THE MIDDEN

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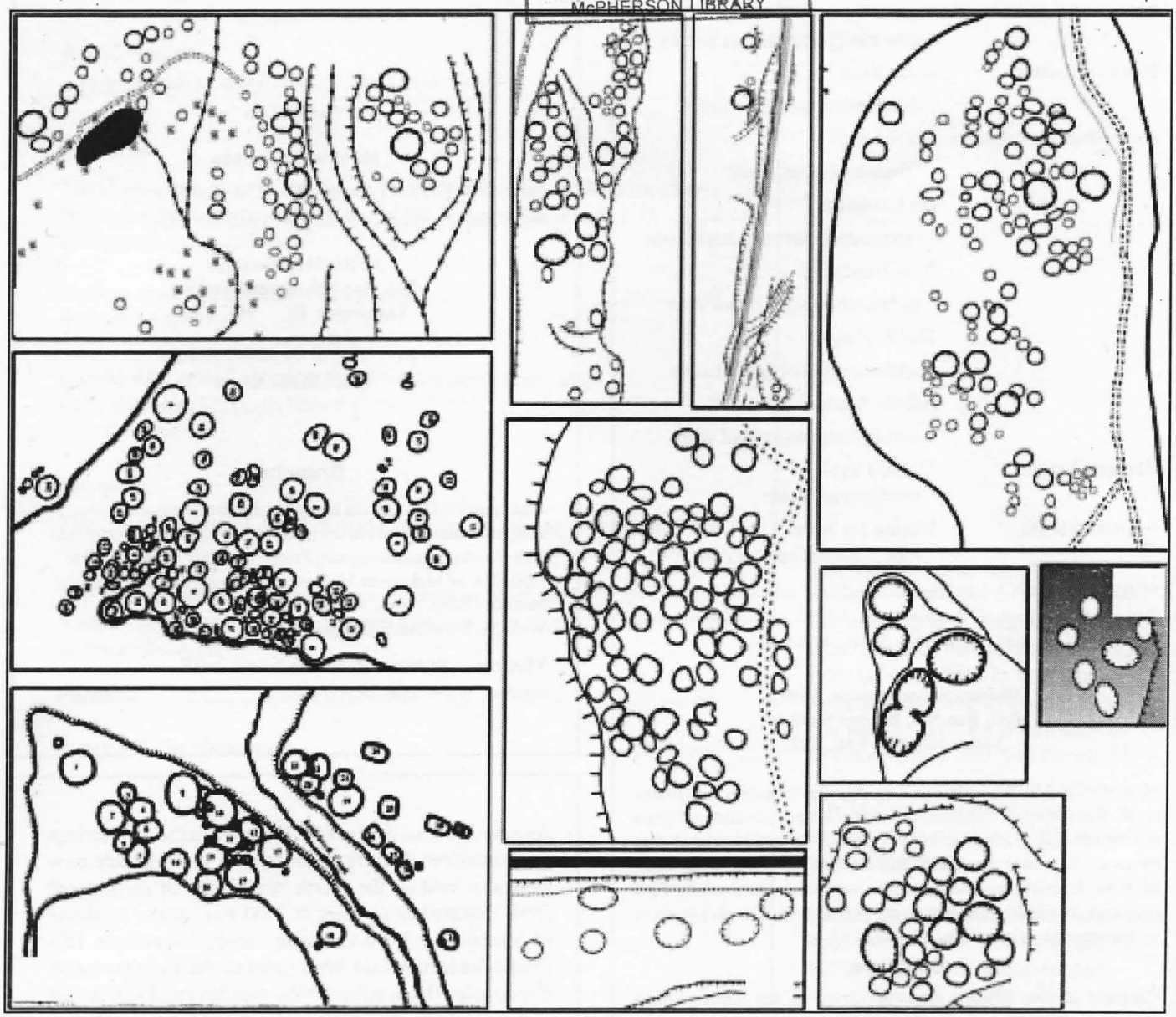

Celts & Netting Needles

Mid Fraser Settlement Patterns

THE MIDDEN

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THE MIDDEN

Volume 42, No. 3, 2010

In this issue

Cover:
Village outlines in the Mid-Fraser from Sheppard and Muir's article.

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The ASBC Pages

Letter from the ASBC President

Greetings! I hope that your summer season went well and that the transition to the fall is going smoothly. A number of items that arose since I last wrote to you have arisen and I feel them need to convey to you. First thanks to the membership who turned out at our annual general meeting (AGM), your participation and input is both needed and valued. At the AGM one of the key things I mentioned and would like to convey to you all is that your executive is working hard (and on a volunteer basis!) to accomplish many things.

First and foremost the fall-winter month to month lecture series that is shaping up to be a interesting and diverse set of people from across the Northwest who will be speaking a wide range of topics. Second that our financial situation is being very well looked after by our all star treasurer Jim Pound. Third, your Vice President is working on integrating old versions (there are many!) of the membership list so that it will come into line with those who sign up online via our web site. Unfortunately our membership secretary Erin Hannon has recently resigned her position as she has moved to Alberta for employment. We are looking for someone to fill this position, so let us know if you are interested!

Thus to help our work easier with the membership list and getting it up to date I encourage you to sign up or renew your memberships online! If you still prefer to sign up or renew your membership via snail mail you can download the form from the website as well. In the future we also hope to create an ASBC members section of the web page where you will be able to access current and older versions of the Midden as on line PDFs.

Penultimately I would like to encourage all membership to consider helping out the executive to play a role on a number of traditional committees of the ASBC: membership, programs, projects, and public relations and publication. Finally I would like to mention that as part of our partnership agreement with the Museum of Vancouver we are considering a joint event where ASBC members will play a role in examining some the museum's collections as an Archaeology Roadshow type of event. The aim of this event is to encourage more members of the public to become interested and learn about BC archaeology. Something we all need to do, especially in light as to many recent events in BC archaeology alluded to in recent issues of the Midden. I look forward to your participation!

Your President,

Rudy Reimer

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"Oh, I've Seen One Way Bigger Than That!"

Current Research On Housepit Settlement Patterns in the Mid-Fraser Region Of B.C.

Jon Sheppard & Bob Muir

The Mid-Fraser Settlement Pattern Project

As most archaeologists will attest, it is always dangerous, and perhaps even pointless, to make absolute claims about the archaeological record. Statements such as "this is the 'largest' or 'oldest' or 'most important' site in this region," will soon be shouted down by many counter claims. Certainly those of us working in an area for any length of time have been told, by both locals and colleagues, that "you're digging in the wrong place, there's a site twice as big/old/important just over there, I'll show it to you... one day..." This, however, is often where the investigation ends, the promised field trip is never mounted and the challenge to the claim never substantiated. The section of the Fraser River between Lillooet and Big Bar has been the focus of much archaeological research for over forty years (see for example Sanger 1962, Stryd 1977, Hayden 1997, Prentiss et al., 2003, Sheppard 2006, Morin et al., 2008). Most of the attention has been given to three sites (Bell, Keatley Creek, and Bridge River), the latter two sometimes boldly touted as containing both the most and the largest housepits in the region. But due to persistent hearsay, campfire tales, and cryptic site forms from the 1970s the recognition that these are just two of several large communities that once existed in the area is ever growing (see Morin et. al, 2008). However, despite the considerable attention it has received, there are still many basic questions that have yet

Figure 1 (above): Mykol Knighton and Jon Sheppard measuring a small housepit on the western periphery of the Keatley Creek site. (Photo by Vanessa Rockel).

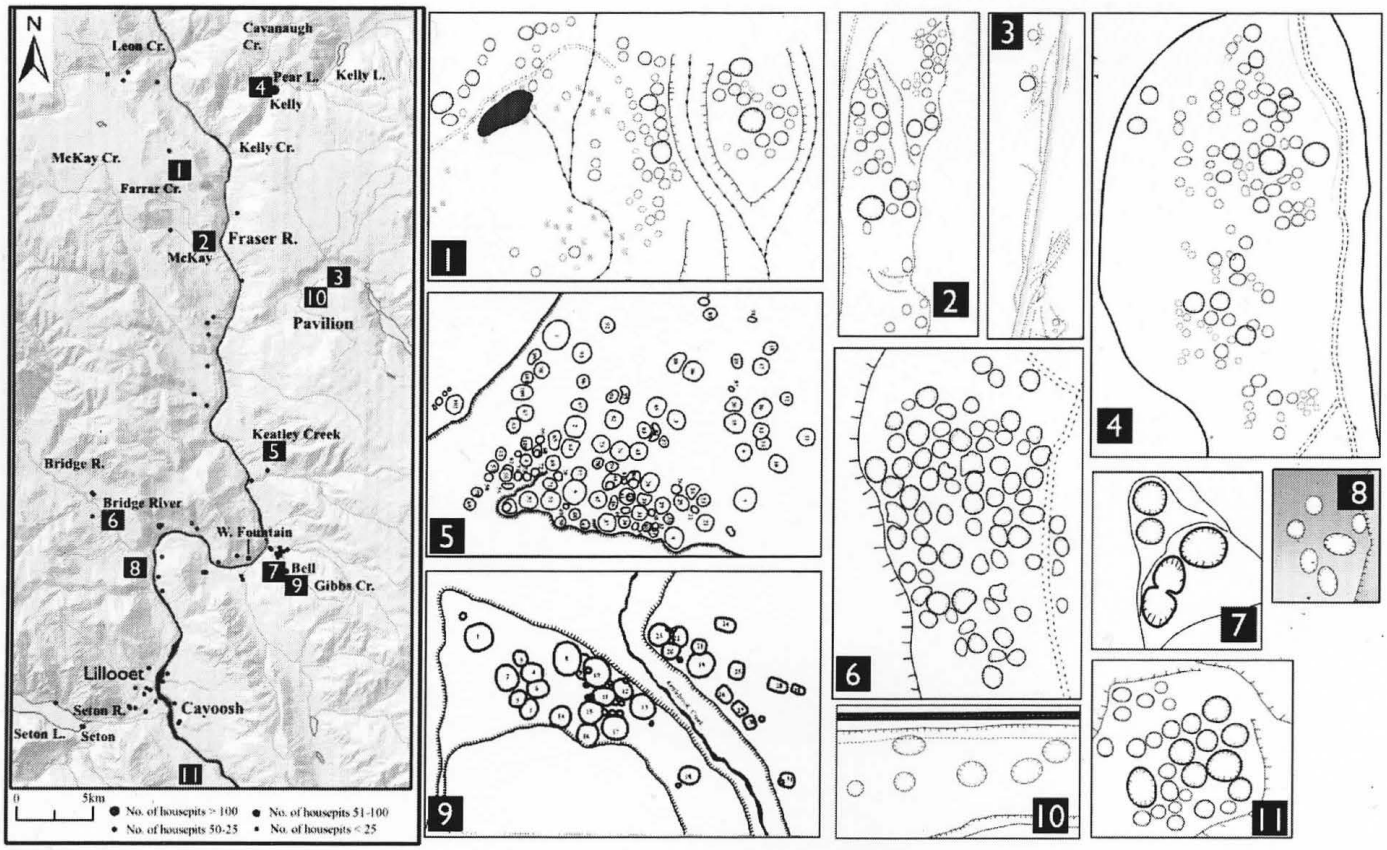

Figure 2: The Mid-Fraser Region and the location of some of the sites discussed in this article. Note the wide range of settlement sizes and number of apparently large sites in the area.

to be answered about the archaeology of the region. These include such questions as: how many village sites are in this region? How many houses do they contain? How big are the houses? Are there any other villages as large as (or even larger than) Keatley Creek or Bridge River? And where are they actually located?

