting a Traditional Use Study for the In-SHUCK-ch N'Quatqua nations. These sites were known through discussions with community members from the Lower Lillooet communities of Xa'xtsa (Douglas), Skatin (Skookumchuck), and Baptiste-Smith (IR 1b, a community of the Samahquam Band). Site locations were also researched through readings of local ethnographies and other reports. All sites that were located on the ground have been recorded, and site forms are on file at the Archaeology Branch in Victoria.

The Area

Lower Lillooet territory falls within the Coast Mountain belt of British Columbia. It consists of "Jurassic to Tertiary granitic rocks and variably metamorphosed sedimentary and volcanic strata ranging in age from Paleozoic to early Tertiary" (Clague 1989:22). The Coast Mountains were formed mainly during the Cretaceous and Early Tertiary, as a result of the collision of two geological belts and subsequent uplift along the edges of these belts. The southern Coast Mountains are blanketed with various lava flows from the Miocene (Mathews 1989). Many of the valleys

within the Coast Mountains were thought to have been initiated by streams prior to glaciation, flowing along narrow fracture systems or belts of nonresistant rocks (Mathews 1989:33). The Lillooet River seems to be a typical example. The strictly confined nature of the gently meandering channel, particularly of the lower Lillooet River, allows us to conclude that the river is flowing through a major geological trough. During the Pleistocene, however, glaciation caused many of the river valleys to widen, resulting in more rounded, U-shaped valleys. The glaciers also deposited vast amounts of morainal, glaciofluvial and glaciomarine deposits along the valley floor. Within the Lillooet River valley, it appears that glaciers deposited more than 100 feet of glaciofluvial sediment upon the primary rise in sea level with deglaciation. With the subsequent isostatic rebound, the river cut back into the sediment it deposited. What we see today as a result are terraces of morainal

and glaciofluvial material within the lower Lillooet River valley, some as high as 100 feet above the current river level. Along the valley walls, the steep gradients of valley slopes have left numerous boulder talus fields and exposed rock faces. Please see Quirolo and Hudson (1996) for a more thorough description of the Lower Lillooet area.

Lower Lillooet territory falls within the Coastal Western Hemlock zone at lower elevations and within the Mountain Hemlock zone at higher elevations (Meidinger and Pojar 1991). Typical vegetation of the Coastal Western Hemlock zone include western hemlock (*Tsuga heterophylla*), Pacific, silver or amabilis fir (*Abies amabilis*), Douglas-fir (*Pseudotsuga menziesii*), western red cedar (*Thuja plicata*), and Sitka spruce (*Picea sitchensis*). Black-tailed deer (*Odocoileus hemionus columbianus*), black bear (*Ursus americanus*), grizzly bear (*Ursus arctos*), and grey wolf (*Canis lupus*) are



Figure 1: Baptiste-Smith IR 1b, southwestern end of Tenas Lake. Photo M. DePaoli.

the most common large animals. Mountain goats (*Oreamnos americanus americanus*) are prevalent in the more mountainous areas. The Mountain Hemlock zone supports stands of mountain hemlock (*Tsuga mertensiana*), and amabilis fir, as well as yellow-cedar (*Chamaecyparis nootkatensis*). Parkland vegetation, such as sedge (*Carex spp.*) and mountain heather, are found in higher elevations.

Previous Research

Most of the archaeological fieldwork in ethnographic Lillooet traditional territory has generally been confined to the area around the Fraser River. In the late 1880s, George Dawson, of the Geological Survey of Canada, noticed some burials on a wind-eroded terrace at Lillooet, but he did not record their precise location or excavate them. The first person to conduct archaeological surveys of the Upper Lillooet area was Harlan Smith, under the auspices of the Jesup North Pacific Expedition, in the late 1890s. His field notes were published under two titles, *The Archaeology of Lytton* in 1899, and *The Archaeology of the Thompson River Region* in 1900. While his collections concentrated around the town of Lillooet, he did explore the Lillooet River area, and there were artifacts recovered from around the town of Port Douglas on the lower Lillooet River near Harrison Lake. These artifacts currently reside in the American Museum of Natural History in New York.

The Lillooet area was then generally ignored until 1957–58, when Len Hills, working for the BC Department of Mines, recorded a number of sites near the town of Lillooet. Hills collected a number of surface and cutbank artifacts, which were donated to the Royal BC Museum (Stryd 1978). He conducted the first subsurface examination with a shallow test unit of a storage pit at the Keatley Creek site (EeR1 7) in 1960.

The first archaeological excavations in Fraser Lillooet territory began with surveys conducted by Arnoud Stryd in 1968 (Stryd and Baker 1968). A number of archaeological sites were discovered around the town of Lillooet in the late 1960s and early 1970s. With funding from the Canada Council and other groups, excavations were undertaken at various spots, including the Keatley Creek site, the



Figure 2: "Plankhouse" at the Purcell Farmhouse near Sloquet Creek. Photo M. DePaoli.

Mitchell site (EeR1 22), the Gibbs Creek site (EeRk 7), and the Bell site (EeRk 4) (Stryd 1978).

