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Newsletter of
The Ontario Archaeological Society (Inc.)
SKELETAL BIOLOGY AND ARCHAEOLOGY IN SOUTHERN ONTARIO PREHISTORY: A LOOK AT THE RELATIONSHIP

by Al Molto

Al Molto did his undergraduate work at McMaster University, and received an M.A. and Ph.D. for his graduate work at the University of Toronto. He has been on the faculty of Lakehead University since 1975 and is finishing a two-year guest lecturer period at U of T. Dr. Molto's research has looked at stress physiology and he has also done forensic work for Thunder Bay authorities.

Dr. Molto's talk described the relationship between skeletal biology and archaeology in Southern Ontario prehistory. He looked at this relationship through a historical overview and through specific research themes. According to Dr. Molto, the history of skeletal biology studies in Ontario has gone through three periods: Early (1860-1930), Formative (1930-1970) and Modern (1970-present). During the Early Period, there was little problem-oriented archaeology and the physical anthropology consisted of descriptive accounts which were not concerned with the antiquity of the peoples being studied. Researchers of this period included Sir Daniel Wilson. During the Formative Period, the in situ origin of the Iroquois hypothesis was developed through the work of J.V. Wright and J. Anderson. Many scholars were trained as osteologists by Dr. Anderson and were concerned with problems in archaeological research. The Modern Period was marked by an availability of archaeological research funds and by Indian Movements opposing the excavation of burials. As a result, physical anthropologists refined their laboratory methods in order to extract more information from collections which had already been made. Today, burials are not excavated from sites for studying, but are salvaged and reburied.

Contributions made by physical anthropologists to archaeology were outlined by Dr. Molto. He described the information an in situ analysis of burials on a site (e.g. the Levesconte Burial Mound) could produce, such as mortuary customs (cut marks on bones and body positions). Molto described how morphometric comparisons (metric/non-metric data) helped develop (1) the in situ hypothesis (above) by comparing groups and (2) the evidence of status within a group by establishing the statistical chance of getting certain morphological traits. Palaeoepidemiology studies tell about the lifestyles of peoples by (1) dental pathology studies which can reveal subsistence patterns and food preparation techniques (by looking at the incidence of caries, etc.) and (2) osteopathology studies which look at other bones for evidence of physiological stress (growth-arrest lines which are the result of illness or poor diet, etc.), mortality and trauma (the frequency and type of fractures reveal the intensity of warfare). Finally, the methodology used by physical anthropologists consists of research design analysis which is precise and replicable.

Dr. Molto summed up the relationship between skeletal biology and archaeology by saying that archaeologists should allow osteologists to excavate burials on sites because they will record and interpret information present in them.
than an archaeologist might miss (above). Archaeologists should also use physical anthropology writings, even if these do not support their archaeological hypotheses. The information in these writings, even if they are insupportive of the archaeological hypotheses, are needed to complete the archaeological reconstruction of the past.

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ARCHAEOLOGISTS PROBE ANCIENT INDIAN VILLAGE

The trowel, filed to a knife edge, slices through the dirt overlay until the yellow sand on the floor of the longhouse begins to glitter in the sun. Then, in those moments that make the heat and dust and the boredom all worth while, there appears an arrowhead or finely fashioned stone scraper or a pot, made by a child.

This is the season of "the dig". In ancient meadows, in parks, in subdivisions just ahead of the bulldozer, archaeologists are scraping up Ontario and, from bits of pottery or bone or discoloured earth, piecing together the way it was here many centuries ago.

"There are 4,000 to 5,000 Indian sites that we could excavate in southern Ontario," says regional archaeologist Roberta O'Brien of the Ministry of Citizenship and Culture. "This time of year there are 200 to 300 people working on them."

One of the richest sites is an old asparagus field just off the edge of a subdivision at Highway 7 and Islington Avenue. Back about 1520, this was a bustling Huron Indian village of perhaps 1,000 situated smack in the middle of the busy portage route from Lake Ontario to Lake Simcoe. When the white man arrived, they called it "Toronto Carrying Place."

Set on a bluff overlooking the one-time course of the Humber River, the village probably was surrounded on three sides by a log palisade. Excavations by everything from bulldozer to trowel suggest a collection of about 17 longhouses, some over 170 feet (52 metres) long and 28 feet (8½ metres) wide. On the edge of the site now are half a dozen tents where four women and a man are spending the summer, patiently scraping the earth from the longhouse floor and digging into the garbage "middens" in a hunt for archaeological treasure.

The team is led by Robin Dods, a 40-year-old veteran of digs from Botswana to Egypt, who expects to complete her doctoral in paleo-zoology with a report on the Woodbridge site. "My speciality is examining animal remains from prehistory to learn about human diet, about the utilization of bones and about the domestication of animals," she says. "But it's really about people."

"I don't know any thrill like finding a pot made by a child with tiny fingerprints still there. The mother was making pottery and gave a lump of clay to her daughter to work, just the way I might give some dough to my daughter when I'm cooking so she might learn."

It's also dirty, exacting and difficult work. "We get most of the dirt off us, sluicing in a child's wading pool we brought along," says Dods, who is working with Ann Bobyk, Susan Hughes, Gayelin Hefferin and Michael Purchase. "Then we go into Woodbridge for a sauna."

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The portion of the site currently being worked is divided into three-metre squares with string attached to stakes. The deep overburden has been removed by bulldozer so the diggers are down to within a few inches of the floor of the longhouses. Using a sharpened trowel, each digger scrapes minute portions of dirt into a heap, searches it, then pushes it into a dustpan for later sifting. Each day, with luck, the site yields a small collection of deer bones, perhaps a stone scraper for animal skins, a bit of pottery or an arrowhead. Slowly, building on the work of archaeologists who have examined the site before, Dods and her team are developing a picture of life in the village 400 years ago. "It was a kind of low-rise development," she says, "with multi-unit houses of five or six families each around their own hearth."

The village covered about nine acres between the 80-foot (24-metre) river bluff and a swamp to the south. The soil was sandy, light and easily worked but not very fertile and quickly eroded. The houses, with squared or slightly rounded ends, were tightly grouped. In some cases they shared a wall. The centre of the roof was open to let the smoke out and bunks were built along the walls. There were storage pits for grain and other foodstuffs beside each hearth. "The houses were kept very clean," says Dods. "So what we are finding is the sort of thing you might find in a modern house, a bit of domestic stuff that had rolled under the bed or somewhere." The Indians grew corn, gathered raspberries, killed deer and took fish and clams from the river. "They also had turtle soup," she says. "Very good it must have been."

Dods and her team are part of growing band of archaeologists -- amateur and professional -- who form the Ontario Archaeological Society, dedicated to preserving and investigating the province's early history. Sites such as the Woodbridge village are now protected under the 1973 Ontario Heritage Act, although part of the site is already buried under housing. The remainder of the longhouses were due to be built on, but the contractor, Amont Construction, was persuaded to shift a park site to the village location and build houses on the original park dedication. The town of Vaughan voted $23,000 to Dods and her team this season to go ahead with the excavation and the uncovered village will become a feature of the park.

From the Toronto Star, July 18, 1982

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MCKENZIE-WOODBRIDGE 1982

by Robin Dods and Ann Bobyk

The McKenzie-Woodbridge Site (AkGy-2) represents a single occupation Late Ontario Iroquois Tradition village dated ca. 1520. It is believed to have originally covered nine acres and was first excavated by Dr. Norman Emerson in 1947. The site has been worked sporadically since that time with most recent excavations dating from 1974 to 1977. These were conducted as part of the summer and fall archaeological field schools of the University of Toronto. A housing development in the mid 1950's destroyed the bulk of the village, leaving only the extreme eastern portion with parts of eight longhouses, partial palisade and some middens for excavation. This area has been mostly worked in the 1970's and is now slated for development as passive parkland adjoining a new housing development.
This summer's project is a conservation assessment funded by the Town of Vaughan. We began on June 15th and will continue until August 31st, 1982. The Ontario Archaeological Society was approached by the Town to conduct this project and the co-operation of the University of Toronto and the Royal Ontario Museum has allowed the Society to run its first large field project in several years. The Director, Robin Dods, a Ph.D. candidate at the University of Toronto, is being assisted by Ann Bobyk, Susan Hughes and Michael Purchase. Gaylyne Heffernan has worked with the crew for July and Sylvie Browne has joined the crew for August. Tony Stapells and Sandy Howat have been faithful OAS volunteers. As of August 3rd, the Boyd Conservation Field School under the direction of Dr. Mima Kapches, will be conducting classes at the site.

