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NEW INDIAN PICTOGRAPHS FOUND AT KOOTENAY LAKE:

REPORT OF SITE SURVEY

By Richard Baravalle

The recent pictograph survey at Kootenay Lake was a volunteered service for the British Columbia Provincial Museum (B.C.P.M.) authorized by the Provincial Archaeologist's Office under Permit #1978-4. This archaeological investigation continued the systematic shoreline survey undertaken in the fall of 1975 and in the summer of 1977 (Baravalle 1977) with the purpose of providing an inventory of rock art sites and any other site of prehistoric indigenous occupation. With 70% of the project now completed on the main lake (excluding the Kootenay West Arm), some short comments can be made on the Lower Kootenay rock paintings of this region, particularly the aspects of their function, distribution, and state of preservation.

Kootenay Lake, with over 300 kilometers of shoreline, is the largest natural lake in southern British Columbia. Archaeological study of this area, unfortunately, has been very limited. The nine pictograph sites that had been recorded more than 10 years ago (Corner 1968:87-93), together with the one reported by Harlan I. Smith (National Museum in Ottawa), had remained the basis of information of Lower Kootenay rock art in B.C. Those 10 sites represented only one-third of the B.C.P.M. estimate of 30 pictograph sites along the shores of this lake. The 1977-78 investigations (Baravalle 1977, 1978) have now added to the inventory six previously unrecorded rock paintings, bringing the total to 16 sites. Two other unrecorded sites that were reported by informants and historical sources were checked, but the pictographs proved to be no longer extant. This may have been the fate of other indigenous rock art which has disappeared with the emergence and unmonitored expansion of our market economy.

The design types of the six new sites are similar to other Kootenay pictographs painted in red ochre, in which hunted animals, man figures,

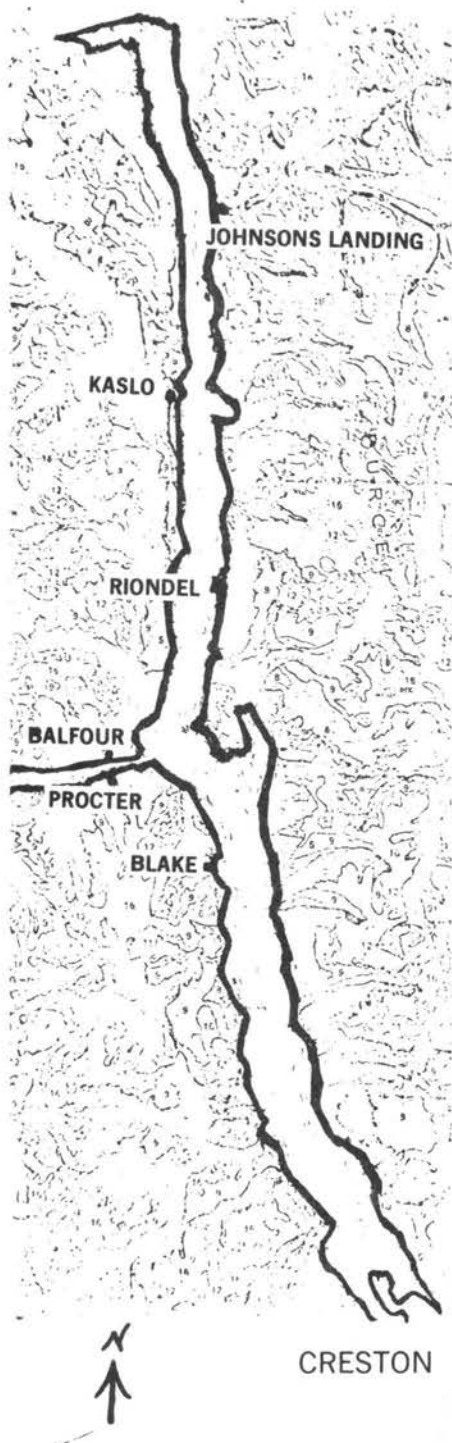




Fig. 1

Blake Site
DJQf

and geometric forms are portrayed. Three of the six sites contained single design groups of not more than four zoomorphic and geometric figures. Extensive rock paintings, with only a few distinguishable figures, are found at two other sites. In those pictographs, anthropomorphic, zoomorphic, and geometric design types, such as man and deer figures together with tally marks, are still visible. The sixth site, the multi-panelled pictographs at Grohman Creek on the lower West Arm of Kootenay Lake, is particularly interesting. Those rock paintings are exclusively design groups of man figures and geometric forms, such as the zig-zag lightning design and the circular sun symbol. Unlike most other sites on the main lake, those pictographs at Grohman Creek appear to have been a part of a ritual of the rites of passage. The site is located a few hundred meters north of a seasonal, if not a year-round, village camp.