In 1986, Brian Hayden, with Simon Fraser University, continued excavations at the Keatley Creek site, considered to be one of the largest and most thoroughly investigated pithouse sites in North America. Work has continued at this site since then, and a detailed study of the Lillooet area has been produced as a result (Hayden 1992). Very little information contained in the study, however, applies to the Lower Lillooet area.

Diana Alexander (1987a, 1987b, 1989), working with members of the Fountain and Pavilion Indian Bands, produced an ethnoarchaeology for the Upper Lillooet. The patterns she observed are thought to hold true for most groups on the Canadian Plateau.

As yet, there has been no full-scale excavation of a site in the Lower Lillooet territory. However, there has been some inventory of archaeological resources done in the Harrison/Lillooet region by Sneed and Smith (1977), by May and Lucs (1976), by Wales and Murray (1975), and by Hudson (1994). An archaeological overview assessment of the Squamish Forest District, which includes the Lower Lillooet, was performed by Millennia Research (1997). Impact assessments have been conducted in the Ure Creek area by Albright (1991), and by Wilson (1990). The Sloquet Creek area was thoroughly researched by Quirolo and Hudson (1996).

Survey Results

Surveys prior to activities conducted in the 1997–98 field seasons, resulted in the recording of 15 archaeological sites along the Lillooet River between the head of Harrison Lake and the head of Little Lillooet Lake. Nine of these sites were historic and were associated with the Cariboo gold rush and colonial settlement of the mid-to-late 1800s. The 1997–98 surveys resulted in the recording of an additional 16 archaeological sites, only one of which was associated with the historic period. These sites were identified from surface scatters of lithics and the observation of cultural depressions. No subsurface testing was conducted.

Of the 23 sites recorded to date in the study area that are believed to be prehistoric, 11 can be roughly classified as village sites. These sites are recognized by the presence of house pit depressions and subsistence caches, or the concentration of lithic material near well-known fishing spots along the river. Since the majority of fishing camps were known to be semi-permanent, these have been classified under the term "village" as well.

Discussion

From the observations of site distribution and characteristics, the following tentative conclusions can be made. Teit's (1900:192) analysis of Thompson pithouse villages showed that "dwellings rarely numbered three or four at one place, and often there was but a single house."



Figure : Housepit at Samahquam (EaRp 2). Photo M. De Paoli

Numbers for Lower Lillooet house pit clusters observed, have tended to be the same or slightly higher. At Samahquam (EaRp 2) four house pits at most were observed. Nine cultural depressions were found at EaRp 3 at the foot of Little Lillooet Lake. However, at least 14 large depressions have been found at DkRn 5, a few kilometers from the head of Harrison Lake. While only one house pit has been found at DIro 14 just south of Skookumchuck IR 4, there were known to be many more at that site, all of which were destroyed by past development activities.

House pits have averaged around 7.5 m in diameter, with a range of 6.0 to 11.5 m. This tends to fit in Hayden and Spafford's (1993) small to medium-size range for house pit sizes. Differences in size and distribution of house pits tend to indicate social stratification. At DkRn 5, the largest house pit is 11.5 m diameter, and lies where the centre of the village appears to be, while the smaller depressions radiate outward from the larger house along the riverbank. This appears similar to the encircling of the largest pithouses at Keatley Creek, as well as at N'Quatqua (EdRo 21) at the southern end of Anderson Lake. None of the villages on the Lower Lillooet River, however, were nearly as large as some found in Upper Lillooet territory. N'Quatqua has as many as 87 cultural depressions, and Keatley Creek has over 100. This was most likely due to the abundance of fisheries in Upper Lillooet territory, particularly in places at Fountain and

Bridge River. Village sites tend to be evenly spaced as with Fraser Lillooet sites, yet no one site seems to dominate another in terms of its size, though we know that certain villages were much larger than others in ethnographic times. The nature of the sites tends to suggest that they were composed of autonomous extended families, yet clan affiliation definitely persists even with contemporary Lower Lillooet groups.

Some of the sites, which people were known to have inhabited, do not as yet show any evidence of cultural depressions, such as at Lelachen (DkRn 1), Skookumchuck Rapids (DIro 6) or at *Svxtsín* near Rogers Creek (DIro 7). This may be because evidence of cultural depressions has been destroyed at the surface, or because brush shelters were used here. There is as yet no concrete evidence of the plank houses known to have been used in the Lower Lillooet prehistorically, since they are difficult to identify without proper excavation. Teit mentions that they had gone out of use by the time of his research, but he does mention the presence of plank house fortresses between Warm Springs [*Svxtsín*] and Port Douglas in the past (Teit 1906: 238). Evidence of plank houses does not generally preserve well in the archaeological record, especially in the highly acidic soil in this area. The only possible analog of a plank house still standing in Lower Lillooet territory is one located at the Purcell Farm House, near the mouth of Sloquet Creek (Quirolo and

Hudson 1996), though the use of nails in the structure makes it questionable, and it may be a historic copying of an earlier plank house. However, some of the square depressions seen at sites in Lower Lillooet territory may in fact be the excavated floors of plank houses. Marian Smith (1947) postulated that some of the square excavations seen at pithouse sites in the Agassiz area were plank houses with excavated earth floors, and perhaps the same conclusion applies here.