The general policy of the McKenzie-Woodbridge crew has been to integrate as many activities as possible at the site with projects in the community. On July 31st Dr. Kapches, President of the OAS, and the McKenzie-Woodbridge crew acted as hosts at an OAS Picnic that also welcomed officials and members of the community. It is generally felt that this dig is an opportunity to do public relations not only for the OAS but for archaeology in general, and following this theme we have run an open site and welcomed all visitors. The results of this are seen in the good relations that have developed with not only the officials of the Town but the public in general.

This summer's project has also been instrumental in the development of an excellent relationship based on trust between the owners of the land, Almont Construction Ltd., the Director of the McKenzie-Woodbridge Project, and Roberta O'Brien of the Ministry of Citizenship and Culture. Through this we were able to obtain expanded letters of permission that have allowed us to do an assessment of the northern bluff middens. Such relationships developed with the construction industry should be pursued with vigour so that the potential for similar co-operative efforts to preserve our prehistoric heritage in Ontario is not lost.

In addition, media coverage has been most rewarding. An article by Val Sears on page one of the Toronto Star Sunday Edition, July 18th, resulted in notable coverage by the CFTO television news on the same date. Follow-up was taken over by the Woodbridge and Vaughan News on July 28th and the Kingston Whig-Standard on July 22nd.

Unfortunately, volunteer turn-out to date has been minimal; however, the opportunity to participate in this most worthwhile and interesting project still exists. Volunteers will be welcomed seven days a week until August 30, 1982. For further information, call 851-4177 Woodbridge.

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Charlie Garrad and four fellow archaeologists have been digging in Collingwood Township for nearly ten years, searching for evidence of the Petun Indians, the original natives of the Blue Mountain area.

On Monday, July 12, Charlie, Chris and Mike Kirby, Norma Knowlton, and Ella Kruse began the investigation of their latest site just off a section of the Bruce Trail beginning at the Scott Mission Barn on Sixth Street. Their goal was hopefully to uncover a small Indian house which, curiously, is situated just outside of a nearby Indian village close to Standing Rock, which is part of the Scenic Caves. The search technically began the previous week when the group cleared the site of trees and vegetation, but the real fun began last Monday.

Equipped with necessities such as shovels, trowels, snips (for cutting away any small offending roots), stakes, screens, and lots of mosquito repellent, the group started the excavation. First setting up a grid system based on a fixed point (a property line in this case), the archaeologists measured off a number of five-foot squares. All of the digging is done by levels, two inches at a time.

At this point, the speculation began. In fact much of an archaeologist’s work must be based on interpretation said Charlie...and always on hope. The principal thing to find when looking for an Indian dwelling, said Charlie, is the rock-lined hearth. He reported that quite a number of various artifacts have been uncovered, which in turn leads to a more accurate speculation about who actually lived in the house. Broken pieces of clay pots and sections of clay pipes have been uncovered, as well as artifacts made of stone; parts of a pipe, arrowheads, scrapers, knives and beads. Also found were a number of animal bones (beaver, deer, bear, fish), some artifacts and some of the remnants of a long-ago meal.

In a corner of one square, Charlie pointed out some relatively large bones from a bird’s wing. Because of the way they were placed, he said, ‘it suggests to me to be from a bird-wing fan’.

Although no evidence of the walls has yet been found, Charlie gave a 'very preliminary guess' as to the size of the house, about 15 feet square. Since the house appeared to have been destroyed by fire (because of the quantity of charcoal-like substances present) the posts along the perimeter of the house would leave a visible disturbance. Many of the artifacts discovered seem to lead to a very interesting speculation, according to Charlie. It is possible that the dwelling once belonged to the village shaman, or witch-doctor. Factors such as the distance from the village, finding stone arrowheads and pipes (a woman would not have lived there, since she would not have used such implements), and a single hearth indicate that the house belonged to a solitary male. Artifacts crafted from a conch shell were also found, which was a 'very precious material', said Charlie, 'it's white...it's holy'. He also wondered at the discovery of a number of bear claws. Perhaps, he thought, they were part of a bear robe, which would be just the type of thing a shaman would own.

Of course, speculations always remain speculations. Aside from travelling back to the year 1620 in this case, the only way to 'prove' one's ideas is by
more speculation when the artifacts are removed from the site and thoroughly analyzed.

His winter is usually taken up with analysis, said Charlie, and over the years his two-storey house in Toronto has filled with artifacts. What is really needed, he added, is some sort of artifact repository. The majority of archaeological finds, he explained, are not the type that would interest most museums, since they are usually only fragments of a larger item.

Time is often a limiting factor for archaeologists, Charlie explained, and in some parts of the province it's almost a race to keep ahead of development. Before the end of this week, in fact, Charlie and his crew will be wrapping up their excavations, heading back to the city with their finds.

As well as Charlie, Chris, Mike, Norma, and Ella, Norma's two daughters Melanie and Charlene were part of the group. Their camp site was actually in the very centre of the nearby village, which was one of the principal villages of the Petun tribe. The first time they built a fire at the site was quite an emotional experience, smiled Charlie, as they wondered about the many fires lit in the village so long ago.

A number of friends from Toronto and Hamilton also visited the site - Steve Walker, Stewart and Mary Leslie, and Dr. Howard Savage from the University of Toronto, to name a few -- as well as many local visitors. Charlie also named two local people who particularly contributed to the success of the excavation: Reeve Dave McNichol of Collingwood Township, who granted the permission to dig, and Jerry MacArthur, owner of the Scenic Caves property. As well as allowing the group to stay on his property, Jerry arranged for the transport of their gear to their camp site.

From the Collingwood Times, July 21, 1982

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BRIEF PRELIMINARY REPORT ON
1982 EXCAVATIONS AT THE HANEY-COOK BcHb-27 SITE

by Charles Garrad

During July 1982, volunteer members, friends and associates of the Petum Studies Group excavated in Twp. Collingwood, Con. 2, Lot 14, on the Township road allowance now used as the Bruce Trail, some 200 ft. south of previous excavations on the Haney-Cook archaeological site through which the road allowance passes.

The excavations resulted in the uncovering of the remains of a small Indian house, about 15'x15' although of irregular shape, and the proposals that (1) the house was Indian and (2) occupied at the same time as the nearby village (circa 1616-?) (3) by an Indian male. Additionally, we are reasonably certain that (4) the male lived alone and (5) was a shaman. It seems probable that (6) shamanistic practices and instruction took place in the house.

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Evidences that the house was Indian lies in its heavy internal post construction, with lighter outside posts carrying the roof to the ground, surrounding an internal hearth, and the vast amount of native materials found. The dating was achieved by the glass trade beads found, and the native ceramics, being compatible with those found on the nearby village site. Male activities are indicated in some of the manufactures, especially chert arrow-points, a number of which were found in various stages of manufacture, together with the necessary tools. That he lived alone is suggested by the smallness of the house and the fact that, if he were married, he would have moved into a female-dominated longhouse with his wife's family.

The evidence for shamanism lies in the combination of factors: his solitary existence detached from the village would allow privacy in prayer, ritual, trance, healing, preparation of herbs, etc.; he manufactured "holy" white shell beads, bone tubular beads, antler "button" (for divination?) and stone pipes. A possible bird-wing fan is tentatively recognised by the position of the bones. That new shaman received training here is hinted at by the profusion of partly finished stone pipes, surely beyond the ability of a single man to make. It is noted that, while detached from the village, the house is so placed that all visitors from the south are intercepted. Whatever the reason for its detachment from the village, there was no attempt at obscurity. It is also noted that his food appears to have been brought to him, from the unusual amount of broken whole-pots discarded in the hearth (possible 16 different pots in one 5'x5' archaeological square).

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O.A.S. TORONTO CHAPTER

The Toronto Chapter welcomes all O.A.S. members and guests to its monthly meetings which convene at 8 p.m. on the third Wednesday of the month. Location to be announced.