Of the six new pictograph sites that were recorded, the rock painting at Blake on the southwestern side of the main lake is uncharacteristic of Lower Kootenay rock art, or at least is one which has no known precedent in this region. This single design type portrays a humanoid, mask-like face (Fig. 1) which is commonly found in the Interior Salish region. A design type at Shuswap Lake, as one example (Corner 1968: 107, fig. f), is almost identical in style and form to the one at Blake. Generally, the rock art of the Kootenay Indians is typified by man figures often in a hunt, animal and tree forms common to this region, and geometric symbols of the sun and lightning (Figs. 2, 3, 4).



Fig. 2

Akokli (Goat) Creek Site
DiQe

The rock paintings at Kootenay Lake, which are all above the high-water mark, were unlikely to have marked camp areas of the Kootenay Indians. These pictograph sites are located on rocky terrain which has revealed, with one possible exception, no artifacts or smoke/soot deposits. It was suggested as part of the survey strategy that many Lower Kootenay pictographs, whose function appeared to be closely connected to the important subsistence rituals of the Kootenay, were associated with and situated near creeks, lagoons, and narrows where beach camps of the communal hunting-fishing expeditions were established.

This dual-site concept rests on the knowledge of Kootenay religious beliefs in which animism played a leading role. It was believed that a

dead man's spirit, which enters an animal common to the environment, could return at will to visit relatives. Hence, the need to honour departed spirits of ancestors in animal forms, and the need to subsist by hunting those animals must have resulted in a severe social dilemma which could only have been mitigated by religious ritual. Fasting and purification ceremonies were believed to be the means to exert influence on that spirit world (Flucke 1958:28). Rock paintings along the shores of Kootenay Lake, therefore, were very likely a significant part of those ceremonies before a hunt commenced at nearby camp areas.

The current investigations have indicated that the distribution of rock painting sites at Kootenay Lake coincides with areas where communal hunts took place, many of which occurred at creeks entering the lake as well as at narrows along the lake, which has also been the case in the East Kootenays (Choquette 1972). At least half of the recorded pictograph sites can be definitely associated with beach-camp areas of the Lower Kootenay Indians. Although the painting of pictographs apparently ceased by the 1860's (Corner 1968:17), the use of traditional beach-camp sites by the Lower Kootenay is reported by pioneer informants and historical sources to have continued into the first two decades of the twentieth century. Ten of those beach-camp sites have now been identified by those sources.

The state of preservation of the pictograph sites at Kootenay Lake becomes a focus of concern as several rock paintings catalogued over a decade ago (Corner 1968:87-93) have become badly faded by natural erosion. Spalling, lichen growth, and calcite deposits have been the most destructive agents affecting a number of design groups on pictograph panels. Fortunately, human damage has been minimal due to the fact that many of the existing pictographs at Kootenay Lake can be reached only by boat. Just two of the 16 sites thus recorded have been marked by graffiti.

Mining activity, highway and railroad construction, and community development along Kootenay Lake in the last 80 years undoubtedly obliterated not a few rock paintings. A case in point is the Procter lighthouse pictographs at the Balfour Outlet (Affleck 1978:107) which no longer exist. Those at Riondel on the northeast shoreline of Kootenay Lake, which were observed 20 years ago by an informant, have also been destroyed. Such may be the case along the entire northwest shoreline where extensive mining activity and highway construction have occurred. No pictographs have been recorded on that side of Kootenay Lake, although indigenous camp sites were known to be present.

The distribution and function of Lower Kootenay pictographs may become clearer with additional data as the survey nears completion. In the meantime, it becomes a priority to locate and



Fig. 3

Mt. Irvine Site
DJQf



Fig. 4

Grohman Creek Site
DlQh

SCALE 1:7 cm.

* * * *

record these rock paintings without delay since they are particularly vulnerable to human damage and natural erosion. Until that work is done, attempts to protect and preserve this heritage will remain ineffective.