Cache pit sites are known to occur by themselves in some instances, such as at Twin Boulder (DIro 5), and at DIro 13 north of Skookumchuck IR 4. Most cache pit sites, however, were a short distance away from a village and considered part of the village site. Evidence of elevated caches, though known to be used ethnographically, is lacking, most likely due to preservation factors. Elevated caches were particularly known to be used at Baptiste-Smith IR 1a, or Portage. The Ucwalmicw (Lower Lillooet dialect) name for this place is *Páxulh*, meaning "house on stilts." However, no evidence of prehistoric activity has yet been found at *Páxulh*. Historic cultivation of the land at this site may have hidden any surficial evidence of prehistoric habitation.

The Lillooet River has shifted fairly recently, which is most likely due to the dredging of the narrows at Little Lillooet Lake in the 1940s. An informant, originally from the Samahquam Band, stated that he had never seen the Lillooet River shift so drastically before the narrows were dredged. Evidence of this shifting is seen with the erosion of house pits at Samahquam (EaRp 2). There are only two remaining house depressions but several more had been known to be there. One of the house depressions has definite evidence of river erosion at the end facing the river, but now the river has left a gravel beach at its margin. Informants noted that there were several circular depressions at Hot Springs—I assume they mean St. Agnes' Well—, along the Lillooet River, but these have also eroded away (Hudson 1994:24). It seems the river shifted east at first, but is now moving west, eroding away sites on the western bank. The effects of river erosion could have an effect on the presence of house pits at other sites in the future, since many are so close to the present river bank.

Evidence of habitation has been found not only near the bank, but also on the fairly uniform terrace running down the length of the Lillooet River, about 100 feet above present river levels. Examples of these sites are at DIRo 14, DIRn 1 (*Cúmlvqs*), and Skookumchuck Rapids. The sites on this terrace could be quite old in comparison to the sites on the lowest terrace along the river. Considering that downcutting by the Lillooet River may have begun before the stabilization of sea levels around 4,500 BP (Fladmark 1975), these sites may have been used thousands of years ago. On the other hand, recent geotectonic activity at Mt. Meager north of Pemberton may have affected the Lillooet River such that sites near the present river bank may not be more than 2,400 years old (Hudson, personal communication 1998). Only proper excavation could determine their true age.

Evidence of habitation is always located near or directly at major fishing spots, and at the junction of larger creeks, providing easy access to fresh drinking water and timber. House pits are generally found in soft, well-drained soils. Village sites have been found on both sides of the river the entire way up the lower Lillooet River, and all of the larger villages tend to have their equivalents on the opposite side of the river. For example, we know for certain that the prehistoric villages of Skookumchuck and Samahquam on the east bank of the Lillooet River have equal correlates directly opposite on the west bank. The villages on the west bank have not yet been recorded, but their locations are known. Baptiste-Smith IR 1b (EaRp 5) on the southwest end of Little Lillooet Lake has its equivalent on the southeast end (EaRp 3). This was also observed by Hill-Tout in his ethnography of 1905. The significance of this is related to warfare with neighbouring groups, particularly the Thompson. Teit (1906) remarks on many instances of raids by the Thompson people on the Lower Lillooet. In one instance (p.241), he mentions a Thompson war party attacking a Lillooet village on the east side of Lillooet Lake. As a result of this attack, the Lillooet built several fortified houses on the west side of the lakes and rivers. Those who had formerly lived on the east side now moved over to the west side.

No evidence has yet been found of re-

source camps in the highland area, though discussions with community members suggest that mountainous areas were used extensively. The discovery of CMT's at DIRo-12 above Glacier Lake, for example, shows the use of highland areas for the acquisition of resources. The degree to which Lower Lillooet groups exploited resource camps, however, is uncertain. Informants have continually stated that one could obtain food very close to the village. Berry and root patches were abundant and nearby, and river terraces near fishing spots were large enough to erect semi-permanent villages there. As villages were almost always located at the junction of creeks with the Lillooet River, the inhabitants could exploit the nearby watersheds for hunting and trapping. Moreover, the proximity of mountainous areas near the village meant that hunting trips were not more than a day long (Hudson 1994), or limited to small task group hunting (Quirolo and Hudson 1996). Discovery of less noticeable evidence of resource camps would be hindered by the overgrowth of dense forest cover in the Coast Mountains. Some of the more well-known alpine meadows, such as at Glacier Lake and Fire Lake, may contain this evidence since the lakes were known to contain various fish. Trails along the larger creeks were known to have been used by the Lower Lillooet to travel to the Pitt and Stave Lake watersheds, as well as to the Stein Valley (Hudson 1994:43), but the purpose for trips to these areas seems to be more related to trade and interaction with neighboring peoples, rather than intensive resource exploitation.

Evidence of prehistoric burials has been found at DkRn 4, EaRp 7, and DIRo 10. These are often recognized as large or small depressions. The rest of the burials observed, however, were found in allocated cemeteries. These cemeteries contain historic markers and are still used today by different families. Discussions with community members, however, suggest that the same graveyards were used prehistorically. They are still maintained by the communities during grave cleaning ceremonies. No subsurface testing was performed on these burials to determine how the bodies were interred. Most of the graveyards known today have seen the historic effects of conversion to Christianity, which began in earnest in the late

1800s. Allusions to previous burial methods are found only in scattered historic photographs and historic documents from the area.