Upcoming Speakers:
Wednesday, September 15
Robin Dods
Director: McKenzie-Woodbridge Project.
"Report on This Summer's Activities at the McKenzie-Woodbridge Site"

Wednesday, October 20
Donald Brown
Director: Fort Rouille Project
"The French Connection: Fort Rouille Revisited"
Results of three seasons' excavation at this CNE Grounds location in Toronto

Wednesday, November 17
Roberta O'Brien
Regional Archaeologist, South Central Ontario
"What I Did Last Summer"

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Arch Notes

Jul/Aug 1982
Paleopathology is not exactly a household word. Coined by Shufeldt in 1892 from the Greek, the term was proposed to designate the study of all evidence of diseased or pathological conditions found fossilized in the remains of extinct or fossil animals. Early researchers, for obvious reasons, concentrated on skeletal material, and pioneering work on human remains was done in Egypt by the great trio of Elliot Smith, Lucas and Ruffer. This was followed by Hrdlicka's studies of Peruvian skulls and Moedie's radiological analysis of both Peruvian and Egyptian mummies. During the recent past, more emphasis has been placed on the examination of soft tissue where such tissue has survived (chiefly in Egyptian and Peruvian mummies), and the application of new scientific techniques has produced brilliant results. Now we are at a point where the use of advanced methods in studying these remains can help us to understand the evolution of disease and the role it has played in human cultural history.

The aim of paleopathology is the clarification of cultural and medical history, and the role of each in the epidemiology of disease. Aidan Cockburn, an English-trained physician whose interests centred on infectious diseases and their origins, thought that to understand a disease completely, knowledge of its current state should be augmented with knowledge of how it evolved. In this attempt, we are faced with difficult problems, because there is no clinical history and only limited physical examination in most paleopathological studies. However, some diseases or disorders leave indelible traces in either soft tissue or bony remains long after death. Using modern models, we can identify these diseases in ancient human remains, timidly at first, but more surely as the data from different studies accumulate. Each piece makes the puzzle more complete. Finally, we shall begin to isolate the various factors that influence the interaction of man and the illnesses that beset him.

Does the use of antibiotics affect the course of certain infectious diseases? We think that it does. However, more difficult questions may be: Do nutrition and heredity influence these diseases, and, if so, can their effects supersede beneficial treatment with antibiotics? These are some of the questions that paleopathology is trying to answer. As indicated by the report of Gregg and Steele in this issue of The Journal (p.459), paleopathology does not merely accomplish the identification of otitis media in American Indians. This is an ancient disease, having been present in one 2000-year-old Egyptian mummy that we have examined. If we can describe, with reasonable accuracy, otitis media and its complications in a primitive society exposed to a variety of cultural hardships, we have a good beginning. Add to that scenario a less primitive and more culturally varied population, in whom complications of otitis media are almost the same, and we begin to realize that a major influence in preventing complications has been the introduction of antibiotics. In this case, the assumption might logically be that antibacterial agents are the most important factor. However, without hard data, that assumption would be no better than an educated guess, and we should try to do better.

The occurrence of malignant tumors, for example, in primitive or ancient populations is almost nil, and many of the handful of reported cases are
suspected of being infectious in etiology. Osteogenic sarcoma and chondrosarcoma should leave telltale traces in human mummies or skeletons, but none have been described convincingly. We know that trauma and infectious diseases were the leading causes of death in early populations and that the life expectancy was roughly half of what it is today. Is the low rate of malignant lesions a result of early death, resulting in their simply not having had enough time to develop? Is it coincidental that the heavy-metal content of these ancient tissues and bones is low (reflected in very low levels of lead and mercury)? We really do not know. The role of trauma as a cause of death is easily defined. The role of infection is becoming increasingly clear. But what about malignant neoplasms? Do we want to rely on guesswork, or do we want to start identifying culpable factors? Is it heredity or environment? Is it the nature of the disease or the effect of our culture with all its ramifications? Is it all of these? We, as clinicians, owe it to our patients to try to find the answers -- and this is the goal of paleopathology.

At the Ninth Annual Meeting of the Paleopathology Association held in Toledo, in early April 1982, an exciting panel discussion focused on prospects for future research. Key points brought out by the distinguished panelists included the importance of studying whole populations wherever possible and the value of new noninvasive methods of examining bodies from ancient times (despite obvious limitations with these techniques). However, the greatest heat was engendered when the panel considered those dangers posed to the future of research by well-intentioned groups who, because of their respect for the dead and emotional reaction against postmortem studies, are demanding that all such research be brought to a halt.

Although we, in this country, are most aware of the protests of Native Americans, they occur worldwide, with supporters already active in both Egypt and Israel. Media hoopla has frequently, against the wishes of responsible scientists, turned serious studies into circuses for the titillation of morbid public curiosity. It is vital that this kind of approach be brought to a halt. A program of education, sponsored by reputable researchers, should draw to public attention the tremendous value of these studies in illuminating the biological history of mankind. (The motto of the Paleopathology Association is mortuus viventes docent -- the dead are our teachers.) Nutritional deficiencies, as well as infectious diseases, have frequently played a part in the history of a people, and they themselves could find out more about their own ancestors by cooperating, rather than by hindering investigations.

It is, however, vital that such research be handled with tact and sensitivity -- and it is also important that human remains be examined with concern for future researchers. The explosion of new techniques during the past ten years has already allowed us to make discoveries without major damage to the body, that were previously undreamed of. It is vital that this precious material, the remains of our own ancestors, be preserved for the future, when even more sophisticated methods may be able to illuminate ever more facets of human history.

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Reprinted from The Journal of the American Medical Association, July 1982

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DR. MILTON REALLY DIGS OLD BONES

A coroner’s life is full of surprises — and Margaret Milton makes no bones about it. Bones are really big in Dr. Milton’s life these days. Called by police to investigate suspicious skeletons around Toronto, she’s recently identified the remains of two bears, a pig and a couple of deceased lobsters.

But never again does she expect to find a corpse like the Gravel Pit Kid. Seems she was summoned to a Caledon farm to examine a skeleton found in a gravel pit. Foul play was suspected. But when she checked around, she found nothing suspicious. What she couldn’t figure was the origin of the bones, which looked a little old. So she called in her friend Howard Savage, professor of anthropology at the University of Toronto.

Well, they were old, all right. Savage figured the Gravel Pit Kid probably perished during a hunting trip when these parts were tundra and forest, inhabited by mastodons and mammoths, with the waters of ancient Lake Iroquois lapping around St. Clair Avenue. Radio-carbon dating confirmed the bones had been around for 6,000 years — the oldest ever found in Ontario.

“A wonderful discovery”, says Savage, “which we’re still studying in the laboratory.” He figures the bones survived because of their ideal location, in an area with excellent drainage. The skeleton, only slightly shorter than an adult male of today, is that of a male Paleo-Indian, about 50 years old.

What killed him? “We don’t know,” says Savage. “But it certainly wasn’t a case for the coroner. Too late to lay charges.”

From the Toronto Star, July 12, 1982

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Arch Notes
BOOK REVIEW

Bronze Age America by Barry Fell
Little, Brown, 304 pages, $19.95
Reviewed by William French, Globe and Mail, July 31, 1982

If Barry Fell's presumptions are correct, one of the most important historic sites in the Western world is located all unbeknownst in a provincial park near Peterborough. His theory, if accepted, will demolish all previous versions of European exploration of the New World and cause a drastic rewriting of North American history.

Fell, a professor emeritus of biology at Harvard University, proves -- to his satisfaction, at least -- that Norse settlers from the Bronze Age were in this area at least 17 centuries before the birth of Christ, or about 2,500 years earlier than the Vikings who are now generally regarded as our first European visitors.

Fell is not an archaeologist but an epigrapher, a linguist who specializes in ancient languages. The key to his discovery is his deciphering of the series of mysterious petroglyphs near Peterborough which until now have been attributed to Algonquian Indians. Fell is certain the original carvings in the limestone were done by Norse settlers around 1700 B.C., and he makes a convincing case. He has been able to determine that the Norse king Woden-lithi sailed up the St. Lawrence with a group of colonists, landed on the site of Toronto, proceeded northeast and established a trading and religious centre near Peterborough. The colonists were interested in the copper -- an essential component of bronze -- being mined north of Lake Superior, and bartered textiles for copper with the Indians. Since Woden-lithi makes no claim to being the discoverer of America, Fell assumes he wasn't the first Nordic visitor.