Since last summer, we have been working on a settlement pattern analysis in this region, focusing on the relationship between settlement size and the distribution of natural resources. One of our main goals in this project is to expand our knowledge of housepit villages in the region as a whole, moving the focus away from just the sites of Keatley Creek, Bridge River, and Bell. As there is an abundance of virtually unstudied villages in the area, it is our hopes that our work will remove some of the mystery surrounding these sites. Moreover, once complete, it is hoped that our study will allow evaluation of whether larger pithouse settlements were in closer proximity to a greater number of valuable resources than smaller settlements. But on a more personal level it will hopefully—once and for all—settle that nagging question of whether or not there actually is a site "way bigger than that, just over there."

It may appear that the debate about which site is largest is less a scientific concern and more one of bragging rights. While there may be an element of truth to this, there are good reasons for wanting to know which site is biggest, how many big sites there are, and ,well, how big is 'big.' Theories of the evolution of complex cultures are many and varied, but one factor that is usually considered prominently is population size. The growth of human populations on all scales (household, community, and regional) are all recognized to be important aspects of the development of complex societies. Whether population growth is a cause or effect of complexity is debatable, but either way it is important to have some means of evaluating the scale of human populations. One obvious proxy for population size is settlement size. Clearly, it is a reasonable assumption that a larger house was capable of housing a larger family (or corporate group); similarly it could be argued that a larger number of houses suggests a larger community size. Of course, there is a problem with this latter argument, in that we are assuming that all of the houses were occupied simultaneously, which may not have been the case. So to be honest, it is important to note that when we refer to settlement size, we are not speaking of human populations; instead we are using site size as an index for intensity of use of a settlement location (see Lipe 1992:128). A larger sized settlement therefore refers to a more intensively used piece of land than a smaller settlement. The intensity of settlement occupation is important as archaeologists have argued that increases in sedentism and sociopolitical inequality are directly related to resource abundance in particular areas or environments, as this affects the wealth, population size, storage, trade, territoriality, and craft specialization of a community (e.g., Kelly 2007; Hayden 1995, 2000; Varien 1999). Hayden (2000:255) has used this resource abundance model when discussing the social organization of Late Period complex hunter-gatherers in the Mid-Fraser region, whom he claims were amongst the largest hunter-gatherer communities anywhere in the world. Hayden suggests that the

Figure 3: Jon Sheppard and Nova Pierson Measuring the diameter of HP1 at the Farrar Creek Site. (Photo by Bob Muir)

highly diverse socioeconomy and large sized settlements, such as Keatley Creek (the largest documented settlement in the region, at the time of Hayden's research), are a product of the abundance of, and/or controlled access and trade in, extractable resources — specifically high quality salmon (1997; 2000:255-260). Reliable access to such a valuable resource would have given certain Lillooet communities a great advantage, as groups nearby would have been forced to trade to acquire enough salmon to subsist on during the scarce winter months. Our research is intended, in part, to test Hayden's model of resource abundance, settlement hierarchies, and the complexity of the Mid-Fraser region.

Research Objectives

The study area for our project consists of the Fraser River valley and its surrounding tributaries and drainages between the confluence with Texas Creek, immediately south of the Town of Lillooet, B.C., and Leon Creek, west of Clinton. This area is part of the asserted traditional territory of the Stl'átl'imx and Secwepemc First Nations. Our research consists of three goals related to determining what role the environment plays in pithouse settlement size and distribution throughout the region, specifically:

1. To characterize the size range and distribution of housepits and villages in the study area.
2. To investigate the spatial relationship between settlements and resource zones.
3. To explore possible relationships between settlement size class and resource proximity.

Our methodology to address these objectives involves measurement of the size of each settlement and each housepit; evaluation of whether or not significant size classes actually exist among housepits and settlements; documentation of the precise location of each site, the location of specific resources and/or environmental zones, and the distance from each site to each environmental zone/and or specific resource.

In order to assess the overall size of each settlement, two measurements were used: (1) we counted the number of house-sized depressions (i.e., those larger than 4 meters in diameter) that were visible on the ground surface and (2) we measured the diameter of each (rim crest to rim crests, N-S and E-W) and using these measurements calculated the total 'roof area' of each house. To evaluate differences between house and settlement sizes we calculated z-scores, and created graphical illustrations of housepit and settlement sizes. This was done to resolve whether size classes (small, medium, and large) exist amongst housepits and settlements in the region, or if they are simply normally distributed. Size classes are critical to making arguments that settlement size is related to the abundance of extractable resources. If the size of settlements and housepits simply vary 'normally' around a central value, then statistically, they are not significantly larger or smaller than one another and thus the whole notion that settlement size varies according to location would be moot.

Settlement Sizes

While our project is not yet complete, the preliminary results present a number of intriguing findings. To date, we have documented 18 sites, containing a total of 604 housepits. With respect to settlement size, some very interesting results have emerged. Figure 5 shows settlement sizes based on total roof areas, presented in rank order from largest to smallest. Note the large grouping of small settlements (0-600 m^2) and comparatively small cluster of large settlements (larger than 7600 m^2).

The average total roof area for the settlements is 2355 m^2 and 33 houses is the average number of houses. Somewhat surprisingly Keatley Creek does not appear to be the largest site in the region, based on either number of houses or total roof area. Instead it is Bridge River that is the largest based on area (10426 m^2), though it ranks 4th in terms of number of houses (n = 76). It is notable that the size difference between Bridge River and any of the other sites is substantial (and statistically significant). The second largest site is Kelly Creek, a site to the north of Keatley Creek and west of the town of Clinton. This site has 174 housepits, most of which are much smaller than Bridge River's, with a total area of

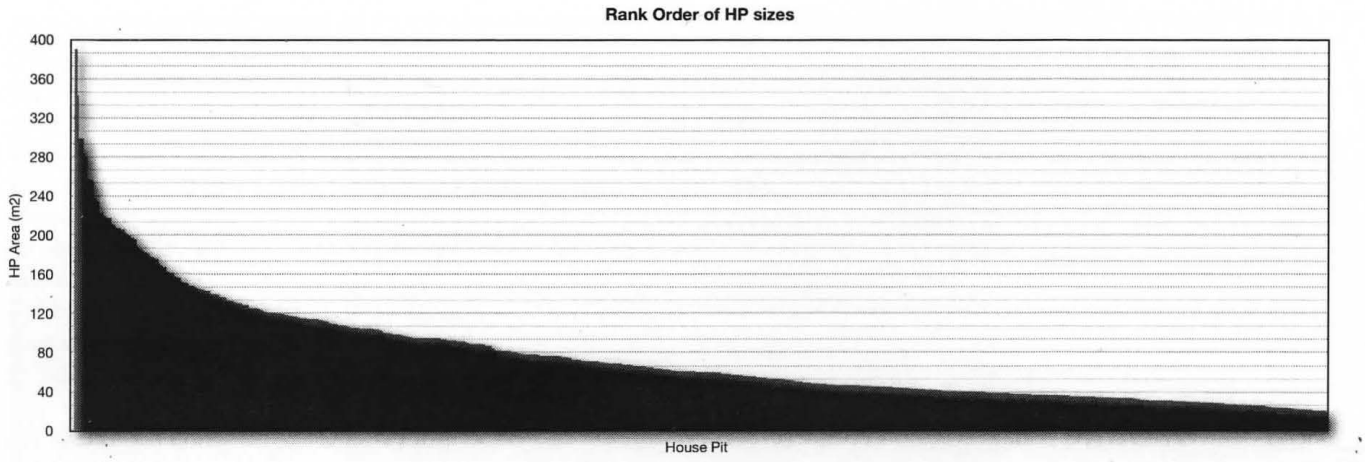

Figure 4: The relative size distribution of all housepits incorporated in this study. x axis is each individual housepit (n=604), y axis is housepit area (m^2).

8758 m^2. Keatley Creek appears to be the third largest site in the region with its 117 housepits making a total area of 8469.75 m^2. A settlement along Farrar Creek, near the community of Leon Creek, is the fourth largest in the region. Farrar Creek has 79 housepits with a total roof area of 5239.53 m^2.

Some other notable settlements so far included in our project are Bell, the fifth largest site in the region, with a total area of 3072.2 m^2; McKay Creek, just south of Farrar Creek, which is the sixth largest with a total area of 2604.52 m^2; and the seventh largest site EdRl-2, with a total area of 1199 m^2, which is located south of Lillooet near Texas Creek. Some of the smaller settlements we examined include Pine Mountain (534.57 m^2), Latimer (480 m^2), EfRk-6 (396.33 m^2), EfRk-107 (353.61 m^2), EeRl-221 (219.7 m^2), EeRl-75 (213.5 m^2), EeRl-220 (197.4 m^2), EeRl-145 (174.69 m^2), and finally EeRl-135 (114.9 m^2).

Overall the distribution of settlement sizes fall into three size classes, with the majority being small, up to 1500 m^2 or six houses in size; three medium-sized settlements (Bell, Mckay, and EdRl-2), between about 1200 and 3000 m^2 in total roof area and 27 to 48 houses, and four large settlements (Farrar, Keatley, Bridge River, and Kelly) over 5000 m^2 and more than 70 housepits.

Housepit sizes

Housepit size also ranges dramatically throughout the region, with the largest house being 22 m in diameter, while the average is a mere 9.6 m. Figure 4 illustrates the distribution of roof areas in rank order, from largest to smallest. Note the large grouping of small housepits (0-50 m^2) and comparatively small cluster of large housepits (larger than 180 m^2). This indicates that the features can be grouped into three size classes, with the medium-sized housepits ranging between 51 and 180 m^2. Results of z-score analyses support this, indicating that housepits larger than 180 m^2 yield z-scores above 1.96, making them significantly deviant from the mean size (of 72.89 m^2), with 95% confidence. Furthermore, amongst the largest housepits, two stand out as unusually large (again based on z-scores); these being House 1 at Keatley Creek (390 m^2) and House 1 at Farrar Creek (343 m^2). The next largest houses are houses 2 and 5 at Keatley Creek, each having a roof area of 289 m^2. This suggests that the two largest housepits could warrant a size-class of their own (i.e., 'very large'). It is notable that the Bridge River site has the largest number of large housepits (11), though the largest of these (House 25) has an area of only 211 m^2, ranking it 18th largest in the region. Kelly Creek has only two houses that qualify as 'large,' these ranking 16th and 22nd overall within the region. Keatley Creek has only six large housepits, however four of these are amongst the top five largest in the region.

Discussion

As our results are beginning to show, previous understanding of the region was not complete or accurate. Keatley Creek appears not to be the largest site in the region, but rather falls amongst a group of similarly large sites, including Bridge River, Kelly Creek, and perhaps Farrar Creek. Furthermore, it appears that there are two patterns emerging with respect to house sizes at large settlements. Keatley, Farrar, Bell, and Mckay all display a distinct hierarchy with respect to housepit size, each displaying one unusually large housepit, followed by a more or less normal distribution of other sizes. While other sites, particularly Bridge River show no size hierarchy, but rather a continuous normal distribution of house sizes. This may reflect differences in the nature of social or economic organization of these communities.

The Next Step: Settlement Size in Relation to Resource Proximity?