Conclusion

This report is an attempt to provide some general observations about Lower Lillooet settlement patterns, based on observations of site distribution and composition in the lower Lillooet River valley. However, since they were only surface observations, they are not meant to support any theories as yet. Only intensive subsurface investigation could produce the evidence needed to support some of the theories presented.

Maurice DePaoli recently received a BA in Archaeology from Simon Fraser University and works for In-SHUCK-ch Services Society on the In-SHUCK-ch N'Quatqua Traditional Use Study (INTUS)

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BOOK REVIEWS

MOUNTAIN OF GLASS

Batza Téna: Trail to Obsidian Archaeology at an Alaskan Obsidian Source

By DONALD W. CLARK and A. McFADYEN CLARK

Archaeological Survey of Canada, Mercury Series Paper 147. Canadian Museum of Civilization, Hull, 1993.

xvi + 254 pp., tbls., figs., illus., refs., index, and apps. Price: ISBN 0-660-14016-0 (Pb) \$24.95 CDN.

Archaeological research near the Batza Téna obsidian source began with Annette McFadyen's 1961 field work in the Koyukon River basin, near Hughes Alaska. The primary subject of this book, however, is subsequent research on the distribution, types and ages of archaeological sites associated with, and in the vicinity of, the Batza Téna obsidian source, which was undertaken by the Canadian Museum of Civilization. These investigations are part of an extensive study of Koyukuk Indian ethnography, pre- and post-contact aboriginal history in the Koyukuk region, and the nature of Indian-Inuit relations in the Koyukuk drainage.

Batza Téna (Baats'a Tina, in Koyukon orthography) means "trail of obsidian" in the Koyukon Athapaskan language. The Clarks' work clearly shows the aptness of the name, reporting a high density of archaeological sites emanating from the source. Though the fieldwork upon which the volume is based took place between 1968 and 1972, the book still provides a good primer on the archaeology of the area, with an emphasis on the obsidian source and its influence on the nature of

nearby sites. The volume incorporates a previous preliminary report on the study (Clark 1972), as well as published papers discussing fluted points recovered from sites near Batza Téna (Clark and McFadyen Clark 1975, 1980) and issues pertaining to obsidian hydration dating (Clark 1984).

The book is set out in the expected archaeological format, beginning with an excellent description of the geographical setting of the study area that emphasizes the relevance of the environment to archaeology. Too often these sections seem to focus on ecological overviews without making a link to cultural use of the landscape, but this is not the case here. This first chapter also deals with the history of archaeological work in the region and an overview of known archaeological sites, problems of dating artifacts and sites, and a description of Koyukuk obsidian.

The next seven chapters develop a regional cultural chronology, using descriptions of selected sites and artifact types to illustrate the chronologically- and technologically-based sequence. The presence of fluted points at ten sites is given considerable treatment.

From here, the authors move on to a discussion of lithic-source archaeology. Batza Téna is described first as a "lithic reduction zone centred on a raw material source" (p. 201), and second as an upland hunting ground and travel corridor. The authors compare Batza Téna with the well-documented Mt. Edziza obsidian source in northwestern B.C. (Fladmark 1985), and, with the addition of isolated finds, they adopt Fladmark's functional categories (quarry, lithic workshop, camp, intermediate/multi-purpose site) as the main site types associated with the stone source. However, no quarry sites have been identified at Batza Téna, apparently because abundant float cobbles of obsidian rendered quarrying unnecessary.

The Batza Téna lithic reduction zone is defined by three criteria: 1) a predominance of debitage (with a high incidence of large flakes and cortical flakes); 2) a relative lack of formed or utilized tools; and 3) a predominance of Batza Téna ob-

sidian relative to other raw materials.

The actual extent of the Batza Téna lithic reduction zone was not delimited, but the authors estimate its boundaries with reference to topographical and archaeological evidence. Archaeological site types associated with the source are discussed, along with artifact analyses, and the relationship between the sites and the source. Batza Téna lithic scatters exhibit many of the characteristics one would expect near a major stone source. The sites tend to have a lot of debitage compared to formed tools, a decreasing average flake size with increased distance from the source, a greater frequency of cortical flakes at sites nearer the source, and (the authors propose) larger lithic scatters nearer the source.

The summary and conclusions presented in Chapter 10 continue along a culture-historical and morpho-technological bent, focusing on artifact types to indicate cultural characteristics over time. Considerable attention is given to synthesizing local cultural/technological traditions (based on artifact types) and discussing their origins, making reference to Batza Téna sites as appropriate. Although the authors caution against correlating cultural traditions with ethnic or linguistic groups, it appears that this is precisely what they do in their discussion of the coexisting Palaeo-Arctic and Northern Cordilleran traditions (the "ethnic mosaic hypothesis").

Three appendices are included. The first discusses two sites that do not fit well within the culture-historical framework espoused in the book. Although it highlights an important problem, the brief appendix presents little information, with supplementary sketch maps, and it probably is of limited value to the average reader. Appendix II concerns "collations", or classifications of certain tools, cores, flakes and sites according to morphological and functional types. It contains a fair amount of artifact data that could be useful to archaeologists working in the area or at similar site types elsewhere. The third presents the results of trace element characterization of the Koyukuk River obsidians. Seventy-four samples were submitted for atomic absorption spectrophotometry (AAS) trace element analysis, which identified three (possibly four) chemical variants of Batza Téna obsidian.