The site of the petroglyphs was concealed by drifting soil and lay buried for centuries. Then, in 1954, three geologists doing fieldwork on mining claims accidentally exposed the site. Archaeologists realized its importance, but attributed the pictographs and strange symbols to the Algonquian Indians, who inhabited the area until 500 years ago. There are in fact a number of Indian drawings there; the Algonquians copied the Norse style in adding to the stone fresco.

The Ontario Government moved in to protect the site in 1972 while making it the centrepiece of Petroglyphs Park. But the thousands of tourists who have admired the carvings had no idea they were looking at what may be one of the most important discoveries in the history of North America. What makes the site doubly important is that no Nordic inscriptions older than the Iron Age have been found anywhere, not even in Europe, and the Peterborough inscriptions thus reveal information about Bronze Age religious beliefs and social customs available nowhere else.

Fell explains how he cracked the language code, and includes a glossary so that with his book it's possible to go to the site and make a translation. "Although nearly 4,000 years stand between us and King Woden-lithi," he writes, "we can still recognize much of his language as a kind of ancient English. It is an eerie feeling to realize that we are reading, and hence hearing, the voice of the ancient explorers of Canada whose thoughts now come to

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us across the space of 40 centuries..." One of the words in the glossary is kwina, the Norse word for woman, out of which our word queen evolved.

To explain why European contact with the New World didn't continue, Fell points out that the Bronze Age was a period of relatively mild weather, with prevailing westerly winds and currents across the North Atlantic. But at the end of the Bronze Age, the world entered a cooling period during which the polar ice cap formed. The North Atlantic was too hazardous for small sailing ships until a moderating trend began about 700 A.D., soon after which the Viking explorations began.

In addition, the surface copper deposits north of Lake Superior began to give out. But during the 1,000 years the mines were worked, 500 million pounds of copper were removed. Since few traces of the mineral have been found in North American archaeological sites, he concludes it must have been shipped overseas. Clearly the Canadian tradition of exporting our natural resources has been going on longer than we realized.

The most intriguing part of the Peterborough petroglyphs is an ingenious astronomical observatory which reminded the colonists, through certain positions of the sun, to plant crops, celebrate Yule -- the shortest day of the year -- and the spring festival in honour of Eostre, goddess of the dawn (from which our Easter derives). A zodiac chart also carved in the rock enabled Fell to date the carvings at approximately 1700 B.C., from the position of the stars.

Fell's book is fascinating, and the copious illustrations of the Peterborough site and other North American evidence of equally early Nordic and Celtic presence make the text easy to follow. But he sounds a warning: since the petroglyphs were exposed 28 years ago, the limestone has begun to deteriorate due to frost and acid rain. "Unless steps are taken to impregnate the bedrock with a stabilizer such as silicone," he writes, "the precious record may soon melt away into unreadable markings." There shouldn't be the slightest hesitation on the part of the provincial Government to take the necessary steps.

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INDIAN RUINS LOOTED

Professional looters are plundering Indian ruins in the U.S. Southwest, digging for artifacts that can bring thousands of black market dollars, and leaving behind desecration and desolation.

Most know just what to look for -- ancient pots adorned with geometric designs and stylized animal and human forms. Using radios, airplanes, special probes and bulldozers, they leave the sites looking like war zones, pocked with holes and littered with bones from burial sites considered sacred by Indians.

From the Globe and Mail, August 2, 1982

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Several members of the Society are aware that I am interested in an archaeological tour of China and have expressed similar desires. They have asked to be kept up to date on my findings and that is the purpose of this letter.

As soon as I received the first brochures, it became apparent that the usual "tourist" tour was not what I had in mind. (I have been spoiled by the first two OAS International tours.) Although they covered some of the places I wanted to visit, they did not include others that seemed more important. Some would argue that once you have seen one archaeological site, you have seen them all. I feel the same way about communes, churches and large cities. One brochure listed their "Great Cities of the Orient Tour" which passes through Tokyo, Nikko, Beijing, Shanghai, Hong Kong, Bangkok and Singapore. A delightful smorgasbord, if that's what you want. My thoughts on a basic tour were to parallel the Old Silk Route and the Great Wall of China, visiting (Tokyo), Beijing, Inner Mongolia, Xian, Lanzhou, Turfan and Urumqui.

At this point we would be halfway around the world and the option of continuing westward was irresistible, but proved impractical for a couple of reasons. At that point on the Old Silk Route the traveller has the U.S.S.R. to the north, Afghanistan to the south and Iran to the west. Assuming there might be a way through these troubled areas, the next relatively calm spot would be Baghdad but that is a helluva long lump from Urumqui. From there the Old Silk Route wanders along to the final terminii at Tyre and Antioch and as I write this note Tyre is being overrun by the Israeli armed forces.

Of course, there may be alternatives, but the biggest problem could be obtaining permission from the Chinese authorities to exit their country in that direction and all tours must be approved by the Chinese International Travel Service long before entering the country.

The second consideration poses even more problems that mere governmental red tape and military skirmishes. My wife wants to shop in Hong Kong and somehow this route misses that city by a piddling 900 miles. That fact adds greatly to the unhealthy nature of taking this route.

A practical alternative is to concentrate on the eastern provinces of China where most of the major archaeological sites, ancient monuments and major museums are located. A visit to the "silk capital" of Suzhou near Shanghai and Hong Kong should satisfy the shoppers.

The itineraries and prices quoted come from four different sources. Several others were rejected because their tours have fixed itineraries. The first two listed are purely archaeological. The others are standard tours that visit most of the desired cities but the route on tour D is flexible. Costs are in Canadian funds and include a translator/guide; meals; transfers; admissions; gratuities and airfare from Toronto to San Francisco or Los Angeles where most of the China tours from North America originate. Personal shopping, airport taxes, excess baggage (more than one piece and/or more than 44 pounds) and liquor are extra. Single supplement is also extra.
So here we go -- the nitty-gritty:

A - 26 days, primarily N.E. China beginning at Beijing, Hohhot in Inner Mongolia, Datong, Taiguan, Xian, Suzhou, Shanghai and Hong Kong for $6,211.00 per person.

B - 25 days, central and southern China beginning at Beijing, Xian, Chongqing, a Yangtze River cruise, Wuxian, Wuhan, Shanghai, Suzhou, Guilin, Guangzhou and Hong Kong for $6,211.00 per person.

C - 20 days beginning in Hong Kong, Beijing, Xian, Nanjing, Shanghai, Guangzhou, Kweilin and Hong Kong for $4,255.00 per person.

D - 20 days could include Hong Kong, Guangzhou, Shanghai, Suzhou, Nanjing, Xian, Beijing and Hong Kong. This is a flexible tour and so is the cost - approximately $4,200.00 per person.

If the tour was officially sanctioned by the OAS, there could be some savings generated, but the initial cost is so high that it leaves little room to breathe, practically no time to save the money and who can afford to pay for two fares? I personally cannot, so I am passing the buck to anyone who is interested in pursuing the project. Sorry Angus.

There is one other slight problem and that is the timing of the proposed tour which is the fall of 1983. This may not be a conflict for those members not going on the OAS trip to Israel, but it is confusing and I'm sure the OAS Administrator would prefer to handle inquiries for only one tour at a time.

Sincerely,

Stewart Leslie

* * *

The Ontario Archaeological Society:

On behalf of the Ontario Heritage Foundation and the Macdonell House archaeological crew, I would like to extend an invitation to the executive and members of the OAS to visit the Macdonell House in Pointe Fortune, Ontario.

A second season of archaeological investigations is underway at the property and will continue through August 27. Visitors are welcome at any time although it would be wise to call before venturing a long distance, perchance we have been rained out or confined to lab duty.

Hoping everyone has a successful field season!

Sincerely,

T. A. Reitz
Project Archaeologist
for the Macdonell House Archaeological Crew
P.O. Box 59, Pointe Fortune, P.Q. J0P 1NO

* * * *

Jul/Aug 1982 -17- Arch Notes
The Society's bus trips have always been noted for good organization -- flexible when necessary, but well thought out and arranged. They are also noted for good weather and "characters" -- some of the most interesting people anywhere are to be met with on an O.A.S. bus trip. The 1982 trip to Kingston and points eastward lived up to the reputation established by our Administrator, Mr. Charles Garrad, who ensures the good organization, but makes no promises of good weather or fascinating travelling companions!