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THE *IN SITU* ANALYSIS OF HUMAN BURIALS

(This article is reprinted, slightly abridged, from Ontario Archaeology No. 29, by permission of the author)

Shelley R. Saunders

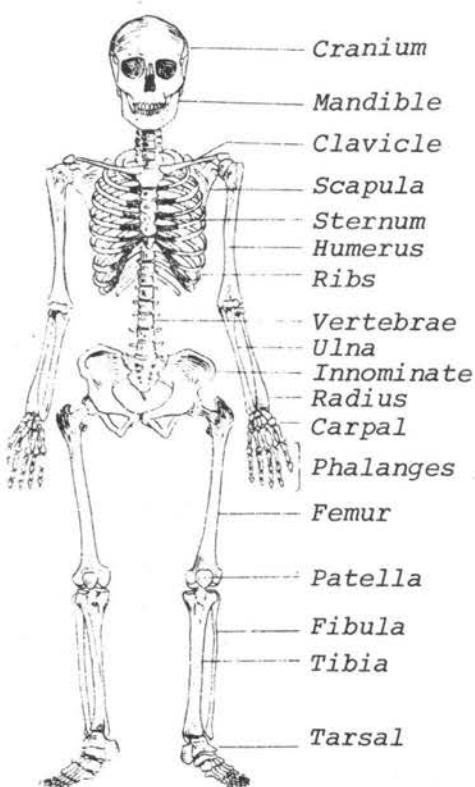
ABSTRACT

Archaeologists often encounter isolated, stray burials on habitation sites. Recent studies have led to interesting cultural explanations for these burials on Ontario Iroquois sites and it is proposed that we reconsider our methods of observation of human burials *in situ* since careful, discriminating observation is a prerequisite for innovations in theory. Various techniques of data retrieval from *in situ* burials are discussed.

There is an indivisible relationship between observation and theory in scientific knowledge. As one author has put it:

" It is a fundamental error to regard (observation) as an independent means of acquiring information against which hypotheses may be checked, and it is no less misguided to think of hypotheses as subjectively inspired visions that must be compared with the separately acquired, theoretically neutral data revealed by sense. "
(Harris 1970:291).

Thus, most archaeologists approach their work with a particular problem in mind. Traditionally, though, it is thought that archaeologists follow the inductive method of information retrieval, gathering as much data as possible and drawing generalizations from that data. Unfortunately however, information retrieval sometimes becomes static so that certain types of information are either thought irrelevant to the problem or are simply not considered. The profitable wedding of observation and theory to improve knowledge is only possible with trained, discriminating, theoretically-informed perception developed by continual practice.



The aim of this paper is to restore or reinforce some of the interest in perceptive analysis and description of any kind of burials found on archaeological sites, especially as they remain *in situ*. Unfortunately, many excavation techniques which should most properly be field techniques have been relegated to the laboratory.

Simply removing the bones for lab analysis destroys many integral facts about the mode of interment and characteristics of the individual. This is why the importance of a large, varied series of photographs of cleaned, undisturbed burials cannot be overemphasized. Photos provide significant information on burial location, depth, grave type, grave dimensions, burial dimensions, state of bone preservation and particularly anatomical position. Saunders, Knight and Gates (1974) used a large series of photos to help reconstruct burial patterns at the Christian Island site five years after excavation. Finnegan (1976) used photos to analyse and match disarticulated skeletons from a site totally lacking in field notes. Close-up photos of such structures as teeth, areas of common skeletal variations and specific joint articulations are useful especially if the bones must be left unexcavated or be reinterred.

It is perhaps some of the preconceived and generalized burial classifications which have sometimes helped to smother the search for original interpretations about mortuary practices. The question of the orientation of the bones in the grave is an important one. Simple descriptive terms such as flexed or extended provide the generalizations of burial position but no base from which to derive useful interpretations about the mode of burial. Melbye (1973) has demonstrated how the consideration of individual joint articulations of an *in situ* burial provides valuable insight into mortuary practices. For example, bones described simply as bundle burial mean nothing to the reader but careful observation of articulated joints versus disarticulated provides the evidence for purposeful dismemberment as opposed to a simple, disturbed bundle burial.