Having investigated the distribution of settlement and housepit sizes in the Mid-Fraser, our next goal is to see what relationship the environment plays is these results. Specifically we are investigating whether larger sites are in closer proximity to more resources than smaller sites. In order to examine this potential relationship, we collected information on the location of all settlements using GPS. The resources we are including are lithic sources, based on previous lithic sourcing by Rousseau (2000); the Fraser River and fishing locations along it. Additionally, we will incorporate Alexander (1992), Turner (1992) and Tyhurst's (1992) research on the locations of seven environmental zones (River Valleys, River Terraces, Intermediate Lakes, Intermediate Grasslands, Montane Parkland, Montane Forests, Alpine), and the resources available in each of them. In addition, we will measure the distance between each site and the nearest tree line

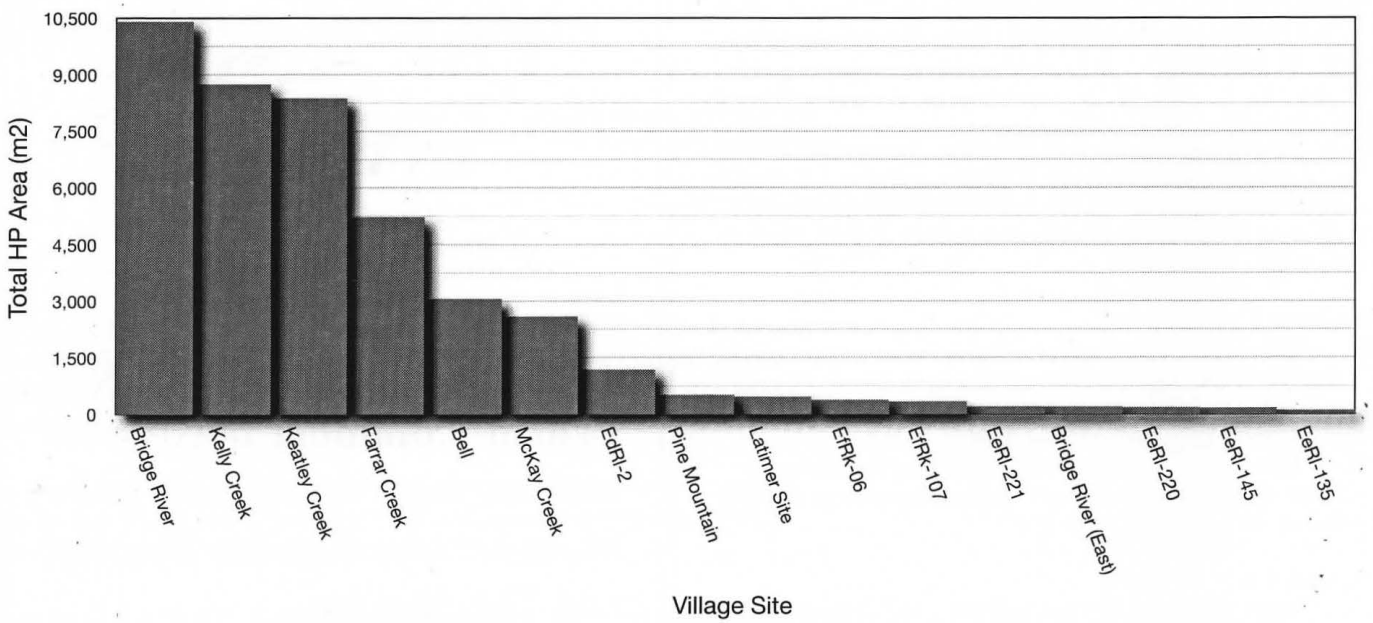

Figure 5: The relative size distribution of all settlements incorporated in this study. x axis is each individual settlement (n=18), y axis is settlement area (m^2, based on combined housepit areas).

as well as the river terrace edge to assess the nearest change in environmental zones. We will then measure the distance between resources/environmental zones and settlements by creating least-cost pathways in GIS. This will be done to assess the distance each settlement has to each of the resources and environmental zones by means of potential travel routes, as opposed to arbitrary lines, which would not be efficient pathways. Finally we will conduct a principal component analysis, to determine the nature of variability between settlements and their surrounding resources, helping to explain what common environmental characteristics are associated with each size class of settlements.

It is our goal that once our project is completed our research will increase our understanding of potential social hierarchies between settlements in the region by examining inter and intra-settlement class differences. In addition, our research will further our understanding of how the environment relates to the expansion of social complexity among hunter-gatherer societies. On a regional level, our research is a great contribution, expanding our knowledge of numerous large settlements in the area. This research builds on previous ecological theories of complexity, testing existing models of resource abundance, settlement hierarchies, and complexity in the Mid-Fraser region.

Jonathan Sheppard is a current graduate student at Simon Fraser University, where he also completed his B.A. He has been working on B.C. archaeology since 2003, and has excavated at sites in the B.C. Interior such as Keatley Creek, Katz, and Greenwood Island, along with a number of consulting related projects in Southwestern B.C.

Robert Muir is a senior lecturer at Simon Fraser University who has been pondering the many archaeological mysteries of the Lillooet Region since 1987.

Acknowledgements

We would like to thank Brian Hayden, Anna Prentiss, Ian Kuijt, and Dana Lepofsky for their wonderful input and continued support of this project. In addition, we would like to thank our volunteer field crew of Jordan Eng, Mykol Knighton, Jennifer Lewis, Peter Locher, Manda Palmer, Nova Pierson, Vanessa Rockel, and Chris Springer. As well as our thanks to the B.C. Archaeology Branch, Mike Lenert, Nathan Goodale, Colin Grier, George Nicholas, Jesse Morin, Michael Klassen, Heather Kendall, Matt Hogan, Craig Rust, Takashi Sakaguchi, Lisa Smith, Eric Carlson, Jay Herbert, Lucille Harris, and Mike Wanzenried for additional support and assistance. Finally we would love to give an extra special thanks to Arthur Adolph and the Lillooet Tribal Council for all their assistance and knowledge of this amazing and beautiful region of B.C.

*This article was adapted from a paper given at the 2010 Northwest Anthropological Conference held in Ellensburg Washington in March.

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Our thanks for your ongoing support,

The ASBC Executive

Netting Needles of British Columbia

Grant Keddie

There are two basic types of needles used in making and repairing nets found in ethnographic collections in British Columbia. The Eye and Tongue needle and the Prong End needle. The first type (figure 1) has often been presented in publications as a traditional First Nation's artifact.

In fact, it was introduced by Europeans to this region. This example is from the fishing village of Arbroath in my ancestral Scotland. The way the Eye and Tongue needle is strung can be seen in figure 2.

This style of needle, by having a thin point and the twine sunk in the broad grooves on the sides, passes more easily through the meshes. The design makes it less likely to get caught in the net - this is especially important when mending damaged nets.

On this Eye and Tongue needle the twine is tied to the base of the tongue and then drawn down one side to the prongs of the forked end and brought up the other side and hitched over the tongue – this side to side procedure is then repeated.

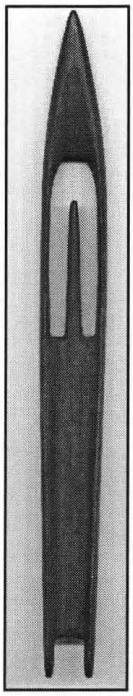

Figure 1. 19th century Scottish Netting Needle.

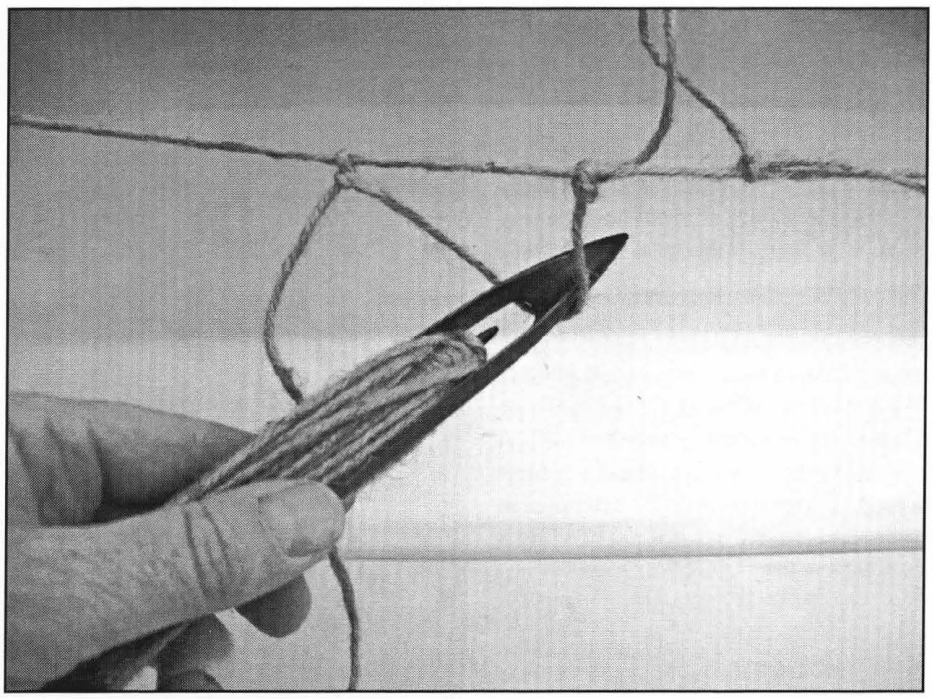

Figure 2. Grant Keddie making a net using the Scottish Eye and Tongue Needle.

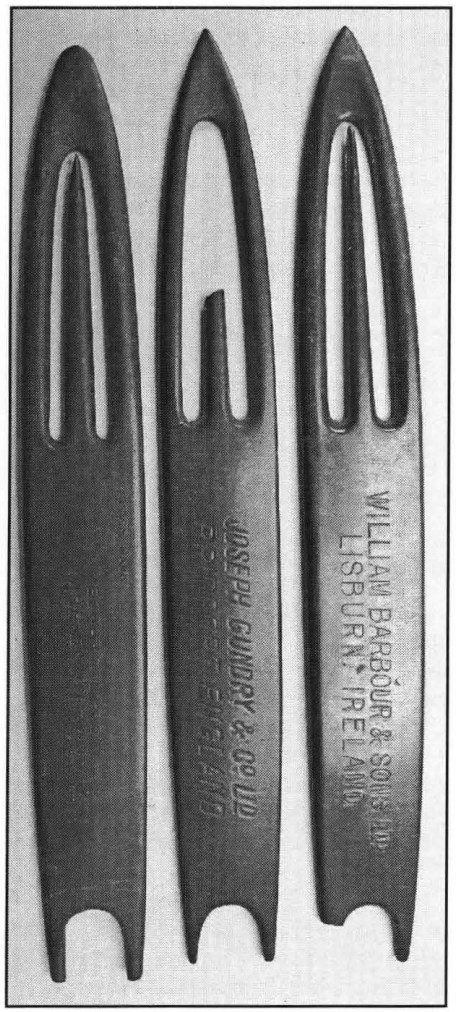

Figure 3. Early 20th century plastic netting needles.