Interestingly, the most common type exhibits a wide range of visual characteristics, emphasizing the perils of visual characterization of obsidian. Instrumental neutron activation analysis (INAA) was also used to characterize the obsidian, but the authors do not provide much information about the results. They do note, however, that the INAA and AAS analyses measured different sets of elements, which will make it difficult to compare the results of the two techniques, when they are available.

In general, the book is well structured and readable, and BC archaeologists may find several aspects of the book of particular interest. There are several major lithic sources known in British Columbia, and yet with the exception of the Edziza obsidian source, very little systematic research has been conducted. The Clarks' view of the source as integral to the nature of surrounding archaeological sites is a good one. Major sources of high quality stone were valued and defended by aboriginal groups. They provided goods for exchange with neighbours and possibly a technological advantage. Consequently, sites associated with these sources should be viewed as more than simple lithic scatters: their place in the aboriginal economy of the region should be recognized and appreciated.

Recent archaeological modelling studies have clearly shown that certain site types are extremely difficult, if not impossible, to model, and lithic sources fall into this category. While likely outcrop locales may be predictable at a gross level, specific quarry sites, and the myriad of small to large reduction sites, camps, trails, and associated sites and features can be very difficult to predict using common criteria, as the lithic resource influences all other activities. Many lithic sources are located at high elevations, at some distance to a water source, and sometimes on rough terrain. Most archaeological models would not assign a high site potential rating to such areas, when in fact the density and significance of sites may be very high. An understanding of specific stone sources may assist with site potential modelling.

Good case studies for these types of approaches might include the Cache Creek basalt source in the vicinity of the Arrowstone Hills and Maiden Creek, and

the Anahim obsidian source, which is certainly deserving of an approach on a par with the Batza Téna and Edziza studies, given the wide distribution of the material in archaeological sites throughout the central and southern Interior Plateau and into Alberta.

Characteristics of the Koyukon fluted points also may be of interest to some BC archaeologists, particularly those working in the northeast, where fluted specimens have recently been uncovered. Both the points and the sites they originated from are given detailed treatment over the course of some 42 pages, supplemented by somewhat shadowy photographs of the points at the end of the book. All other plates in the book, however, are of high quality.

In summary, this book's greatest value may be in its approach. The Batza Téna source is viewed as a magnet that attracted people to the area, and the archaeological sites that cluster around it are not viewed in isolation, but as part of a system of resource utilization. The authors recognize that the presence of the obsidian source has resulted in a density of sites and a spectrum of archaeological phases that is truly rare. Notwithstanding the severely limited time and resources of many archaeological projects today, many of us would be well advised to occasionally lift our noses out of the dirt and remember that the sites we study are part of a cultural landscape that, understood as a system, can help us to reconstruct the past.

Jeff Bailey

ASBC member Jeff Bailey is a consulting archaeologist with Golder Associates in Burnaby. His research interests include pre-contact lithic procurement and exchange systems and trace element characterization ("sourcing") studies. Jeff has an unofficial affiliation with the X-ray fluorescence lab in the Department of Chemistry, Simon Fraser University, where he periodically conducts trace element analyses of obsidian artifacts.

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A Voice Great Within Us: The Story of Chinook, B.C.'s Lost Language, with a Chinook Lexicon, Examples of Its Use, a Map and Gazetteer of Chinook Place Names, Chinook Poetry, and a Discussion of Its Origin and Legacy

by CHARLES LILLARD with
TERRY GLAVIN

New Star Books, Vancouver, 1998.
Transmontanus No. 7. 120 pp., illus.
Price: ISBN 0-921586-56-6 (Pb) \$16.00
CDN / \$12 US.

Everyone living on the West Coast is familiar with or has at least heard terms like *skookum*, *salt chuck*, or *tillicum*, but not everyone knows their meaning, and few know that they are relics of a lost language: Chinook. With this book, the authors make this lost language accessible to the general public. It fell to Terry Glavin, who modestly places his name not as a co-author, but below that of Charles Lillard, to complete the work on the book after Lillard's death of cancer in 1997.

The sections written by Terry Glavin are the foreword, a long poem in Chinook and English, "Rain Language," a discussion on the history of Chinook, and a Chinook "lexicon". Charles Lillard contributed "Scenes and Sketches," a number of vignettes on the BC coast, a "natural history" of the word *skookum*, a gazetteer of BC Chinook place names, and "West Talk," a piece on West Coast language in general.

For about a hundred years, up to the late nineteenth century, Chinook was the lingua franca of the Pacific Northwest, facilitating communication not only between European traders and natives, but also between different aboriginal peoples. That it hasn't survived is due to the overwhelming imbalance of populations beginning around the turn of the century: native peoples were decimated, partly by smallpox and partly by ill-treatment and starvation, while the numbers of immigrant settlers, all of whom had or adopted English as a

common language, increased explosively.