If we want to search for regularities in the positioning of the body we should consider the degrees of flexion, extension, abduction, adduction and rotation of each of the major joints (shoulder, elbow, wrist, hip, knee, ankle, neck) rather than a

generalized term such as flexed. A flexed burial may have the legs flexed at various degrees, thoracic cage facing forward or to the side, the arms and hands in various positions, etc. In these cases it would benefit the excavator to be aware of the normal range of movement in each joint so as to recognize abnormal positioning. Contorted postures can, of course, suggest violent death, torture victims and/or the onset of rigor mortis at the time of interment. An interesting example of the careful examination of position comes from the Libben site, an early Iroquoian site in northwestern Ohio (Lovejoy, personal communication). Here the position of the foetus found inside the pelvis of an interred female illustrated the likely cause of death of the woman during labour.

NUMBER OF BONES VARIES WITH AGE

The next step before removal of the bones at excavation would be to check for completeness of the skeleton. In many cases there are portions missing because of secondary disturbances or deterioration of the bone. However, at least partial articulations still provide information about burial position. In any case, the excavator must keep in mind the variations in number, size, shape and composition of the bones from the infant to adult period since during life bone is a living, plastic material. In fact, subadult burials have generally been accorded much less attention than adult burials by archaeologists and physical anthropologists alike, a practice that is not warranted. The newborn possesses about 270 bony centres of ossification. As the individual grows some of these centres will fuse and reduce the number slightly. But as growth proceeds, secondary centres appear, creating about 350 centres at puberty. These epiphyses will eventually fuse to the main portion of the bone, until the commonly known number of bones, 206, is achieved in middle age. Further aging and therefore, further bony changes usually continues to reduce the number of separate bones in the body.

The most reliable biological criterion for estimating chronological age from skeletal data is by an assessment of tooth formation or calcification. Tooth calcification is least affected by nutritional deficiencies or disease (Merchant 1973). Physical anthropologists have most often relied on

modern standards of tooth eruption to age infants and child burials and standards for the fusion of bone epiphyses to their diaphyses to age adolescents and young adults. Not only should more attention be paid to tooth calcification rather than eruption, but also the presence of the epiphyses before fusion provides aging information from the infant to adolescent, particularly where teeth may be missing. The simple presence of secondary centres before their fusion has largely been ignored by those studying archaeological skeletons, because in young and poorly-preserved burials, epiphyses can be virtually unrecognizable unless first identified and catalogued *in situ*.

Identifying bones *in situ* has other applications. A number of skeletal variations can only be identified before the bones are excavated. For example, the number of vertebrae in the thoracic, lumbar, sacral and coccygeal parts of the column may vary. The whole column is seen in articulation only in the ground. When there is destruction of bone, each vertebra can only be identified when in articulation. This also applies to infant and sub-adult burials where individual vertebrae are very hard to identify. Knowledge of the identity of the parts of the vertebral column and their possible variations can yield valuable genetic and pathological information about the individual.

Other skeletal anomalies are best determined when the burial is still in the ground. The talus bone of the foot can sometimes have an extra or separate bone at its posterior end, the os trigonum. Actually, the foot often shows many supernumerary ossicles but the os trigonum is one of the more common ones.

EXTRA BONES OFTEN OCCUR

Other supernumerary bones commonly occur throughout the skeleton. Many soft tissues can calcify as a result of aging or pathological processes. The laryngeal, cricoid or rib cartilages commonly calcify in old age. In many cases, small bones are simply overlooked at excavation, including the hyoid, carpals and phalanges which can show evidence of their own particular pathologies. For example, individual carpal bones are prone to fracture; terminal phalanges demonstrate epidermoid cysts or the initial stages of leprosy. Arteries can calcify due to age and disease processes, as well as tumors, gallstones and just about any soft tissue affected by various

diseases. All of these characteristics should be watched for during excavation.

There are many other new techniques of data retrieval which should be considered of possible utility in burial analysis. Grave goods are a special topic in themselves. There is the possibility of preserved soft tissues in the presence of certain metals such as copper (Savage 1975). Burning and cremation, though very destructive, can still yield pertinent information. Buikstra and Goldstein (1973) have shown how cremated skeletal material can be substantially reconstructed. One can determine if the individual was burned in the flesh or as a secondary cremation, the burial position due to the degree of burning of bones, whether certain joints were articulated at the time of cremation and the analysis of some measurements and morphological characteristics. Much of data retrieval can be aided by a careful description at the time of excavation.