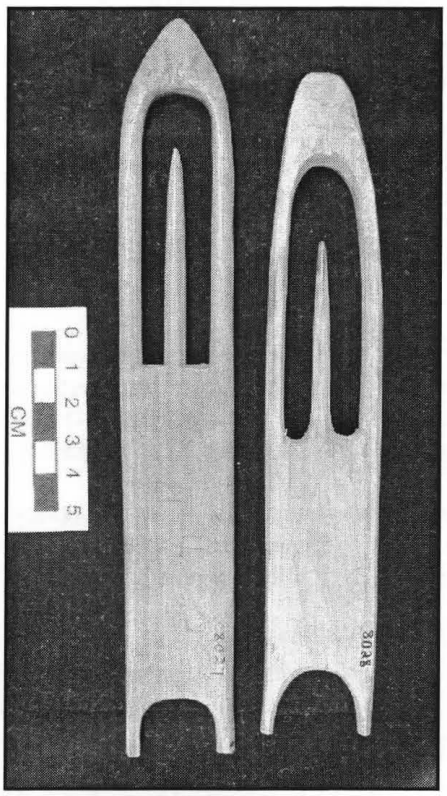

Figure 4. Copies of European Needles made by First Nations.

More simplified versions of this netting needle were mass produced in the early 20th century of material such as Bakelite – an early form of plastic (figure 3).

These less stylized versions were copied in wood by First Nations and now reside in museum ethnographic collections (figure 4). They have sometimes been mistakenly referred to as netting shuttles. The term shuttle is more appropriate to weaving tools that pull the weft threads.

First Nations had their own versions of Prong End needles, but in the post contact period they copied the European styles in wood. These came in a variety of sizes. Since we know that the width of the net needle determines the minimum mesh size, smaller needles are needed for smaller meshes. These ethnographic examples in the Royal B.C. Museum collection range from 140mm to 400mm long and from 11mm to 46mm in width (figure 5).

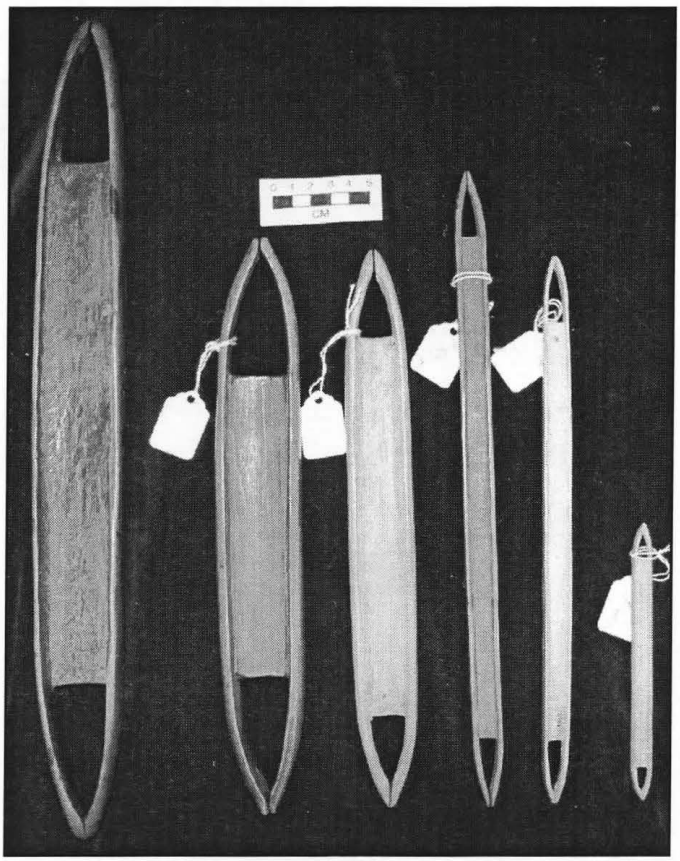

Figure 5. A range of sizes of Prong End needles from the ethnological collection of the Royal B.C. Museum.

Figure 6. Archaeological examples of Prong End needles.

Figure 6, shows what I consider the more traditional aboriginal Prong End needles such as these from late period components of sites at Pedder Bay and Esquimalt harbour on southern Vancouver Island.

It is interesting that these archaeological Prong End needles found on the southern coast of British Columbia (mostly found broken) are identical to ethnological examples collected in Oregon and California (figure 7).

It would appear that this more traditional Prong End needle style found to the south was not overwhelmed by European influences as it was in the commercial fishing industry of British Columbia.

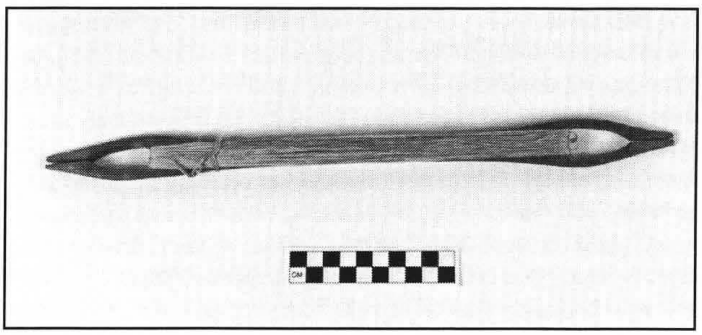

Figure 7. Ethnological example from Oregon that resembles the archaeological specimens from Vancouver Island.

CALLING ALL CELTS:

Exploring Pacific Northwest Exchange Relationships Through Stone Celts

Jesse Morin

Ground stone axe-like tools variously called celts, adzes, and chisels appear in the archaeological record of British Columbia around 4100-3500 BP. These tools are generally thought to have been used in woodworking activities such as dressing cedar planks, shaping poles for houses, or shaping and hollowing out canoes. And, in the absence of such preserved objects, stone celts offer some of the best evidence for the development of a wood-intensive material culture such as typified the Northwest Coast at contact.

In the past, peoples from different regions of British Columbia used a range of stones for making celts. Different suites of raw materials seem to have circulated within rather wide regions of B.C. Nephrite celts, for example, are most common along the Canadian Plateau and the Gulf of Georgia and occasionally occur in assemblages from the Northern Northwest Coast (Darwent 1998; Mackie 1995). Jade (nephrite) is B.C.'s official rock, and B.C. is the world's largest exporter (Leaming 1978). On the Central Northwest Coast and the Chilcotin drainage, a slate-textured pale grey-green chlorite rock—or range of such rocks—overwhelmingly dominates assemblages of celts. In the Northern Interior of B.C., a variety of basaltic rocks were flaked and ground into celts, and on the Northern Northwest Coast, a wide variety of rocks were used for making both splitting adzes and small celts.

My dissertation research attempts to map out prehistoric use of celts of different materials in British Columbia; and I am particularly interested in the production and exchange of nephrite/jade celts. One major endeavor of this research is accurately identifying the mineralogy of celts. The Laboratory of Archaeology at the University of British Columbia has recently acquired two portable, non-destructive/non-marking near-infrared spectrometers. These devices allow one to sample a stone artifact and identify its mineral content. Acquiring an infrared spectrum from a sample takes less than 5 seconds; interpreting and matching an infrared spectrum to a large library of spectra of known minerals (~1200) takes less than 5 minutes. The major strengths of this type of analysis is that one can identify the mineralogy of a very large number of artifacts very rapidly causing no damage whatsoever to the artifact. These spectrometers are entirely portable, so that they can be easily brought to museums for analyzing collections. Near infrared (NIR) spectroscopy is based on the interactions between matter and light energy (Bokobza 1998). Briefly, NIR does not determine trace elements or isotopic composition of samples the way that x-ray fluorescence (XRF) or instrumental neutron activation analysis (INAA) do. Instead, NIR spectroscopy works on the principle of matching unknown NIR spectra to known NIR spectra in a spectral library or database. All molecules absorb some infrared radiation at particular wavelengths of light or wavenumbers. Portions of molecules such as water, hydroxyl, or metal ions known as "functional groups" absorb infrared radiation at particular wavenumbers (Kemper et al. 2003). As molecules or minerals are each unique based on their structure and content, it follows that all molecules will have unique infrared spectra based on the presence and location of a number of such functional groups. Spectra from unknown samples (artifacts)

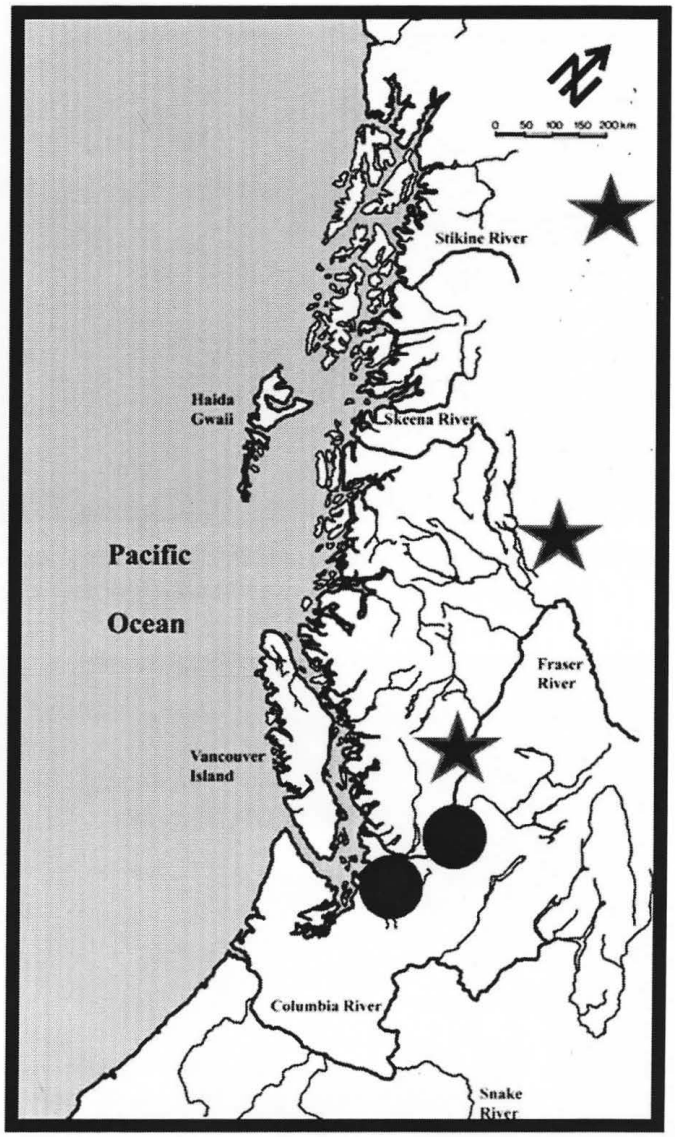

Figure 1. Nephrite source locations in the Pacific Northwest. Stars indicate major source locations and circles indicate minor source locations. Note that each star encompasses up to a dozen individual outcrops.

can then be compared to libraries of known spectra to search for matches. In this way, NIR spectroscopy is much more similar to true 'fingerprinting' than other methods of geochemical and statistical comparison.

Further, once the mineralogy of a given sample is confirmed, it can then be statistically compared to a spectral library of the same mineral from known locations. In this way, I can compare the spectra from nephrite artifacts to the spectra from 25 nephrite source locations across the Pacific Northwest to determine the artifacts provenance or source (see FIGURE 1). In NIR spectroscopy the approach usually employed involves chemometrics, a branch of multivariate statistics that converts thousands of variables into 3 or 4 using Principal Components Analysis (Kemper et al. 2003). These methods have great promise in archaeology, but have seen few applications (Parish 2009; Zhang et al. 2007). In food science, these methods have been successfully employed to discriminate between chicken genotypes in ground meat (McDevitt et al. 2005), to authenticate olive oils from discrete Italian regions (Bertran et al. 2000; Casale et al. 2008), to classify different oak species (Adepide et al. 2008), and to authenticate Basmati versus other varieties of rice (Osborne et al. 1993). While we are in the very preliminary stages of comparison of nephrite bedrock spectra, we are having some success statistically differentiating regional outcrops. This means that it may be possible to correlate a nephrite artifact to a known source location by means of comparison of NIR spectra.