The bus departed from York Mills on time with about 40 people on board. The journey to Prince Edward County was pleasant and provided a chance to renew old acquaintances and explore new ones. It was good to see companions from the November Egypt/Morocco trip -- Norma Knowlton, Ella Kruse and Bill Payton my military-minded "roomie" who recampaigned all of Lord Kitchener's Egyptian manoeuvres. There were those who shared the Yucatan jaunt of 1979 -- Norma again, Bob Helwig from Kitchener, Charlie and Kay Nixon from Ayr and Mary Leslie from Hamilton. From several O.A.S. bus trips there were Marg and Jim Brennan, John Robertson, Jack and Marsha Redmond from Kitchener, Jock McAndrews and Sharon Hick who brought along the youngest tripper, John Russell Hick McAndrews, a real heart-stealer at 13 months of age.

There was an immediate bonus when Mr. Garrad announced in a very loud voice that we would be spared his atrocious puns on this trip, because the microphone wasn't working. When the deafening applause subsided, he also mentioned there would be no commentary either. This was partly due to the broken mike, but unfortunately mainly due to Mima Kapches not being able to make the trip because of an illness in her family. She had planned a description of some of the many prehistoric and more recent sites in Prince Edward County. We were treated instead to the sight of Bill Payton scurrying about the bus with a brown paper bag in his hand. I thought he was auctioning off his lunch, but he was hawking P.A.S.T. (Protect Archaeological Sites Today) buttons to all unsuspecting newcomers and those of us who should have known better than to leave our buttons at home. If you didn't buy a button, Bill threatened to call down the ancient curse of the dervishes of the desert (the Sahara, that is) upon you. It's surprising how well that works.

The drive along the Queen's Highway 49 to the Glenora ferry and then along No. 33 to Kingston was picturesque, as promised, and many very old homesteads could be seen. This area was one of the earliest to be settled in Upper Canada and later absorbed many United Empire Loyalists after the American Revolutionary War. There are a surprising number of restored, pre-1850 buildings and many never ones that use the style of that period. Together, they accent the 19th century atmosphere of Kingston, and who can resist a cafe set up on the pillared, wooden verandah of a pioneer-fronted restaurant? The gingham tablecloths, wooden chairs and the relaxed attitude of the people seated there make it a delightful stop.

After checking into Victoria Hall at Queen's University and discovering that we were co-habiting with the Ontario Liberal Convention, we toured through the old part of Kingston, past the harbour, Royal Military College and up the long approach road to Old Fort Henry. It is an impressive sight from across
the harbour, but the sheer bulk of the fortifications only becomes apparent as you get closer. Built in 1832 and restored one hundred years later, it commands a view of the Cataraqui and St. Lawrence Rivers and the approaches to Kingston. It was garrisoned by the British for much of the 19th century and a plaque by the parade square commemorates the many famous regiments that have been posted there. Our guide was a cadet named Stan, who explained the function and history of the fort and toured us around and through various gun positions, redouts, officers' quarters, the latrines and the gaol, various tradesmen's shops and along the top of the fortress walls. Although time was short, we had the satisfaction of knowing we would return that evening for the pageantry that revives the early days at Fort Henry.

We next paid a flying visit to the 1673 fortress built by Count de Frontenac, Governor of New France. He agreed that the spot selected by La Salle in 1671 was both strategic and beautiful. La Salle strengthened the wooden fort in 1675 by adding stone walls and corner bastions. A portion of the southwest bastion has been preserved in the centre of the parade ground of the National Defence Council which currently occupies the site. The only two segments of the fort that can be excavated by archaeologists are beneath a flower bed and under a nearby street, and the group was on its way to visit the man who has been given the opportunity to dig the former area. Place de Armes Street will have to wait for a good excuse to tear up the road.

Bruce Stewart is the archaeologist who directed the Kingston Harbourfront Project, a large scale exploration of the changing uses of one of the oldest continuously-occupied blocks of land in the city. The oldest was the British Military-Royal Engineers period, circa 1797-1864, then a Commercial/Industrial usage until 1911 with a concurrent Residential period from 1877 to 1911. The Grand Trunk Railway then turned the entire block into a freight yard that existed until 1969. The site is now the home of Ontario's centralized OHIP offices. The history of the excavation was shown via a slide show, lecture and display of artifacts that had been recovered and conserved. The slides showing winter excavations in a hot-air heated plastic greenhouse with snow piled around outside reminded me of similar conditions at the Grimsby Cemetery Site in the winter of 1976-77.

Bruce mentioned that he is still looking for several people to make up his crew for the excavation at Old Fort Frontenac (the flower bed section) which will run through the month of August.

Skipping supper, we just made it back to Fort Henry for the evening show, which included intricate marching by the fife and drum band and colour guard; re-enactment of an artillery-supported infantry advance which really blows the wax out of your ears; a tribute to the honourary C.O., a U.S. Marine Commander who was visiting the fort that day; the famous "British Square" and the Last Post. The programme was excellent and the historic background of each manoeuvre was given by an announcer prior to each spectacle.

The day didn't seem as if it could hold much more, but after a late supper a few who were slightly more alive than the rest went to a student pub called Alfie's and worked over a couple of pitchers of suds, then closed out the evening by crashing the Ontario Liberal Convention dance in Victoria Hall. Those Liberals just loved Heather and Alice!

A very short night later we had breakfast at Upper Ban Righ Hall. There was
a large choice and lots of food, and a box lunch to go, then we were on our way to meet Jim Pendergast at the famous Roebuck site near Prescott. This is a large Iroquoian village circa 1450-1500 built on a sand and gravel esker near a year-round spring. Jim’s talk on the history of the site was excellent. He must have tracked down everyone that ever set foot on the place. The village had been known to local and U.S. antiquarians since the middle of the last century and had been visited by Squires and David Boyle before 1900. W.J. Wintemberg did a systematic excavation in 1915 and reprints of his report are available through the Museum of Man in Ottawa. J.V. Wright also excavated portions of the village and this summer George MacDonald will attempt to recover fibrous materials from a sand island in the swamp nearby. We will be using “wet archaeology” techniques developed at the Ozette Village Site in Washington State. Jock McAndrews had just visited this project and had a copy of Kirk and Dougherty’s book aboard the bus for all to read.

We followed Jim Pendergast’s lead through the countryside past another Iroquoian village that now has a Radio relay tower growing from the heart of it; by another campsite barely touched by modern man and several examples of 19th century buildings. We picnicked beside the cairn and plaque commemorating Fort de Levis. Built by Capt. Francois Pouchot on nearby Isle Royal (Chimney Island now) in the spring of 1760, it effectively controlled traffic on the St. Lawrence but fell to British forces under Major General Amhurst in September of that year. Jim described this encounter as the last gasp of the French empire in New France. The site is now a National Historic Site.

After a leisurely lunch, gabfest, swim and frisbee match, we reluctantly bade our host adieu and boarded the bus for home.

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THANKS, THANKS, THANKS!

That the recent (July 10/11) bus trip to Kingston and the Roebuck Site was so successful is in part due to those who volunteered to meet us en route and show us things of interest. We particularly wish to thank Bruce Stewart and colleague for explaining and illustrating the Kingston Harbourfront Archaeological Project to us on the Saturday, and staying at Queen’s University to suit our convenience. Special thanks also to Dr. Jim Pendergast for his tour of the Roebuck Site on Sunday, with his fascinating overview of St. Lawrence prehistory, geography and archaeology. Jim also donated a copy of Wintemberg’s Roebuck Site Report to the O.A.S. Library. Again, thanks to both. By the way, Bruce still has vacancies on his archaeological crew - double check the flyer you received in your last ARCH NOTES.

Thanks are also extended to recent donors of material to the O.A.S. Library. These include Jim Brennan, Dr. Ian Walker and Dr. Rufus Churcher.

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URBAN ARCHAEOLOGY: THE KINGSTON HARBOURFRONT PROJECT

From the brochure produced by the Ontario Ministry of Citizenship and Culture (Archaeology and Heritage Planning Branch) for the Frontenac Historic Foundation, with the assistance of the Ontario Heritage Foundation.