The most important information to be obtained from single, stray burials is their demographic parameters, age and sex, which provide the individual with an identity which might help to explain the mode of burial. I have already stated that the dentition is the most reliable aging criterion for subadults. But this does not mean simply eruption times, a very unreliable indicator, since what we are looking at is eruption through the bone which is not comparable to the standards which are based on eruption through the gums of living persons. Therefore, x-rays of the jaws to illustrate calcification may be the most useful piece of data from a subadult burial analysis. Of course, fragmentary burials need not be given up as less informative. Loose teeth can give developmental information. Growth standards have also been established for all long bones, femur, humerus, radius, ulna, tibia and fibula. But in addition, there are also Amerindian aging standards for the subadult hip bone, mandible and basal cranial bone (Merchant 1973). The commencement of various stages of fusion of secondary centres facilitates the age estimation of the older child and adolescent.

In the adult, aging is more difficult and variable. At present, the easiest and most reliable aging criterion for adult skeletons is the apparent changes on the surface of the pubic symphysis, the tough fibrocartilaginous joint at the anterior articulation of the two hip bones. However, it is also a joint affected by extensive hormonal changes in the female at the time of pregnancy. For this reason, there are separate aging standards for males and females. The point relevant to this discussion is that the pubic symphysis is often poorly preserved on sites and special attention should be paid to its careful retrieval at excavation. But, there are other well-known methods of aging adult skeletons, including histological sectioning of cortical bone. Nevertheless, this technique is time-consuming and fraught with technical problems. Less reliable methods can still provide

useful information, especially for fragmentary burials, if they are used carefully. These include: the degree of tooth wear, cranial suture closure, degrees of degenerative osteoarthritis and the deterioration of the lumbar vertebrae for which standards exist. Finally, there is a new, tested method of aging using the auricular surface, the joint between the hip bone and the sacrum, which shows similar degenerative changes as the pubic symphysis but without the effects from hormonal changes in females (Lovejoy, personal communication). The importance of this method is that the auricular surface is more often preserved than the pubic symphysis in burials, and therefore, should be given special consideration when excavated.

Determining the sex of an infant or child skeleton is still quite unreliable, but the excavator might bear in mind that careful preservation of the pelvic bones is the best means of providing some assessment of sex. Sexing of adult skeletons can be quite reliable, but again, retrieval of an intact pelvis is the most useful estimator. The assessment of sex from the robusticity characteristics of the cranium and long bones is biased in favour of males (Weiss 1972). The degrees of bone robusticity also vary from population to population, making this assessment very subjective.

In summary, it is the duty of the excavator to initiate the process of careful laboratory-like analysis of human burials. Isolated burials found by accident in habitation areas are common on Ontario Iroquois sites. Often, in these cases, the opportunity does not arise to call in a physical anthropologist to assist in the excavation. Archaeologists have not fully recognized the possible limits of cultural interpretations concerning these burials. Since, in some cases, they must be reinterred, it is doubly important to consider all details of their observation. They can yield unexpected but valuable cultural and biological information. It is the purpose of this paper to enunciate this view and illustrate some of the techniques of improving our knowledge of prehistory.

ACKNOWLEDGEMENTS

I would like to thank Mima Kapches for her valuable contribution to discussions of this paper.

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A.S.B.C. DIARY

Regular monthly meetings held the second Wednesday in the Centennial
Museum Auditorium at 8 p.m.

- Jan. 10 In conjunction with the A.I.A., Dr. James Russell speaking
on Karamania: Archaeological Travels in South Turkey, 1978.
- Feb. 14 Marjorie Halpin, Ass't Professor, Anthropology, U.B.C.
Images of Wealth - Northwest Coast Art.
- Mar. 14 Dr. Malcolm McGregor - History on Marble.
- Apr. 11 Dr. Roy Carlson, S.F.U. - Excavations at Namu.
- May 9 Dr. David Pokotylo - Hat Creek Survey Project.

Vancouver Community College - Langara Campus

We hope to be running a course in conjunction with V.C.C. Continuing
Education on the Materials of the Northwest Coast Cultures in the
spring. Dates to be announced.

cont'd

A.S.B.C. Diary - cont'dCentennial Museum

Los Mayas exhibition - Mayan art of Mexico, sponsored by Rothmans, runs December 15th through January 19th.

Archaeological Institute of America

Annual Meeting - Dec. 28 to 30 - Hotel Vancouver. Pre-registration Dec. 27 - \$15.00. Hosts: UBC and SFU. Special sessions include: Prehistoric archaeology of the eastern Mediterranean, a thematic session on Erotic Art in Antiquity, and Science in Archaeology.