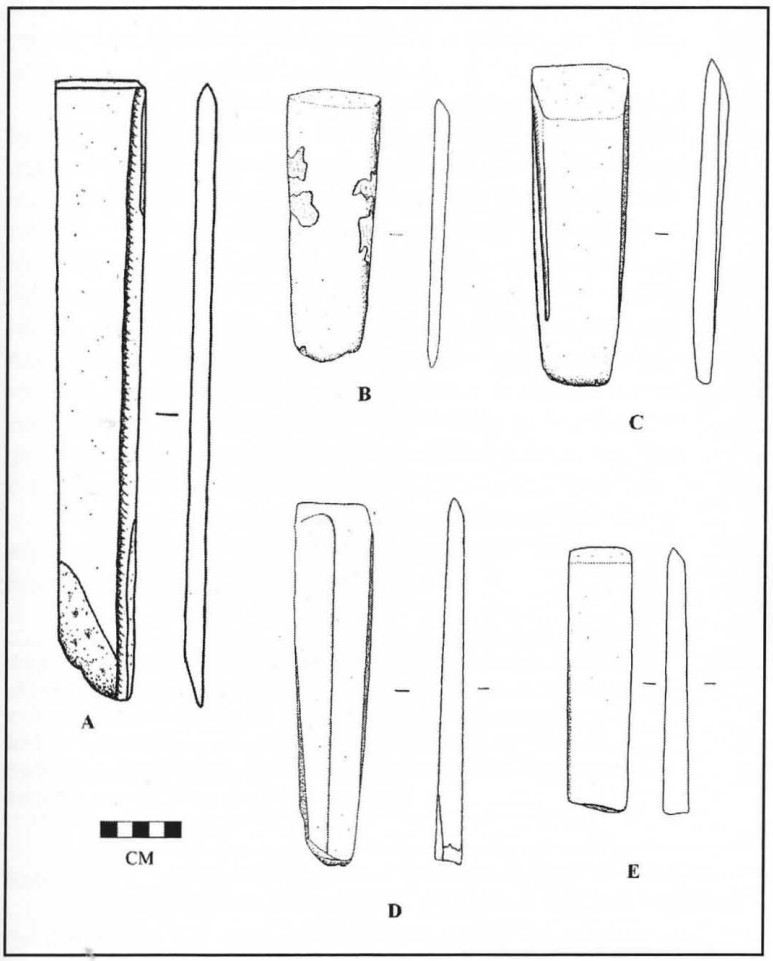

Figure 2. Examples of large nephrite celts from the southern Okanagan held at the Penticton Museum. A, Oliver, nephrite; B, Oliver, nephrite; C, Summerland, nephrite; D, Summerland, nephrite; E, Osoyoos, nephrite.

I am trying to sample celts from a very broad region of British Columbia using the methods described above. My sample consists of collections held at UBC, SFU, the Royal British Columbia Museum, the Vancouver City Museum, the Canadian Museum of Civilization, the Maple Ridge Museum, the Stó:lō Cultural Heritage Centre, the Penticton Museum, and will hopefully soon include artifacts held at the Burke Museum, Western Washington University, and a number of small municipal museums in B.C.. The archaeological record of much of this province is spotty, and the geographical coverage of each institution varies dramatically. I am trying to avoid bias in particular regions by analyzing collections held in a diversity of institutions. For this reason, I am asking the reader to consider if they perhaps have excavated celts—especially from Cultural Resource Management projects, know of collections of celts in small regional museums, private collections, or anywhere that they are interested in knowing what they are made of, and perhaps where they were from. If any reader is interested in having 'their' celts or other nephrite objects analyzed and identified with this method they can contact me (my email address is below).

I have sampled over 1600 celts, fragments of celts and worked nephrite objects over the last year. Most of my sample comes from the Lower Fraser and Gulf of Georgia regions and therefore I am particularly interested in future sampling any celts or nephrite artifacts from anywhere else in B.C.—especially Vancouver Island, the Central Coast, and the Plateau. Archaeological sites or regional collections not well represented by academic or professional archaeology, such as the 38-cm long nephrite celt from Oliver (see FIGURE 2a), continue to surprise me. Particular nephrite artifacts such as large celts (>15 cm long) (see FIGURE 2) or sawn cobble or boulder cores (see FIGURE 4) are so rare as to be nearly non-existent from modern or controlled excavations. Consequently I am very interested in analyzing any of these types of artifacts.

Almost all nephrite celts appear to have been laboriously sawn from boulders along the Mid-Fraser and Fraser Canyon, especially around Lytton. In fact, based on the distribution of the large nephrite sawn cores, almost all of the large celts were manufactured around Lytton and Lillooet. From here, small celts were primarily traded downstream towards the Gulf of Georgia (see FIGURE 3), and large celts traded eastwards into the Canadian Plateau. The Katz or *Sxwoxwiymelh* site on the Lower Fraser contains many small nephrite sawn cores, of which two date to around 2300-2200 BP and a large amount of nephrite debitage (Lenert 2007). People living at Katz undoubtedly produced some small nephrite celts for export, but the evidence for production here is greatly overshadowed by the volume of production evident around Lytton-Lillooet. By far, the largest number of nephrite celts are recovered from Marpole Culture (2500-1500/1000 BP) sites around the Fraser Delta, such as Marpole itself, Port Hammond, and Beach Grove. However, almost of these celts are small (<15-cm long), and not

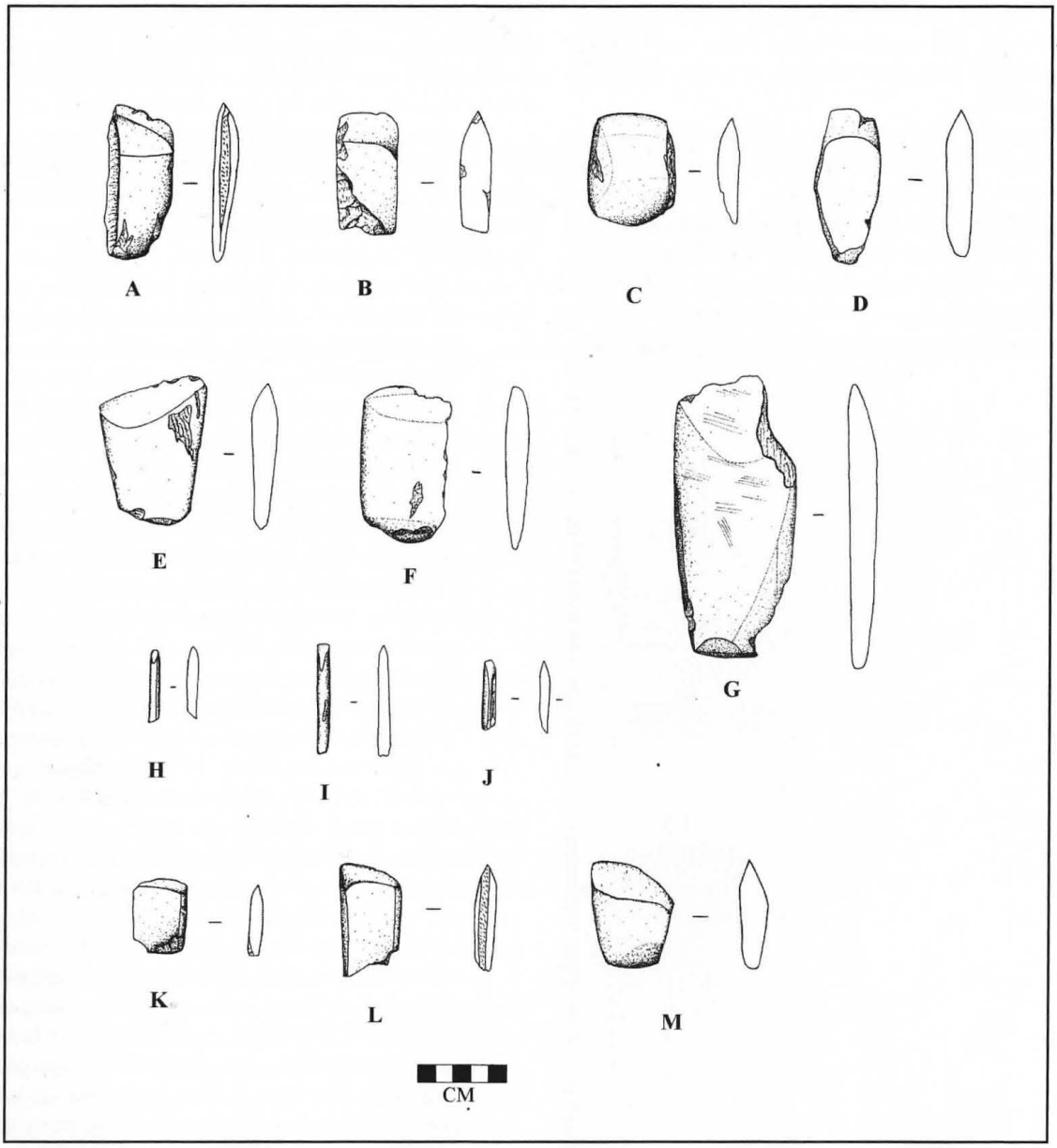

Figure 3. Examples of celts from the Marpole site. A, unknown material; B, nephrite; C, actinolite/tremolite, D, nephrite; E, nephrite; F, nephrite; G, unknown material; H, nephrite; I, nephrite; J, nephrite; K, nephrite; L, nephrite; M, actinolite/tremolite.

all Marpole communities had equal access to nephrite celts. In the subsequent Gulf of Georgia Phase, there is a marked drop off in the number of nephrite celts from dated contexts.

The vast majority of large nephrite celts—from 15-50 cm long—are from burial contexts on the Canadian Plateau probably dating to the Kamloops Horizon (1200 BP- contact). Mackie (1995) suggests that these larger celts were simply worn down over time into smaller ones through use and resharpening. While this may be the case for the Gulf of Georgia region, on the Plateau these large celts clear appear to have been used as prestige objects (Hayden 1998), demonstrating the wealth and success of their owner. Ethnographic evidence from the Plateau is unequivocal in stating that these large celts were "property" rather than tools and were highly valued (James Teit referenced in Emmons 1923:26):

According to the old Indians these long celts were "property", and good ones were exchanged for considerable value. Some of them were occasionally used as chisels or wedges, in such cases being held, it seems, in the hand, and struck with hardwood mallets. The Indians aver, however, that generally speaking they were not made for any special use as tools. Occasionally they were also used in the hand, for rubbing skins, but it seems their use for this was also rare. More often they were used as weapons, being hafted as tomahawks across the end of a wooden handle, in which they were inserted or set. It is said, however, that they were not made especially for this purpose, but were "property", or works of art, as it were, exchanging for high values.

Large stone axes were used similarly in New Guinea for arranging marriages and sealing alliances (Chappell 1966; Seligmann 1910). I suspect that large nephrite celts were 'used' in a similar manner, forging alliances between wealthy chiefs from across the Canadian Plateau with those from Lytton (see Hayden and Schulting 1997).

The pattern that is beginning to emerge then is one in which relatively few communities, from Lillooet to Hope, specialized in nephrite celt production for export. The communities around Lytton appear to have acted as a major centre of production, supplying both Coastal and Plateau communities with the bulk of their nephrite tools. There appear to be particularly strong links between the Marpole Culture and the Classic Lillooet Culture or its regional equivalent around Lytton.