The rapid growth of Canada's urban centres has caused the redevelopment of many older sections within our cities and towns. As redevelopment alters the historical environment of the downtown cores, opportunities to study sites of historic significance within an urban setting are becoming rare. While the pace of this redevelopment has brought about a heightened awareness of historical resources, attention has been focussed, for the main part, on standing structures, whereas the less conspicuous archaeological resources on urban sites have been in most cases ignored.

The planned construction of a Provincial Government Building on the northeast corner of Place d'Armes and Wellington Streets in Kingston, Ontario, provided the Archaeology and Heritage Planning Branch of the Ministry of Citizenship and Culture with an opportunity to study an area of long-term and diverse occupation in the heart of one of Ontario's earliest European settlements.

In attempting to take full advantage of the opportunities presented by the Kingston Harbourfront Archaeological Project, three general goals were set for the project. The archaeological goal was to trace the evolution of the site from its earliest occupation through to the present as evidenced by the archaeological remains. Historically, the goal was to fit the occupational history of the site into the overall framework of the growth and development of Kingston. Lastly, the project was intended to promote public awareness of the role of archaeology in the understanding of the community's growth and development.

During the fourteen-week field season, the crew of twelve archaeologists, an historian, an architect, and approximately fifty volunteers from the community recovered and recorded materials and structures ranging over the last two centuries of occupation. The occupation of the site can be broken down temporally and spatially into four periods: The British Military-Royal Engineers' Period; The Commercial/Industrial Period; the Residential Period; and the Railway Period.

The earliest indication of the activities of the Royal Engineers on the Kingston Harbourfront Site is found on a 1797 map of Kingston. During this early period, the Engineers' complex consisted of four log structures stretched along the shore of Cataraqui Bay. By 1916, the log structures had been replaced by a larger complex known as the Royal Engineers' Yard. The complex was made up of an office located centrally in the Yard, a series of workshops along the western edge of the property, a stable, and various other sheds for storage of materials.

The construction of Place d'Armes Street circa 1821 resulted in a decrease in the area of the Yard and in the demolition of several of the workshops. An 1824 map of Kingston provides important details on the layout of the Yard following the completion of Place d'Armes. Keyed to this map are a set of architectural drawings of the main structures within the complex. As the focal point of military activities in Kingston gradually shifted to Point...
Frederick across the Cataraqui River from the Yard, the nature of the activities carried out at the Yard also changed. The workshops, originally used by various military tradesmen, including carpenters, smiths, painters, and stone masons, quickly fell into disrepair and eventually were used primarily for storage.

By 1851, The Royal Engineers' office had been moved from the site to rented quarters nearby. The former office structure served as a regimental armourers shop until it was sold to the City in 1864; however, the workshops were torn down in 1858 to allow the extension of Wellington Street along the western edge of the Yard.

The excavations in the fall of 1980 exposed two separate structures that date to the Royal Engineers' Period of occupation. Excavation of a four-metre-square unit adjacent to Place d'Armes Street revealed an area of the cellar of the Royal Engineers' office. Within the unit, excavation uncovered two thick limestone walls, a section of wooden flooring, and a brick-lined drain. The boards had covered the entire area of the floor including the drain. Due to the deteriorated nature of the wood, they were quite patchy when exposed. Military buttons and badges located on the surface of the floor helped date the structure to the period of the Royal Engineers. On the extreme western edge of the site, a second building from the military period was exposed. A substantial limestone wall was identified as the eastern wall of the smith's shop, part of the complex of Engineers' workshops. Unfortunately, the remainder of the building is located under Wellington Street, and so could not be excavated.

Shortly after the demolition of the workshops in 1858, the site was utilized as a hay market. For the first half dozen years of the market's operation, the property remained in the hands of the military. In 1864, the city purchased the five lots that made up the Yard and firmly established the Hay and Wood Market on the site. That same year, renovations were made to the old Engineers' office so as to accommodate a hay scale, an office for the market manager, and a dwelling for the caretaker. The market continued to operate into the twentieth century, but as other commercial and industrial activities centred on the site, the area of the market was diminished.

With the purchase of the property by the city, plans were carried out to expand the land area by filling in the south-western area of Cataraqui Bay. While some minor filling of the Bay had taken place prior to this, the major activity seems to have been carried out in 1878-79. In conjunction with the land fill, an open sewer line was laid across the north end of the property.

In 1877, the city divided the enlarged property into lots and put them up for sale. The first to be sold were four residential lots along Wellington Street. By the late 1880's, the Hay and Wood Market was limited to a narrow strip of land adjacent to Place d'Armes Street. The remaining portion of the property was taken up with a planing mill and lumber and coal yards. The mill was replaced by a foundry that occupied the site from 1900 to 1911, when the railway purchased the entire block.

The Commercial/Industrial Period was well represented among the structures and features located during the excavation. Examination of the materials recovered from the old Engineers' Office structure brought to light artifacts...
that relate to the period when it was used as the Weigh House for the Hay and Wood Market. A trench excavated through the north end of the property exposed a section of the open sewer line contemporary with the filling-in of the bay. The principal structure examined from this period was the Planing Mill. Eight four-metre square units were excavated within the mill complex, exposing substantial sections of walls and flooring. In addition, two large limestone pads for the support of heavy mill machinery were located. Thick deposits of ash and burnt floor boards point to a fiery end for the mill.

The location of the last major complex on the site, Angrove's Brass and Iron Foundry, was determined by exposure of several sections of foundation walls during test trenching east of the planing mill.

Following the division of the city-owned property, a group of four Victorian houses were constructed on the lots bordering Wellington Street. The houses, a mixture of single and multi-family dwellings, were all two-storey brick or brick-veneered structures set on limestone foundations. Single-storey brick or wooden extensions were added to the back of each structure. Along the eastern edge of the residential properties was a series of sheds and outbuildings associated with the dwellings. These structures included privies, that were used as coal, wood, and storage sheds.

Three separate structures from the Residential Period were investigated during the excavations. Several units were excavated to expose significant sections of 'House 2', the second house north of the corner of Place d'Armes and Wellington Streets. In the south-east corner of the house, a blocked-in doorway or window was located. The blocking of the opening may have resulted from a change in orientation within the house brought about by the construction of the addition on the back of the house. Within the main area of the house, a finished cement floor was exposed within a cellar area too shallow to have been used as a living or a storage space. From the scarcity of building materials recovered during excavations, it is evident that the demolition of the structures included the salvage of materials such as bricks and wood which could be re-used.

A second house, 'House 4', was also partially excavated. Work on this structure provided additional information on construction techniques and the exact location of the structures. Recovered in the rubble from the demolition of the house were fragments of painted plaster and wallpaper, which provide details on the houses' interior decoration.

The third structure from this period was a privy located along the eastern boundary of the residential properties. While the superstructure had been completely removed during the demolition of the houses, wooden framing below ground survived pretty well intact. The organic material in the privy held a treasure of artifacts -- bottles, plates, teacups, etc., which had been conveniently deposited down the privy. Sections of flooring from the surrounding sheds were also exposed, but there were no indications as to their functions.

The houses had been constructed or bought primarily as investment properties, as few of the occupants actually owned their residences. Street Directories and Assessment Rolls provide a more or less complete list of tenants, who ranged in occupation from military personnel to tradesmen, and on the whole tended to be a fairly transient population.
Advertisements appearing in the local papers in the summer of 1911 sought tenders for the demolition of the houses along Wellington Street, in order to make way for the construction of the freight shed and office for the new Grand Trunk Freight Yard. By the next summer, construction for the complex was well underway.

Ownership of the property was once again consolidated in 1911-12, with the purchase of all lots in the block by the Grand Trunk Railway. Grand Trunk built its freight yard on the land, and a series of seven sidings branching off the main line that cut through the northeast corner of the property. Although tracks had crossed through the site as early as the mid-1870's, the property had not played an important role in railway activities until the development of the site by Grand Trunk.

In 1923, amid political and economic turmoil, Grand Trunk was absorbed by Canadian National Railways. The yard continued to serve as the main freight depot for the Canadian National in Kingston until the mid-1960's, when operations were relocated elsewhere. By 1969, the last traces of the once busy freight yard disappeared with the removal of the sidings and main rail line.

Due to the nature of the remains, little time was concentrated specifically on structures from the Railway Period. The general outline of the freight office could be determined by examining foundations visible on the ground surface. The piles from the freight shed were not visible on the surface; however they did show up in most of the units excavated along Wellington Street. Heavy deposits of cinder, railroad spikes, and ties found across the site reflected the extent and lengthy duration of the Railway Period.