* * * *

PROFESSOR EMERSON DIES

Professor J. N. Emerson, archaeologist with the University of Toronto, died at the end of November.

Dr. Emerson, who with Dr. Carl Borden recently won the Smith-Wintenberg Award by the Canadian Archaeological Association, had researched in a variety of areas, but was best known to A.S.B.C. members for his work in psychic archaeology.

In lieu of flowers, contributions were invited to the Department of Anthropology, University of Toronto, to promote Ontario archaeology.

Describing Artifacts, No. 14

(Part of a continuing series on artifact description, reproduced from the handbook for archaeological staff working on the National Inventory Project in B.C. The Midden extends thanks to Tom Loy of the Provincial Museum for permission to reprint.)

In the next few editions of "Describing Artifacts" we will turn to terminology for specific artifacts, under the five headings of "Composite Toggling Points", "Ground Points", "Scrapers", "Barbed Points" and "Labrets". But first, a list of acceptable terms for defining types of artifacts.

These terms have been selected to concentrate on physical distinctions, and to avoid ethnographic or geographic references.

<u>Artifact Categories</u>		
abrader	awl	bead
biface	bilaterally-barbed point	bipoint
butchering-remain	celt	charm
chipped-point	chisel	composite-toggling point
cortex-spall-tool	denticulate-object	denticulate-point
drill	elbow-pipe	fish-gorge
fish-hook-shank	flaked-object	fragment
grooved-abrader	ground-point	haft
hafted-maul	hammer-stone	handle
hand-maul	harpoon	herring-rake-barb
knife	labret	leister-barb
macroblade	model	mortar
necklace	needle	object
ornament	pebble-stone	pendant
pipe	pipestem	point
saw	scraper	single-body- composite point
sinker	split-cobble-tool	spokeshave
straight-pipe	toggling-point	tool
unilaterally-barbed- point	use-retouched-flake	valve, composite- toggling point
wedge		

Class descriptors used under Historic Category include the following (undefined) words:

bottle		
cannon ball		
key-type can opener		
round nail)	the use of these terms indicates the head and shank of the nail are the same shape. Variations (e.g. a round-headed square nail) should be described in detail.
)	
square nail)	
)	
)	

CARL BORDEN

Text by Don Bunyan and Sketch by Hilary Stewart

This article is the "pilot" of what may turn into a series of regular features in The Midden, in which we would present informal and affectionate biographical notes about persons eminent in British Columbia archaeology. We should like to see these notes illustrated, as this one is, with sketches by Hilary Stewart. If we are thus seen to be replacing the "Artifact of the Month" by the "Archaeologist of the Month", well, we are. The reason for the switch is not, however, only that Hilary ran out of artifacts (which she did!), nor is it that we regard archaeologists as being fossils. The reason is that the progress of a science depends as much on the mind of the scientist as on the physical data at his hand.

Our first subject is the dean of our archaeologists, and scarcely needs an introduction to members of the A.S.B.C. Charles Edward Borden was born in New York City on the 15th May 1905. He spent part of his childhood and youth in Germany and remembers privations suffered there during and after the first world war. He returned to the United States, trained as a photographer, and then resumed his academic education, studying German at the University of California. He obtained his B.A. from Los Angeles in 1932, his M.A. from Berkeley in 1933 and -- after post-graduate studies at Heidelberg -- his Ph.D. in 1937. He came to the University of British Columbia in 1939 as a lecturer in the modern languages department, teaching German. He had developed an interest in archaeology during his youth in Germany (artifacts in the U.B.C. collection are noted as having been collected by him then), and later in California he included anthropological subjects in his studies.

This interest grew during Vancouver's boom after the second world war, when Carl saw that the "development" of the area was rapidly erasing its archaeological record. He then began both his own metamorphosis from German teacher to archaeologist and the arousing of public concern over the erasure, by starting the investigation, surveys, excavations and studies which sparked off the post-war resurgence of interest in B.C. prehistory. The names of the sites that he studied during the following years loom large in any index to B.C. archaeology: Point Grey, Locarno, Marpole, Boundary Bay, Point Roberts, Tweedsmuir Park, Pasika,

Milliken, Musqueam and many others. No mere observer, he was continually concerned with trying to explain his facts, and his theories about cultural development in the Pacific Northwest have had great influence in archaeological thinking. He has some three dozen publications to his credit.