Statistical analysis of these observed trends are currently being undertaken to attempt to match the observed patterns of trade and exchange in nephrite celts to various anthropological models of exchange. For example, it would be particularly interesting to know whether Marpole-folks visited the Lytton-Lillooet localities directly to barter for nephrite celts, or whether such items were traded towards the Coast in a series of "down the line" exchanges (Renfrew 1977). Further, were there any communities that acted as centers of distribution (markets or trade-centers), or redistribution so often described for chiefdom-type economies (Service 1962, 1975)? I believe that answering these questions will greatly contribute to our understanding of the Late Prehistoric Period (3500 BP-contact) in the Pacific Northwest.

So, if you know of materials that you think should be including in my analyses please feel free to contact me at **jdmorin@interchange.ubc.ca**. Thank you.

Jesse Morin is a PhD Candidate in the Anthropology Department of the University of British Columbia, and a Research Associate at the Royal B.C. Museum. Jesse's primary study area is the Mid-Fraser region on the Canadian Plateau, and secondarily the Northwest Coast. When not researching celts, Jesse is currently analyzing lithics from Cedar Mesa, Utah.

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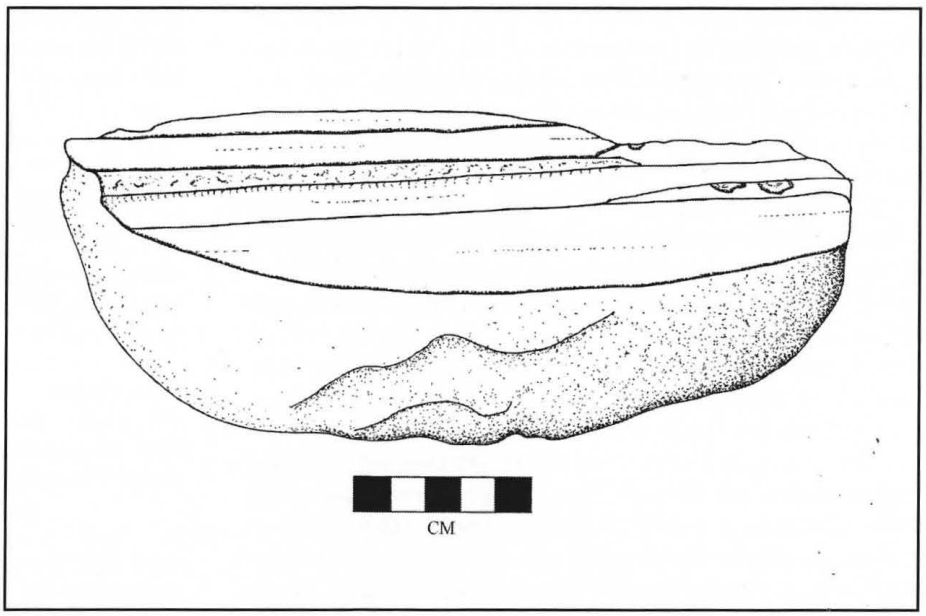
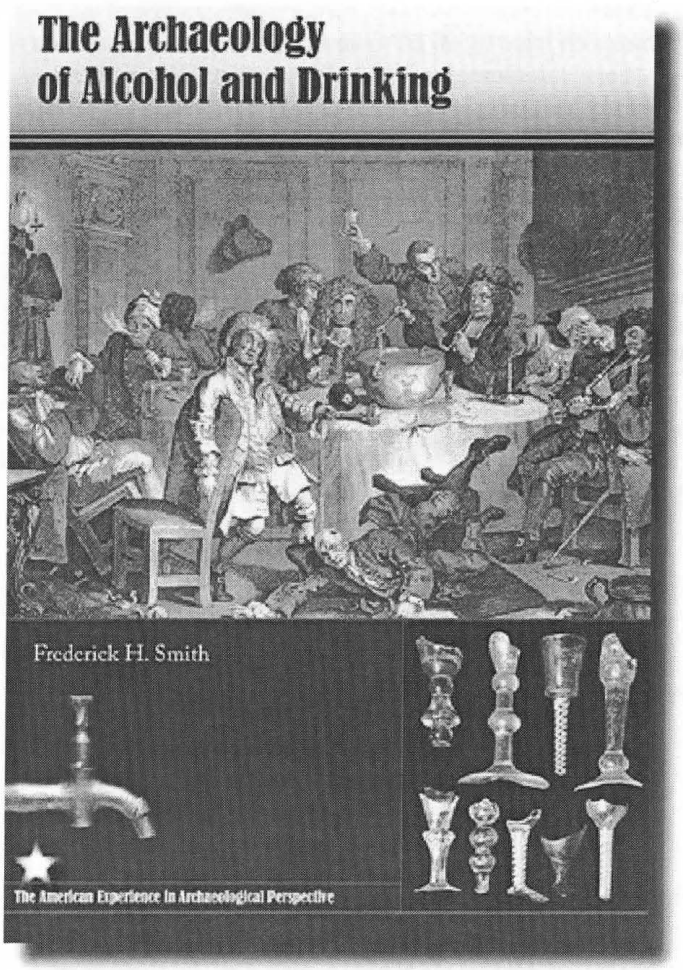


Figure 4. Example of a sawn cobble core from which celts were produced from Lytton held at SFU.

Book Review:

The Archaeology of Alcohol and Drinking

Frederick H. Smith. University Press of Florida, Gainesville. xvii+195 pp., 30 illus., ISBN: 978-0-8130-3290-0 (paper). $24.95. 2008.



With the publication of Frederick Smith's *The Archaeology of Alcohol and Drinking*, archaeologists finally have the opportunity (and pretext) for uniting their two great passions: digging and drinking. For those who lack the patience to read book reviews through to the end, I offer my verdict up front. A few quibbles aside, this book is a thoroughly researched, well-written and wide-ranging primer on its titular subject, and I urge anyone pursuing alcohol studies in archaeology (or faced with an assemblage of broken bottles to interpret) to save themselves considerable time by placing it at the top of their reading list.

Fred Smith is Assistant Professor of Anthropology at the College of William and Mary in Virginia, specializing in historical archaeology, ethnohistory, and the role of alcohol in Caribbean societies. His previous work includes the book *Caribbean Rum: A Social and Economic History*, and *TAAD* is an extension of that earlier research. It is part of a recent series published by UPF entitled "The American Experience in Archaeological Perspective," edited by Michael Nassaney, including volumes on topics such as institutional confinement, race and racialization, and North American farmsteads. The objective of this series is to provide comprehensive overviews of the archaeological literature on subjects and themes relevant to the origins and development of contemporary America. In this sense, the book should be more accurately called *The "Historical" Archaeology of Alcohol and Drinking* because, aside from a few minor references to the ancient past, the subject matter is limited to the last five hundred years.

TAAD comprises seven chapters: a brief introduction and conclusion plus five substantive chapters arranged thematically, including an original case study based on the author's work in Barbados serving as a model for integrating alcohol-related themes into archaeological research. The explicit model for this work and Smith's earlier research on rum is anthropologist Sidney Mintz's 1985 book *Sweetness and Power: The Place of Sugar in Modern History*. Just as Mintz did with sugar, Smith uses alcohol as a prism for exploring broader social, economic, and political processes associated with European colonialism and capitalist expansion. One of Smith's main objectives is to highlight the potential contributions of archaeology to understanding these processes through focused and in-depth commodity-based studies.

In his introduction (Chapter 1), Smith laments that most archaeological research on alcohol is an incidental by-product of studies emphasizing other subjects, and he notes a conspicuous absence of published archaeological overviews of alcohol studies. He endeavours to fill this gap by presenting, as a "new disciplinary tool," a systematic exploration of the ways historical archaeologists have approached the study of alcohol in a range of regional and temporal contexts. Furthermore, he seeks to expand and provide coherency to future studies by identifying themes most germane to archaeological investigation and linking them in an interdisciplinary way to theoretical models in anthropology and social history.

In Chapter 2 he focuses on alcohol-related material culture. It is not a how-to guide, but rather an overview of archaeological contributions to our understanding of this material culture, particularly relating to identification, dating, and determining site function. Object categories include Iberian storage jars, German and English stoneware, glass bottles, ceramic and glass drinking vessels, and wooden casks and barrels. Related topics covered in this chapter focus on important analytical techniques, issues, and limitations involved in identification and interpretation of these objects, including residue analysis, bottle reuse and recycling, time-lag, and use of containers in non-alcohol-related contexts (e.g., ritualistic use as witch bottles). As with all subsequent chapters, Smith concludes with valuable recommendations for further research.

In Chapters 3 and 4, he deals with archaeological literature on alcohol production and on trade/transport respectively, and follows a similar format as the previous chapter. In Chapter 3 ,he addresses sites and material culture associated with production of beer, wine, and distilled spirits, along with the use of botanical remains to identify sites and activity areas, the role of women in brewing, cottage industries versus industrial brewing, employee resistance and everyday life, industrial landscapes, cultural creolization, and moonshine. In Chapter 4 emphasis is on use of alcohol-related material culture to identify exchange patterns ranging from long-distance commercial networks to regional and local ones, as well as alcohol's central role in the fur trade, mercantile activity on colonial frontiers, and alliance building with indigenous communities. Smith also highlights the ambivalent role of alcohol among aboriginal peoples as a catalyst for social and cultural change. On one hand it was often incorporated into traditional social and spiritual activities and reflects active participation in the emerging global economy, but it could also disrupt established social and economic structures.

Two central points emerge in these chapters regarding why historical archaeology is well positioned to contribute to alcohol studies. First, although alcohol technology was well developed long before the period of European colonialism, it is during the global era that we see industrialization and commercialized production of alcohol as a worldwide commodity. Second, alcohol production and consumption were ubiquitous in the colonial world from its inception, and the volatile and valuable nature of alcohol resulted in an extensive material culture for storage and transport that survives extremely well in the archaeological record. Related to this point, because such items appear early and are common on aboriginal sites, scholars specializing in the late-precontact/early-contact period will find a knowledge of alcohol-related material culture (and thus this book) of considerable valuable.

By far the longest section of this book is Chapter 5 on alcohol consumption, reflecting the primary interest of most researchers. The literature is subdivided into six broad interpretive themes: foodways, sociality and sociability, social relations, survival of old world traditions, health, and anxiety. Crosscutting these themes, as Smith notes, is a common effort among anthropologists to emphasize "normative, constructive and culturally mediated" aspects of consumption as opposed to pathological dimensions emphasized in other disciplines; this includes attempts to reconcile alcohol's simultaneously escapist and integrative functions. Among the subjects covered are debates surrounding Deetz's Georgianization model of colonial lifeways; the role of special purpose drinking establishments like taverns and saloons in public socializing, control/surveillance and display of masculine ideals; alcohol as a marker of personal and community identities, statuses and social boundaries; alcohol as a tool of domination and resistance in workplace settings; traditional folk medicines; and anthropologist Donald Horton's model of anxiety reduction.

Smith's case study comprises Chapter 6 and is drawn from his archival and archaeological work at Mapps Cave, a cavern and sinkhole complex in southeastern Barbados used by enslaved peoples between the seventeenth and nineteenth centuries. Material culture recovered from the cave indicates that alcohol consumption (and possibly production) was the primary activity conducted at the site, where plantation workers at nearby sugar estates sought temporary refuge from harsh labour conditions. Evidence also suggests that alcohol consumption in the cave, linked to African traditions, may have contributed to a major 1816 slave uprising. In this context, Smith presents strong archival and comparative archaeological support for the use of caves and local production of alcohol by slaves. He concludes the book in Chapter 7 by summarizing the contributions of historical archaeology to alcohol studies, warning scholars against problematic trends in existing literature, and calling for an increase in commodity-based models in the discipline.