In the Kingston area, a number of groups and individuals have taken advantage of the project by visiting the site and, in many cases, volunteering time and energy to the project. Also, growing awareness in the community about the importance of archaeological and historical resources available in Kingston has resulted. Although the research carried out by the Kingston Harbourfront Archaeological Project was thorough, it dealt with only one small area of Kingston, and only scratched the surface of available resources.

The mass of archaeological data and historical documentation collected during the research will be published in the form of a technical report on the project, and a more popular volume on the archaeology of the Kingston area is planned. Prior to publication, further information can be obtained by contacting the project office in Kingston, 103 Abramsky Hall, Queen's University, Kingston, Ontario K7L 3N6.

Contributions made by the Kingston Harbourfront Archaeological Project are evident at a variety of levels. Research into the Harbourfront Site has expanded our understanding of the role of the military in Kingston's development, the economic situation following the departure of the British military, and the contributions of small industrial operations and the railway to the overall growth of the city. In a wider context, it has set a precedent for the investigation of provincially-owned land scheduled for redevelopment. The degree of co-operation extended to the Archaeology and Heritage Planning Branch by other Ontario ministries, Parks Canada, the National Museum of Man, Queen's University, the City of Kingston and the Frontenac Historic Foundation has been considerable and has pointed the way to further co-operative ventures in the future.

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Arch Notes -24- Jul/Aug 1982
ANNOUNCEMENT: O.A.S. SYMPOSIUM - OCTOBER 22-24, 1982

The 1982 O.A.S. Annual Symposium will be held in Thunder Bay on October 22, 23 and 24, at the Airlane Hotel. Things are shaping up quite well at this point and a pre-registration form with price information is included with this issue of ARCH NOTES.

The major theme of the Symposium is to be the Archaeology of the Superior Basin and its connections. It appears that a pleasant mix of Canadian and American scholars will be present and able to interchange ideas and data.


Tours are currently being planned for Sunday and include the possibility of visiting Fort William and the Cummins Site.

The Thunder Bay Chapter is looking forward to hosting this Symposium and hopes that many are planning to make the journey to partake in the extravaganza.

For further information, please contact: William Ross
Programme Chairman
1825 E. Arthur Street
Thunder Bay, Ont. P7E 5N7
(807) 475-1447

Please complete and forward your Registration Form as soon as possible.

EMPLOYMENT OPPORTUNITY

Chairman, Department of Anthropology
University of Western Ontario

Nominations and applications are invited for the position of Chairman of the Department of Anthropology, Faculty of Social Science, effective July 1, 1983. A Senate Selection Committee recommends an appointment for a three-to-five-year term, renewable. Nominations and applications should be sent to:

Chairman of the Selection Committee
Professor D. Smith
Dean, Faculty of Social Science
The University of Western Ontario
London, Ontario N6A 5C2

Deadline for submission is October 1, 1982. In accordance with Canadian Immigration requirements, this advertisement is directed to Canadian citizens and permanent residents.
HAMILTON AND SCOURGE

The Jacques Cousteau film and 1982 National Geographic slides of the barques Hamilton and Scourge that sank in a storm in 1813 off Port Dalhousie are being shown every day, 11 a.m. to 7 p.m., at Confederation Park, Highway 20, Hamilton until Labour Day. There is a campaign to raise funds to bring the ships up and keep them in large tanks of fresh water. Information is available at the Interpretation Centre -- look for the blue roof.

* * * *

JOSEPH BRANT ARCHAEOLOGICAL SOCIETY

The Joseph Brant Archaeological Society opens the season on September 27, 1982 with Pat Proctor of the Royal Ontario Museum's Far Eastern Studies Department speaking on the Chinese Exhibition which is currently at the Toronto Science Centre. Pat is an expert on Oriental pottery and has, of course, been to China herself, so she can certainly provide some very interesting insights into Chinese culture past and present, enhancing our appreciation of all the Chinese Exhibition has to offer.

* * * *

RETURNED MAIL AND MISSING MEMBERS

Can anyone track down these missing members? Their mail has been returned to the O.A.S. office. The addresses given below are the last we had for these members:

Ruth Hamilton 597 Broadway Ave., #1, Winnipeg, Man. R3C 0W7
Gordon Hill 62 Tupper Street, Thunder Bay, Ont. P7A 3Z8
Mr. and Mrs. Vincent Massey 140 Old Post Road, London, Ont. N5Y 1V4
Peter J. McBeth 21 Radford Avenue, Toronto, Ont. M6R 1Z6
Dana Poulton 45 Palace St., #3, London, Ont. N6B 3A6
Ruth M. Vale 35 Albany St., Waterloo, Ont. L3V 2T4

All the above are members in good standing. Peter McBeth is a life member, probably our youngest. Where are you, Peter? Our office isn't large enough to store all your mail for the next sixty years! Needless to say, we ask anyone on the move to advise O.A.S. of their new address.

* * * *

ONTARIO ARCHAEOLOGY 37 RELEASED

By now, members will have received the newest ONTARIO ARCHAEOLOGY. You may have received it in the mail, or even with this ARCH NOTES. You may have been handed it at a Society or Chapter meeting (we are up to a number of tricks to reduce postal overhead!) or at the picnic, or even by a stranger on the street. If you didn't get a copy, it is because your membership has lapsed -- check your membership details.

* * * *
NEW BLADE TECHNOLOGY IS 3,000 YEARS OLD

The technology used by primitive peoples more than 3,000 years ago to make stone blades from volcanic glass has been rediscovered by archaeologists and may prove useful in modern day ophthalmic and cosmetic surgery.

The blades, which are made from obsidian glass, are many times sharper than the finest surgical steel. They are so sharp they can fracture molecules, says Dr. David Pokotylo, professor of archaeology at the University of British Columbia. Obsidian blades leave less scar tissue, reduce the chance of infection and make faster healing incisions than regular surgical steel scalpels. "They can slice through leather like butter." Dr. Pokotylo said. "They are especially good for cosmetic surgery because they cut so clean there is very little scar tissue formed. I can speak from my own experience, looking at my hands," he said. Surgeons in the U.S., particularly eye surgeons, have been experimenting with these glass blades for several years, according to Dr. Jeff Flenniken, a lithic technologist and professor of archaeology at Washington State University in Pullman, Washington. A California ophthalmologist has been using them for cataract surgery and is reported to be pleased with their performance.

The technique primitive civilizations used to make these blades was rediscovered about 20 years ago by Dr. Don Crabtree, an archaeologist and flintknapper (one who makes stone tools). In 1975, Dr. Crabtree had open heart surgery and elected to have it done using his own scalpel. The blade much such a fine incision, it barely left a scar, according to Dr. Pokotylo. "You could see the sutures but you couldn't see the actual cut," he said. Dr. Flenniken was taught how to craft the blades by Dr. Crabtree and is now in the process of trying to interest a U.S. company in manufacturing them. He admits there are many hurdles to pass, including getting Federal Drug Administration (FDA) approval and acceptance by the public, "who do not like to be operated on by glass."

So far, the blades are being made by hand, not by machine, and therefore the curvature and tip and even size of the blades are not exact. "They cost nothing to make," Dr. Flenniken says, and they are autoclavable. The blade is strong, Dr. Flenniken says, although it will break easily if pressure is applied in the wrong place. "It's like breaking an ice cream stick. If you put pressure in the middle, it will break, but if you put pressure at both ends, it's almost impossible to break. If you drop the blade, of course it will break. It's rather like squeezing an egg."

Obsidian is found in B.C., Washington and Oregon. Blades were made "by the millions" by the Mayans and Aztecs and other ancient civilizations as their main cutting tools and were used, among other purposes, for shaving and to carve out the hearts of sacrificial victims. Archaeologists digging in B.C. have found ancient blades along the coast and the Fraser and Thompson rivers. Dr. Pokotylo and his students have been conducting digs at the site of B.C. Hydro's proposed hydroelectric project at Hat Creek, near Cache Creek, where they have unearthed a number of blades.