Usually Chinook is referred to as a jargon, but strictly speaking it's a pidgin, or, according to the Cambridge Encyclopedia of Language, a "communication system which has grown up among people who do not share a common language" (Crystal 334). All over the world pidgins developed where Europeans needed to communicate with local populations in order to carry on trade. Glavin prefers the term creole for Chinook because, he contends, it is more than a basic trade language. Again according to the Cambridge Encyclopedia, a pidgin will develop into a creole when it becomes the mother tongue of a community, in other words, when it becomes the first language of its speakers. At that stage, the language becomes richer in vocabulary, grammar, and style. However, although Chinook appears rich in those terms, there doesn't seem to be any evidence that it superseded the numerous native languages and dialects and became the first language of any one group.

There are suggestions its origins predate contact with the white man. Explorers and maritime traders arriving at the Pacific coast in the late seventeen hundreds first recorded Chinook words. Apparently it is based on the language spoken by the Chinook people around the mouth of the Columbia river—a major crossroads of trade routes even before contact—and already at that time included words from other Northwest Coast languages. After contact with the Europeans, many French and English words entered the vocabulary, such as *lahash* (*la hache* < French) for "axe", or *Kinchoth* (King George) for "English".

But how did Chinook originate? What does it look like? All we learn from Glavin is that "...grammatical structure follows the English form—the adjective usually precedes the noun." (p. 76). This is where a little more detail might have been provided without making the book too technical for the general public. What does it mean for a language to structurally resemble English? What is the significance of the adjective-noun sequence? What is the structure of English? The most general aspect of syntactic (grammatical) structure is the order in which subject (S), verb (V), and object (O) are arranged, which in an English declarative sentence is precisely

this: SVO. In the languages of the Pacific Northwest however, verb and object usually precede the subject, and some languages, for instance Tsimshian, don't even have subjects and objects in the sense known to us. If Chinook does have pre-contact origins, it is therefore surprising to find that it parallels English and has an SVO order. One may even be inclined to take this as evidence that Chinook developed after contact and was based on an Indo-European language after all, like most other known pidgins in the world. On the other hand, it is conceivable that word order was quite free in Chinook, and that written texts, like those I looked at in Thomas (1970), usually had European authors who chose an English word order, which would explain why we find only SVO examples surviving in print. Something like that is in fact suggested in "*Tenas Wawa*," a Chinook publication on the Internet. If word order is free, however, it would not be correct to say that Chinook structure parallels English. This is a puzzling question to which there is no easy answer.

The "lexicon" is quite short, and Glavin explains he didn't aim at completeness, but rather at showing how Chinook "expanded from a 'pidgin' to a 'creole'" (p. 75). If that was the aim though, the author has failed. Since it is the use of the language which would define its status as a creole or pidgin, one can hardly expect to find evidence for this in a word list. A greater number of loans from other languages, i.e. the expansion of vocabulary alone, only points to a greater influx of foreign objects and concepts. Still, it is fun to look through the terms and recognize English or French.

Very interesting is the tracing of the word *skookum* ("strong") in the section following the word list, and to find that it permeates North American writing to the present day, from novels to reference books. Also of interest is the gazetteer, putting such places as Alta Lake, Boston Bar, or Cultus Lake into perspective. What is missing though is an explanation of the figures and letters in parentheses following each entry, e.g. "Alta Lake (50 122 SW)" (p. 102). While the reader may assume the two sets of two and three digits respectively refer to latitudes and longitudes, although this might have been mentioned, it is not clear what the direc-

tional abbreviations refer to. However, there is a map which helps locating some of the places.

But the technical discussion of Chinook is only one aspect of the book. To me, the heart of the book is the section entitled "Scenes and Sketches," by Charles Lillard. This is where the real stuff is. Suddenly I am gripped, and perhaps I understand why Lillard has been named the principal author. He shares with us memories of the BC coast, of days in the bush, of logging camps, and all his experiences are filled with the power of language, of which Chinook forms an integral part. It is through these personal, intimate sketches of West Coast life as it still was in Lillard's youth that we understand the life force Chinook once was on the West Coast—and, through this book, will perhaps continue to be. Now the title, *A Voice Great Within Us*, makes sense. And now Terry Glavin's poem, which at the first reading I found difficult to warm up to, definitely comes to life.

Charles Lillard wrote another section, "West Talk," placed at the end of the book. This piece, too, conjures up life in the bush, and, although it's not Chinook, the logging language of which he provides rich examples as well as the sketches of the people, define and enrich that part of West Coast culture that at one time included Chinook.

On the whole, I really like the book. It has very much West Coast flavour, and will have great appeal to anyone the least bit interested in British Columbia. Readers with a special linguistic interest will find their appetite wetted and can refer to the bibliography to delve further into the subject. With its price of only sixteen dollars, the book will be affordable to a wide readership. Its design is attractive, too, the 8x9 format allowing wide margins which are often used for illustrations, all from the private collection of Charles Lillard. They include some photographs of landscapes, a petroglyph, some native art work, and, most importantly, reproductions of historical Chinook texts. These

texts, and sometimes text fragments, wonderfully complement the narrative. There are hardly any typographical errors in the book, and therefore it is particularly unfortunate that one blatant omission of a word occurs in the first sentence of the section West Talk: "During most of my life I have [been] obsessed with language." (p. 109). Well, it's something to fix in the next printing, which I'm sure will not be long in the making.