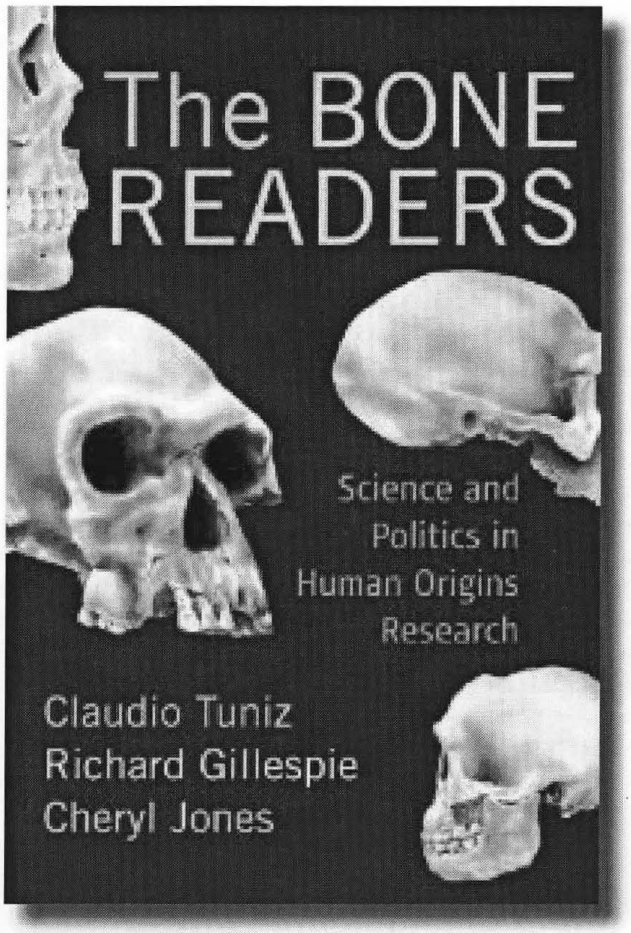
Overall, *TAAD* is primarily an annotated guide to the archaeological literature on alcohol, rather than a theoretical/methodological manifesto or an object-based narrative of the role of alcohol in American society, reflecting the principal objectives of the series of which it is a part. In this sense the book succeeds admirably. Smith does an excellent job of summarizing the archaeological literature, covering a broad geographic, temporal, and cultural range of colonial and historic contexts throughout the Americas.

While the focus is on historical archaeology, he occasionally cites interesting examples from antiquity for comparative purposes. Smith also makes a concerted effort to highlight key studies and guide readers towards fruitful avenues of research and away from less productive approaches; he also makes an important (if brief) argument in favour of commodity-based models in archaeology. However, while he makes sure to draw attention to scholarly debates, he rarely offers critical commentary of his own (exceptions pp. 80, 102), leaving it to the reader to sort out the barley from the chaff. Much of the content focuses on the eastern United States, but this is a product of where the bulk of research has been done rather than any bias on the author's part. Likewise, the case study and most of the figures drawn from research in the Caribbean and Virginia reflect where Smith lives and works.

Although I like this book very much, there are in my mind a handful of shortcomings. For example, Smith's discussion of late nineteenth and twentieth century glass beverage containers in Chapter 2 is extremely brief in comparison with earlier periods, despite the considerable volume of archaeological literature devoted to this topic. Such limited coverage belies the enormous functional and dating potential of these later vessels, which also have a much wider geographic distribution (and thus relevance to a broader archaeological readership). In Chapter 5, Smith outlines various individual and collective identities and social boundaries that can be explored through studies of alcohol, and hints at the central problem of disentangling the role of race, class and ethnicity in influencing consumption patterns. However, he does not offer any substantive discussion of this issue or how to address it with respect to alcohol-related material culture. Finally, in Chapter 6 on Mapps Cave, Smith provides a map of Barbados (Figure 6-1) that is valuable in visualizing the island's geography, but on which none of the original text is legible and nothing referred to in the text is marked (a detail or arrows would help). Among the other figures, the plan and profile of the cave (6-2) is initially disorienting and would benefit from the addition of one or more photos plus a profile drawing of the site's stratigraphy to clarify the description in the text (it is an important interpretive point). Furthermore, a summary table of artifact values would help strengthen his argument for the predominance of alcohol-related artifacts at the site, and would make his data of greater comparative value than the generalized percentages (and the frequently used term "many") he cites currently permit.

Despite these drawbacks, this is still a top-notch volume and I refer your back to my opening paragraph. Now go pick up a copy of this book, grab a drink, and happy reading.

Doug Ross recently earned his Ph.D. in archaeology from Simon Fraser University and is currently teaching as a sessional instructor at SFU and UBC. His research interests focus on everyday consumer habits and negotiation of transnational ethnic identities among Chinese and Japanese immigrants in Western North America. He is currently co-directing a project, with Dr. Stacey Camp of the University of Idaho, at the site of a World War II Japanese internment camp in the northern part of that state.



Book Review:
The Bone Readers: Science and Politics in Human Origins Research

Claudio Tuniz, Richard Gillespie, and Cheryl Jones. Left Coast Press, Walnut Creek, California. viii+256 pages, numerous b&w & colour illustrations, ISBN: 978-1-59874-475-0 (paper). $24.95. 2009.

The Bone Readers addresses a number of controversial issues in current archaeological research with a strong focus on Australasian prehistory and Australian researchers. In particular, the authors discuss the debates over: the dating of the earliest human presence in Australia; the cause of the Pleistocene large mammal extinctions in Australia and the Americas; the role of genetic research in the emergence of modern humans; South East Asia's *Homo floresiensis*; and the use of indigenous peoples' genetic data in prehistoric research.

The book is 220 pages long and includes 20 chapters, which are divided up into three main sections. Section I, "Landfall", includes the first four chapters and deals with the history of research into the earliest peopling of Australia. This has long been a controversial topic of research and the main focus of this section is a discussion of the politics behind Pleistocene archaeology in Australia. The authors attempt to present the underlying conflicts within the community of researchers (especially between differ-

ent absolute dating projects) and between the researchers and aboriginal groups on the issue of attempting to determine the earliest arrival of people in Australia. Maps would have been a huge help for the reader in this section.

Section II, "Extinctions," includes ten chapters and covers the debate about the cause of Pleistocene large mammal extinctions in Australia and North America where the arguments have tended to be boiled down to two opposing views: either overhunting on the part of the earliest people or major climate change. In both regions dating has been a particularly important line of evidence in the debates. The question of the timing of people's arrival and the disappearance of many Pleistocene genera is seen as strong circumstantial evidence for one side of the debate or the other depending on how closely the two events appear to coincide. While the authors believe they are presenting an unbiased view of the debate, their own biases do come through. By the end of the section there is little doubt that they fall strongly on the side of human overhunting as the main explanation for both Australian and North American Pleistocene extinctions. In fact, it often appears that their own personal axes are being ground when it comes to certain issues (especially debates over the dating) and certain individuals. There is nothing wrong with this *per se*—it is their book—but having it dressed up as objective third person observations is a bit disingenuous. It also seems to have resulted in a certain degree of watering down of the views of those who argue against the overhunting hypothesis. For example, the arguments against overhunting made by Donald Grayson, one of the more prominent researchers in the debate, tend to be a bit more sophisticated than they are presented by the authors here.

Section III, "Origins," includes six chapters which deal to some extent with research into the emergence of modern humans, the nature of our evolutionary family tree, and modern human variability. There is a fairly well presented coverage of current genetic research, although it is already outdated in some respects (for example, there is now evidence for Neandertal-modern human interbreeding). The last two chapters deal mainly with the problems faced by the two major projects (Human Genome Diversity Project and National Geographic's Genographic Project) that have been attempting to accumulate large databases on modern human genetic variability. Most of the problems faced by these two projects have come from indigenous groups fearful of exploitation – the discussion of this is fairly even but refreshingly open.

Overall the book is an interesting read although I don't think many readers with any background in archaeology (or any science for that matter) will be particularly surprised or scandalized by the authors revealing the underlying politics and occasionally bitter personality clashes among researchers. I do think they have gone a bit out of their way to over-dramatize the extent to which these conflicts are actually so black and white and two-sided and I think they might be overplaying, a bit, how much long-term influence these conflicts typically have on the course of research.

Absolute dating methods is a main theme throughout the book and two of the authors, Tuniz and Gillespie, are dating specialists. Brief, concise, and generally well-written explanations of the underlying bases of almost all the current dating methods is perhaps the most important contribution of the book. Students who have had little exposure to dating methods might find the book useful for this reason at least. However, I don't get the feeling that this was necessarily intentional, since the book's value as an introduction to dating methods could have been very easily improved with a few simple graphics. When it came to the politics, the account of the conflicts between the different research groups addressing the question of the oldest Australian sites, I frequently found myself wanting to consult a dating specialist myself to get an unbiased expert opinion of what was being presented in the book. However, in spite of not always trusting their accounts of events, I found that the authors did succeed in making the stories of these conflicts quite interesting.

I did find some aspects of the book irritating. Firstly, there is a constant, selective use of *plea to authority* in the presentation of particular points of view in the debates. The researchers discussed in the book who are major contributors in the debates and who, apparently, have views that coincide with those of the authors, are described as 'renowned', 'leading', 'noted', 'eminent', 'elite', 'world's foremost', 'respected' or have 'formidable credentials'. Those players in the debates whose point of view or arguments were not quite in accord with the authors' notably lacked these characteristics. Secondly, the writing style is unfortunately quite poor, and way too sarcastic and tongue-in-cheek in places (a style particularly incongruent with the general coverage of the topics more suitable for intro-level students), and there are numerous attempts at prose that seriously made me cringe: e.g., "The [humic acid] ... is sometimes the only organic material left in the fireplace—like the Cheshire Cat's grin after the cat has disappeared" or "Tracing the effects of water, wind, and sun on the lake is like analyzing the harmony of a baroque fugue, however Miller and Magee read Lake Eyre's complex hydrology like maestros reading a Bach score." The last two chapters in particular have very awkward sentence structure, poor organization, and are generally very confusing. One might have expected better from Jones at least, a "*noted science journalist*". The book as a whole would have benefited immensely from some serious editing – starting with the authors' using the epithet "*Timelords*" to describe the dating specialists—Discovery Channel writers might have even thought twice about that one.

Dennis Sandgathe obtained his PhD in archaeology from SFU in 2005. Currently he is a Consulting Scholar with the University of Pennsylvania Museum of Archaeology and Anthropology, but lives in Vancouver and teaches regularly as a sessional instructor at SFU. His areas of research include lithic analysis and Middle Palaeolithic adaptations in Western Eurasia and North Africa. He has been carrying out fieldwork in France for the last 11 years and in Morocco for the last 3 years.

PERMITS ISSUED BY ARCHAEOLOGY & REGISTRY SERVICE BRANCH, Summer through Winter, 2009

Permitted project descriptions as provided by the Archaeology Branch have been edited for brevity and consistency. The assistance of Ray Kenny (Manager, Permitting & Assessment Section) and Jim Spafford (Heritage Resource Specialist) in providing this information is gratefully acknowledged.