Dr. Borden became a member of the B.C. Archaeological Sites Advisory Board at its inception in 1960 and its chairman in 1967, and he was one of the prime movers in the creation of the post of Provincial Archaeologist in 1971. The value of his work has been recognized both nationally and internationally, with numerous awards for archaeological research, election as a Fellow of the American Assoc. for the Advancement of Science, the Centennial Medal for valuable service to Canada, the degree of Literarum Doctor from U.B.C.¹ He has recently presented a generous gift of money to the University for the Charles and Alice Borden Fellowship Fund for Archaeology, to provide fellowships for qualified students in programmes leading to the degree of Doctor of Philosophy in anthropology, with priority to be given to those whose theses relate to the archaeology and cultural history of the Pacific Northwest.

Although hampered by severe illness, Carl is still at work, with one article to appear in Science, and another, on the archaeological art of the Lower Mainland, in course of preparation.

Carl has been a friend of the A.S.B.C. since its formation. He assisted at its birth, gave talks at its meetings, contributed articles to its journal, encouraged its members to participate in digs and surveys -- and praised their efforts. In an article in the second issue of what

was at first called the "Newsletter of the A.S.B.C.", he stated "Thanks above all to the valuable assistance rendered by members of the Society, the salvage project was extremely productive."

All who were members then grieved with him at the loss of his first wife in 1971 and rejoiced when he remarried in 1976. The Society owes him much, and we are proud to have him as an honorary life member.

- 0 -

Further Reading

Anyone interested in following Dr. Borden's thoughts about British Columbia archaeology could begin by reading the three items below as samples:

Borden, C. E.

- 1968 Prehistory of the Lower Mainland. In Lower Fraser Valley: Evolution of a Cultural Landscape, ed. A. H. Siemens. Tantalus Research Ltd., Vancouver.
- 1970 Culture History of the Fraser-Delta Region. B. C. Studies 6 - 7, pp. 95 - 112. U.B.C. Press, Vancouver.
- 1975 Origins and Development of Early Northwest Coast Culture to About 3,000 B.C. National Museum of Man Mercury Series, Archaeological Survey of Canada Paper No. 43.

1 Queen's Silver Jubilee medal, 1977;

The Smith-Wintemberg Award of the Canadian Archaeological Association, 1978.

* * * * *

SURREY LEADER 22 Nov 78

Skulls Dug Up by Surrey Class

When Royal Heights history teacher Richard Edwardson told his grade 7 class they were going to an archeological dig, he hinted that they might find some artifacts of millions of years ago. But what the 30 students of the class didn't know was they would be simulating discoveries which made headlines around the world in this century.

Edwardson, a UBC graduate in his first year of teaching, decided to try and do something a little different to make archeology interesting to his students. So he decided to create a typical archeologic site in a gully behind the nearby school grounds of Mary Jane Norris Elementary.

Edwardson made 12 hominid skulls from clay, fired them, stained them with varnish and shoe polish to give them an aged effect, and collected bones and shaped a number of stone tools.

This preparation took months, the skulls alone each required about 11 hours of work.

The various finds were then "salted" at a gravel pit behind Mary Jane Shannon early Monday morning this week.

For their part, students were given two weeks preparation for search of Early Man. They learned the fundamentals of field-work, site location, map reading, simplified survey techniques and recording.

STUDIED GREEK

They gained some practical experience in excavation by uncovering some Greek pottery in a

corner of the school parking lot. It is interesting to note that in preparation for the ancient city excavation, 22 students voluntarily learned some classical Greek.

Students then earned the right to excavate the "Olduvai" site, as it was dubbed by passing an exam in elementary techniques.

Monday, about 9:30 a.m., students walked to the site. Each group had previously staked out their plot.

The students did not know that skulls would be uncovered and "squeals of delight" rang through the air as each group discovered a skull ranging in age from 3 millions years (Australopithecus Boisei) to 100,000 years (Neanderthal).

The idea is the surprise of the discovery will motivate students to research subject of Early Man in the school library. Students are to reconstruct their man, with research into his general appearance and life style. As well, skull bits were buried in some plots and students will reconstruct a complete skull around a mould.

There will be a second dig but, as Edwardson says, "owing to a lamentable lack of ruins on the Lower Mainland," it will be conducted in a series of boxes containing models of Greek temples, theatres and city walls.

All students were totally engrossed with the excavation work. Indeed, one group asked permission to work into the lunch hour to continue digging.