*) "Strong Talk"

Helmi Braches

ASBC President Helmi Braches has an MA in linguistics.

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RECENT PUBLICATIONS

I. ARCHAEOLOGY

- Acheson, Steven. 1998 *In the Wake of the ya'áats'xaatgáay ['Iron People']: A Study of Changing Settlement Strategies Among the Kunghit Haida*. British Archaeological Reports (BAR) International Series 711. 209 pp. Price: ISBN 0-86054-948-8 (Pc) £39.00.
Kehoe, Alice Beck. 1998 *The Land of Prehistory: A Critical History of American Archaeology*. Routledge, New York. 288 pp., endnotes, refs., index. Price: ISBN 0-415-92054-X (Hc); ISBN 0-415-92055-8 (Pb) \$31.95 CDN.
McMillan, Alan. 1999 *Since the Time of the Transformers: The Ancient Heritage of the Nuu-chah-nulth, Ditidaht, and Makah*. UBC Press, Vancouver. 264 pp., illus., refs., index. Price: ISBN 0-7748-0700-8 (Hc) \$85.00 CDN.

II. ETHNOLOGY, LINGUISTICS, AND MATERIAL CULTURE

- Maclachlan, Morag, ed. With contributions by Wayne Suttles. 1998 *The Fort Langley Journals, 1827-30*. UBC Press, Vancouver. 288 pp., illus., apps., notes, refs., index. Price: ISBN 0-7748-0664-8 (Hc) \$75.00 CDN; ISBN 0-7748-0665-6 (Pb) \$19.95 CDN.

GOVERNMENT OF BRITISH COLUMBIA - NISGA'A TREATY

A wide variety of information on the Nisga'a Treaty is currently available from the Ministry of Aboriginal Affairs. They are distributing free copies of the 260 page Nisga'a Final Agreement, as well as the *Nisga'a Final Agreement Appendices*. The handout *The Nisga'a Final Agreement In Brief* and ten information sheets on final agreement topics including "Cultural Artifacts and Heritage" are also available.

For copies, contact: Ministry of Aboriginal Affairs, Parliament Buildings, Victoria, BC, V8V 1X4; Tel. 1-800 880-1022.
Web page: <http://www.aaf.gov.bc.ca/aaf/>

BETTER LATE THAN
NEVER!

Brooks Peninsula: An Ice-Age Refugium on Vancouver Island

Edited by RICHARD J. HEBDA and
JAMES C. HAGGARTY

Occasional Paper No. 5, British Columbia
Ministry of Environment, Lands, and
Parks, Victoria, 1997.

ii + 482 pp., illus., index. Price: ISBN 0-
7726-3139-5 (Pb), \$40.00 CDN

This book is truly an interdisciplinary compilation of information, examining the geology, glacial history, soils, plant life, animals and humans of the mountainous Brooks Peninsula on the northwestern coast of Vancouver Island. What was it about this area that generated such enthusiasm for a classical, full-scale scientific expedition in 1981?

The answer is part of a long-standing mystery of the Northwest coast of British Columbia, which focussed originally on the Queen Charlotte Islands, and centers on the question of whether or not there were ice-free refugia during the last glacial maximum of the Fraser Glaciation. A controversy has surrounded this question since the 1960's, with biologists generally taking a pro-refugium position, with most geologists on the other side. It was the discovery of endemic and disjunct plants and animals on the Charlottes that initially fuelled the refugium hypothesis, following the reasoning that slow evolutionary processes would require a lot more time than the generally accepted 12,000 years since deglaciation to account for the biotic novelties that were described by pioneers such as Bristol Foster, Wilf Schofield, and Taylor and Calder in the 1960s and 1970s.

The Brooks Peninsula rose to scientific prominence in the 1970s, when several Queen Charlotte "endemic" plants were also found on the Brooks, along with geological indications that the area may not have been totally glaciated at higher elevations. The book before us is the scientific assessment of current and past con-

ditions on the peninsula, and it is a readable and informative examination of the data and hypotheses to explain them.

The expedition's planners and coordinators were Richard Hebda (botanist and palaeoecologist) of the Provincial Museum and James Haggarty (archaeologist), who followed up their early role by co-editing the 16 chapters that make up this book. The chapters are highly variable in length, but most are organized in a common format followed by cited references. I will not comment on all the chapters, but will identify some "must-read" contributions, based on my own palaeoecological bias.

Chapter 1 (Hebda, Haggarty, Inglis) is a readable introduction to the history of the area and the expedition, and summarizes the other chapters briefly. Robert Ogilvie's paper (Chapter 5) is key to understanding the botanical basis of the refugium controversy, and his analysis of phytogeographic results in light of previous work is important, even if you are not a botanist. Ogilvie was also a major player in the assessment of the Queen Charlotte Islands as a refugium, and his careful body of work will stand as a landmark contribution to coastal biogeography. Also central to the objective of testing the refugium hypothesis is Chapter 9 by Hebda, who provides radiocarbon-dated pollen diagrams and plant macrofossil analyses of several small lakes and wetlands. These sites provide important new data on post-glacial vegetation and climate, although the radiocarbon dates are based on bulk samples, and are determined by standard methods rather than accelerator mass spectrometry. In the early 1980s, these were standard approaches, and the author should not be faulted for the methodologies of the time. Hebda also leads the authorship (with Howes and Maxwell) on a short summary paper (Chapter 15) which analyzes all the results in light of the refugium controversy. If you are interested, read and find out the answer!