Note: Information about permits is subject to restrictions imposed by Federal privacy regulations. For this reason, Section 12 (Site Alteration) Permits issued to private landowners will not identify those permit-holders by name, or provide exact addresses or legal descriptions for their properties. The federal privacy regulations do not apply to corporate developers, or archaeologists.

Glossary of Abbreviations: A number of recurrent abbreviations may not be familiar to many readers of *The Midden*, and the most common of these are defined here.

Archaeological project types: AIA = Archaeological Impact Assessment; AIS = Archaeological Inventory Study; ALTs = Alterations; SDR = Systematic Data Recovery.

Forest industry terms: BCTS = BC Timber Sales; CB = Cut Block; CMT = Culturally Modified Tree; CP = Cutting Permit; FD = Forest District, FL = Forest License; MoFR = Ministry of Forests and Range; TFL = Tree Farm License; TL = Timber License; TSA = Timber Sales Area.

Other government agencies: FOC = Fisheries and Oceans Canada; INAC = Indian and Northern Affairs Canada; ILMB = Integrated Land Management Bureau; MEM = Ministry of Energy and Mines; NEB = National Energy Board; MOTI = Ministry of Transportation & Infrastructure; MTCA = Ministry of Tourism, Culture and the Arts; RD = Regional District.

First Nations abbreviations: ATT = asserted traditional territory; FN = First Nation.

Legal title descriptions: DL = District Lot; PL = pipeline; Rge = Range; R/W = right-of-way; Sec = Section, Tp = Township; TL = transmission line.

Permit #	Permit Holder	Description	Permit Type
2009-0249	Lisa Seip	AIA for BC Hydro's proposed Mid-Columbia River bank erosion protection and monitoring program, along the Columbia River between the TransCanada Highway bridge and Begbie Creek	INS
2009-0250	Brian McMahon	ALTs to DkSf-25 and DkSf-26 by developments for Kensington Island Properties in Union Bay, on Lot 28, Nelson LD	ALT
2009-0251	Chris Engisch	Systematic data recovery from DjSf-25 and DjSf-26, on lands proposed for development by Kensington Island Properties in Union Bay	INV
2009-0252	Chris Wylie	AIA for PWGSC's proposed borrow pit between Km 568+300 and Km 568+900 of the Alaska Highway, between the communities of Steamboat and Summit Lake	INS
2009-0253	Beth Hrychuk	AIA for oil/gas projects proposed by Taqa North Ltd.,and other possible proponents within NTS map sheets 94 G/1-16 (except portions of 94 G/2 & 3 S of the Halfway River), and 94 H/4-5, 12-13 (N of the Beatton River)	INS
2009-0254	Beth Hrychuk	AIA for oil/gas projects proposed by Talisman Energy Inc. and other possible proponents within NTS map sheets 94 A/3-5 (all N of the Peace River & W of the Halfway River); 94 B/1-15 (all N of the Peace River); 94 O/16 (N of the Peace River); and 94 G/2-3 (S of the Halfway River)	INS
2009-0255	Beth Hrychuk	AIA for oil/gas projects proposed by EnCana Corporation and other potential proponents within NTS map sheets 93 P/1-2, 7-8, 9-10, 15-16, and 94 A/1-2 (S of the Peace River)	INS
2009-0256	Beth Hrychuk	AIA for oil/gas projects proposed by Spectra Energy CCS Services Inc. and other potential proponents within NTS map sheets 94 I/1-16, 94 J/1-16, 94 O/1-16, and 94 P/1-16, in NE BC	INS
2009-0257	Beth Hrychuk	AIA for oil/gas projects proposed by BP Canada Energy Company and other possible proponents within NTS map sheets 93I/1-2, 93I/7-16, and 93J/16 in NE BC	INS
2009-0258	Beth Hrychuk	AIA for oil/gas projects proposed by Shell Canada Limited and other possible proponents within NTS map sheets 93 O/1 & 93 O/7-16, 93 P/3-6, & 93 P/11-14, 94 A/3-4 & 94 A/6 (S of the Peace River), and 94 B/1-4 (S of the Peace River)	INS
2009-0259	Paul Harrison	AIA for forestry operations proposed by Kalum Ventures Ltd. and other possible licencees within the BCTS Skeena Business Area	INS
2009-0260	Chris Engisch	AIA for proposed reconstruction of a portion of 6th Street between Cliffe Avenue and Anderton Avenue , Courtenay	INS

2009-0261	Adrienne Marr	AIA for forestry operations proposed by Brinkman Forest Ltd. and other potential licensees within the North Coast and Kalum FDs	INS
2009-0262	Clinton Coates	AIA for engineering and geotechnical investigations for BC Hydro's proposed Site C hydroelectric project on the Peace River near Fort St. John	INS
2009-0263	Hayley Chester	Post-construction AIA of seismic programs for Peace River Hole Cementing & Exploration Services Ltd. and other possible proponents within the area encompassed by NTS map sheets 94/I, 94/J, 94/O and 94/P, NE BC	INS
2009-0264	Shane Bond	AIA for proposed replacement of the Johnson Street Bridge in Victoria, on the following lands: 203 Harbour Road - Lot 9, DL 119, Esquimalt, VIP 53097 ; 11 Esquimalt Road - VIP 48822, Esquimalt ; 20 Esquimalt Road - Lot 1, DL 119, Esquimalt, Plan 45721; 1324 Wharf Street - Lot 182A, Victoria ; 1600 Store Street - Lot A, Plan 42117, Victoria ; 1604 Store Street - PL 42117, Victoria; Lot 182 G, Victoria (PID 009365796); Lot 182A, Victoria (009365788); Park Plan 4822 DL 119; Lot 1 Plan 45721 (PID 008579105); Lot 10 Plan VIP 53097 (PID 017941938); and Lot 3 Plan 53907, except 67690 DL 119 (PID 017941857) (Galloping Goose Trail)	INS
2009-0265	Brian Hayden	Archaeological investigations in the vicinity of the McKay Creek pithouse site (EfRl-13) within NTS map sheet 92I/13W approximately 700 m NW of Pavilion IR#1A	INV
2009-0266	David Hall	AIA for property developments at Loon Lake, North Barriere Lake, and Meadow Lake	INS
2009-0267	Andrew Watson	ALTs to HbRf-40, on Fractional LS 15, Sec 15, Tp 83, Rge 19, W6M, Peace River District, by vehicle traffic associated with BC Hydro's investigations for the proposed Site C hydroelectric project	ALT
2009-0268	Meghan Fisher	Inventory and AIA for a Teal Jones Group's proposed 4-lot subdvision on Kagan Peninsula, Graham Island, opposite Sandilands Island in Skidegate Inlet, Haida Gwaii	INS
2009-0269	Barbara Horrell	AIA for proposed forestry operations by KDL Group and Northern Interior Forest Products, and other possible forest licensees within the Vanderhoof FD	INS
2009-0270	private individual	ALTs to DcRw-43 and DcRw-45 by a residential development in Sooke	ALT
2009-0271	private individual	ALTs to DgRs-7 by reconstruction of a residence in Delta	ALT
2009-0272	Barry Higgs	ALTs to DgRl-39 by Genica Developments (Vedder Landing Ltd.) residential development at 45390 Vedder Mountain Road in Sardis, on Lot A, Sec 1, Tp 23, New Westminster District, Plan 2556, Part SE□ (PID 012-749-460)	ALT
2009-0273	Aidan Burford	Post-construction AIA for a Suncor Energy Ltd. natural gas development near Tumbler Ridge	INS
2009-0274	Rob Paterson	Post-construction AIA for seismic programs proposed by Peace Hole Cementing & Exploration Services Ltd. and other possible proponents within NTS Map Sheets 94/A, 94/B, 94/G and 94/H, NE BC	INS
2009-0275	Rick Davidge	ALTs to EeSu-3 by the District of Port Hardy's installation of residential hookups to the low-pressure sanitary sewer system at Storey's Beach, Beaver Harbour	ALT
2009-0276	Duncan McLaren	AIA for proposed construction of a water intake, pump and pipeline for irrigating cranberry fields in the Derby Reach area, Langley	INS
2009-0277	Monty Mitchell	AIA for A&A Trading Ltd.'s forestry operations within the ATT of the Nuxalk and Wuikinuxv FN at South Bentinck Arm	INS
2009-0278	Frank Craig	AIA for the proposed subdivision of a property on Cluculz Lake	INS
2009-0279	private individual	ALTs to DgRs-7 by a proposed residential development in Delta	ALT
2009-0280	Melanie Hill	Post-construction AIA for seismic programs on behalf of Integrated Geophysical Consultants Ltd,. and other possible proponents, within those portions of NTS Map Sheets 930/1, 7-10, 15-16, 93P, 93I/1, 2, 7-11, 94/A, 94B/1-2, 5-16, 94F, 94G, 94H, 94I, 94J, 94K, 94L, 94M, 94N, 94O, and 94P, that lie within the Peace and Fort Nelson FDs	INS
2009-0281	Arlene Yip	AIA for forestry operations proposed by Aat'uu Forest Ltd. Partnership and Capacity Forest Management in TFL 19 and Strathcona TSA, Espinosa Inlet and Port Eliza areas of Vancouver Island	INS
2009-0282	Hayley Chester	Post-construction AIA of IkRq-2 arising from SMR Oil & Gas' activities on an adjacent pipeline R/W, within NTS map sheet 94 O/15, Peace River region	INS
2009-0283	Robert Field	AIA for proposed upgrades to the Lillooet Lake Road and West In-SHUCK-ch FSR network, Squamish FD	INS
2009-0284	Kevin Twohig	Archaeological investigations at EfRj-147, EfRj-148, EfRj-151 and EfRj-153 to mitigate impacts from MOTI's proposed realignment of Highway 97 at Cargyle Curves, about 23 km NW of Cache Creek	INV
2009-0285	Beth Hrychuk	AIA for oil/gas projects proposed by Taqa North Ltd. and other proponents within NTS map sheets 94 A/8-9 & 16, 94 A/1-2 (N of the Peace River), 94 A/7, 10 & 15 (E of the Beatton River), 94 H/1 & 7-16 and 94 H/2-3 & 6 (NE of the Beatton River)	INS
2009-0286	Beth Hrychuk	AIA for Spectra Energy Transmission's proposed Crystal Lake Groundbed Project, approximately 55 km N of Prince George	INS
2009-0287	Kevin Eskelin	ALTs to CMT site GfSp-9 by removal of danger-trees within Tanglechain Lake Recreation Site, Nadina FD	ALT
2009-0288	Shane Bond	Archaeological impact assessment for Associated Engineering (BC) Ltd's proposed commercial development between Martindale Road and the Englishman River, Parksville	INS

Conferences & Events

BC Archaeology Forum
Co-Hosted by Musqueam Indian Band and The Laboratory of Archaeology of the University of British Columbia
November 5-7, 2010
Vancouver, B.C.
Info: bc.arch.forum2010@gmail.com

Northwest Anthropological Conference
University of Idaho
Moscow, Idaho
April 21-23, 2011
Info: putsche@uidaho.edu

Society for American Archaeology, 76th Anniversary Meeting
Sacramento, California
March 30-April 3, 2011
Info: http://www.saa.org/

Canadian Archaeological Association, 44th Annual Meeting
Halifax, Nova Scotia
May 18-22, 2011
Info: http://canadianarchaeology.com/caa/halifax-2011

World Archaeological Congress - Intercongress
Indianapolis, Indiana, USA
June 22-25, 2011
Theme: Indigenous Peoples and Museums: Unraveling the Tensions
Info: http:/wacmuseums.info

THE MIDDEN
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