For the archaeologists and anthropologists who make up the core readership of *The Midden*, Chapters 13 and 14 provide an ethnographic and archaeological overview, respectively, of the Brooks Peninsula region. Richard Inglis conducted an analysis of the ethnography of the study area after the 1981 expedition. Available information is sketchy, focussing on brief

ethnographic descriptions of the Klaskino, Chicklesat, and Classet/Nesponds people. Archaeology is treated in a 27-page paper by Haggarty and Inglis, who survey current knowledge of the archaeology of the Chicklesat and Klaskino. Ten sites were recorded on the Brooks Peninsula, with seven general activity sites, two burials, and one isolated find.

In summary, this book is a valuable contribution to the natural history of British Columbia, both present and past. It is also a useful reference work for any other groups who might wish to undertake similar expeditionary scientific adventures. The closing chapter, titled "Museum expeditions and interdisciplinary research" is a thought-provoking list of dos and don'ts for like-minded colleagues. I recommend it to anyone who is interested in the natural history and palaeoenvironments of the British Columbian coast.

The philosophy of the editors is well-expressed in this quotation from page 15 of chapter 1:

Think not of Latin names; think of trees, flowers, birds, mice, and bugs. Think not of geological features and bedrock types; imagine instead graceful slopes, deep chasms and barren rocks. Feel the wind, the rain, and see the mist sliding down a mountainside. Focus not on archaeological site numbers and stratigraphic descriptions, but imagine people, hunting, fishing, eating, talking, ... living their lives generation after generation for thousands of years.

It is a shame that it was not published more quickly (hence my title).

R.W. Mathewes

This review is dedicated to the memory of R.T. (Bob) Ogilvie, who died in 1998 after a lengthy illness. His contributions to this volume and other investigations of coastal botany will be appreciated by future scientists as well as by current colleagues.

Professor Rolf W. Mathewes is on faculty at the Department of Biological Sciences, and is an Associate member of the Department of Archaeology, Simon Fraser University. He is a specialist in pollen analysis and paleoecology. He is engaged in research, especially with respect to studies of the coast as a possible migration corridor for late-glacial human migrants from Beringia during a period of lowered sea-levels.

CONFERENCES

1999

March 24-28 **Society for American Archaeology (SAA), 64th Annual Meeting**
Chicago, Illinois, USA

Contact: LuAnn Wandsnider, Program Chair, Department of Anthropology, University of Nebraska, 126 Bessey Hall, Lincoln, NE 68588-0368; Tel.: (402) 472-8873; E-mail: lwand@unlinfo.unl.edu

April 7-10 **Northwest Anthropological Association, Annual Conference**
Newport, Oregon, USA

Contact: Karen Mills, Department of Anthropology, 238 Waldo Hall, Oregon State University, Corvallis, Oregon 97331-6403; Tel.: (541) 737-3847; E-mail: kmills@orst.edu

April 28-May 1 **Canadian Archaeology Association (CAA), 32nd Annual Meeting**
Whitehorse, Yukon

The 1999 Canadian Archaeological Association Conference will be hosted by the Government of Yukon Heritage Branch.

Contact: Ruth Gotthardt, Programme Coordinator, Tel.: (867) 667-5983; Fax: (867) 667-5377; E-mail: Ruth.Gotthardt@gov.yk.ca; Web page: www.canadianarchaeology.com

November 12-15 **Chacmool, 32nd Annual Conference** "Indigenous People and Archaeology" Honouring the Past,
Discussing the Present, Building for the Future
Calgary, Alberta

Currently, there is a trend in archaeology in which traditional schools of thought concerning the past are being augmented and adjusted as a result of increased exchanges with indigenous people. This interaction has generated both cooperative efforts and strained relations between indigenous people and archaeologists. The purpose of this conference is to share information on the mutual benefits of cooperative ventures and to open a dialogue on issues of controversy. Now is the time to hear from the many voices that speak for the past, present, and future.

Call for papers. The deadline for paper submissions and workshop/presentation submissions is April 1st, 1999. Proposed session topics include: Traditional Knowledge (Sacred Geography/Cultural Landscapes; Material Culture; Oral History and Oral Tradition); Cooperation: A Shared Interest in the Past (Intellectual Benefits—Collegial Relationships; Enrichment and Empowerment; Indigenous People as Colleagues); Past, Current, and Future Relationships; Burials; Ownership of the Past: Issues of Curation, Interpretation, and Presentation; Indigenous Tourism/Eco-tourism; Judicial Proceedings: Land Claims and Other Legislation; and Indigenous Perspectives on Archaeology.

Contact: 1999 Chacmool Conference, Department of Archaeology, University of Calgary, Calgary, AB, T2N 1N4; Tel.: (403) 220-7120; E-mail: chacmool@ucalgary.ca; Web page: <http://www.ucalgary.ca/UofC/faculties/SS/ARKY/chacmool.html>

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