So far, obsidian blades have not been used in Canada. However, Dr. Pokotylo says he will make the blades available to interested surgeons: "If anyone wants to try, I can give them some."
SCIENTISTS COLLECTING ARTIFACTS BEFORE AREA FLOODED

Thousands of years of man's existence along the Euphrates River in Iraq will be flooded to make a 120-kilometre (75-mile) lake for a hydro-electric project this winter unless the high cost of the Iraqi-Iranian war -- about $90 million (U.S.) a day to Iraq -- delays the project.

Three years ago, the Iraqi department of antiquities asked archaeologists around the world to help salvage historic sites dating back to the Assyrian and Babylonian empires. It is a land where the Polish archaeological expedition last year found tools made by the world's oldest known person, Homo erectus, dating back a million years, and the area is believed by some historians to be The Garden of Eden. And it is a land where archaeologists from Poland, East Germany, Britain, France, Italy, Japan and Canada have been rescuing history from inundation.

The Royal Ontario Museum team, headed by T. Cuyler Young, has totally excavated an extremely rare Assyrian fortress, called Yimneyeh, meaning "to the right" -- usually there's only 4 per cent to 5 per cent excavation on a site -- and it recovered 9,000 pottery shards for the Iraqi Government. In a rare gesture, Iraq has permitted the ROM team to bring back some of the pottery shards for the museum's collections. While piecing the shards together and completing maps of the fortress, Dr. Young, ROM West Asian curator and a University of Toronto professor, pointed out that the rescue operation, called the Haditha Project, was started shortly after the plans for the massive lake were announced.

Al Haditha is a town halfway between Baghdad and the Syrian border along the Euphrates River. The flooding will make a lake out of the Euphrates about 120 kilometres long and 5 kilometres wide, nearly to the Syrian border.

Iranian-born Dr. Young pointed out "it's completely desert, very tough desert, and human occupation is limited to the river valley -- true for all recorded time." It has been pencil-thin human occupation running up both sides of the river since man first lived there. That man may have been Homo erectus because in the spring of 1981 the Polish crew found the age-old tools and, as Dr. Young pointed out, "we know the chap who made them was Homo erectus, but there was no fossil evidence (of him)". The tools were found on two sites along the Euphrates close to the Canadian dig. Dr. Young said the Iraqi plea to the archaeological community "asked us to come and dig up as many sites as we could before the area goes under water. The work is pretty well finished." But the Iraqi-Iranian war, he feels, may delay that flooding up to three years. Archaeologically, Dr. Young said, the hydro-electric project was "a disaster. But how can you argue against progress? Obviously this kind of progress has to take place. For the good of Iraq and the Iraqi people. But it's sad to see this amount of history drowned." He pointed out that the dam isn't going to be there forever. "No dam in the world is going to be here 300 years from now. It's not a permanent archaeological tragedy."

The Curator feels there are "more spectacular examples of destruction" nearly everywhere in the Mideast countries where there are factories, major agricultural projects, etc. under way. "They ruin archaeological materials."

Dr. Young said two Iraqi colleagues are working full-time on archaeological sites in line with a six-lane highway that joins the Arab states from Amman to Baghdad to Kuwait. "Anywhere economic development takes place in the Middle East, there's archaeological damage. It's the same in Canada more
Oddly enough, before the Iraqi hydro project, archaeologists knew nothing about the 9th century B.C. Assyrian fortresses along the Euphrates. "Salvage archaeology can be fun." said Dr. Young. "We concentrate our work in the same area. We went from complete ignorance here to almost more than we can handle, overnight." A year ago, Dr. Young chose the site on a bluff, "the biggest single feature on the whole horizon. You can see for 60 kilometres (35 miles). It rises about 50 metres (160 feet) above the river, only a 15-minute walk away."

The Canadians learned the fortress was occupied by the Assyrians, who were a major military power from 950 B.C. to 612 B.C. The Euphrates was the border between Assyria and Babylon and the wild desert tribes. So the Assyrians built a series of fortresses along the river, each one a day's march apart. The British, Poles and the French each worked on a fortress.

Jokingly, the Yimneyeh was called "the telegraph pole" by the archaeologists because it was used by the Assyrians as a "watch tower, a signal point. From this fort they could see everywhere and signal to the forts along the river." The Curator pointed out the fort was archaeologically valuable because only Assyrians occupied it. "It was a one-period site. Erosion left us with the foundation of the fort. Only the foundation and floor was left. We dug the whole thing. We got everything. We have an architectural plan of the fort and an enormous amount of pottery from the 9th century. Everyone in the future can follow us to know whether it's 9th century or not. It's like walking into someone's home and looking into their china cabinet. It doesn't happen often archaeologically."

Dr. Young said the forts lost their importance to the Assyrians when their empire reached the Mediterranean and they were abandoned. "They not only abandoned them, they tore them down so no rebellious governor could use them. We know that from the nature of the deposit." But the Canadians were more interested in what they didn't find: "There were no stoves or cooking facilities. No ovens. No large storage facilities." Dr. Young has concluded that "it was a total male operation. There were no women up there. This particular fort was supplied daily from one of the big fortresses like the Polish team's fortress, a 35-minute walk away." Dr. Young feels the Yimneyeh had about 25 troops, rotated every 10 days. "The weather was terrible there. The wind blows. At times you couldn't see your hand in front of your face. It would have been a pretty miserable assignment (for the troops) up there." And there's heat. At times during the dig, the temperature reached 51 degrees Celsius (125 degrees Fahrenheit).

Politically, Dr. Young feels, the expedition was a success, too. "It was the first time that Canadians have worked archaeologically independent in Iraq. We've worked with the British over two occasions. It was the year of Canada's Constitution and we broke free, too."

From the Globe and Mail, August 4, 1982

* * * * *
"FINGERPRINTS" OF LEAD USED TO TRACE BRONZE-AGE ORES

The latest physical technique to help archaeology is lead-isotope "fingerprinting". In the past year, Drs. Noel Gale and Zofia Stos-Gale, a husband-and-wife research team at Oxford University, have shed new light on ancient controversies surrounding the origins of the metals in lead, silver and bronze artifacts from the Aegean Bronze Age (about 2000-1200 B.C.).

For decades, chemists have been trying to help archaeologists track down the ore bodies from which the Bronze Age people extracted metals they used for artistic and practical purposes. The chemical composition of artifacts were compared with those of likely ore bodies, but to no real avail. First, ore bodies are far from uniform chemically. Second, the smelting processes used were quite capable of completely changing chemical proportions. Said one pessimistic reviewer in 1964, "There seems little doubt that at the moment a solution to the problem of the sources of supply for ancient copper and bronze objects in the Mediterranean lands cannot be hoped for through the medium of the laboratory."

The Galés have based their breakthrough on a well-known geophysical fact: the lead found in any particular ore deposit has a recognizable pattern in its isotopic (isotopes are variable forms of an element) composition. For instance, lead from one deposit may have a lot of lead-207, while another may be richer in lead-208, and so on. And the key thing for the archaeologist is that the lead isotope composition associated with an ore is not changed when the ore is smelted. As a result, when the isotopic composition of lead from a metal goblet, say, is examined, it can be matched like a fingerprint against the lead-isotope composition of any ore body.

Motivated by this idea, the Galés set about fingerprinting potential ore body sources of Aegean Bronze Age metals. They then analyzed the isotopic composition of lead in about 100 lead and silver metal artifacts from the same area. On comparing the isotope fingerprints with those of ore bodies, the Galés made an important discovery -- that many of the artifacts originated from ore in mines at Laurion on mainland Greece.

According to Dr. Keith Branigan of the Department of Prehistory and Archaeology at the University of Sheffield, England, writing in Nature, this was "a major surprise -- the importance of the Laurion lead-silver source in early Aegean metallurgy. Its significance to classical Athens is well known and documented, but no one had believed its metals had been extensively used 1,000 years earlier.

The analyses also supported the idea that trade was going on between the Aegean people and Dynastic Egypt between 2000 and 1300 B.C. Six Egyptian artifacts (three of lead and three silver) dating from that period bore the Greek Laurion lead-isotope fingerprints. After their success with lead and silver artifacts, the Galés turned to bronze, the alloy of copper and tin. This alloy was far more widely used in early times than were lead and silver.

Sure enough, the Galés found that lead accidentally included in bronze could be fingerprinted. Their first results on 22 bronzes from Crete were very exciting. Four sets of characteristic fingerprints were found, only one of which has so far been matched with an ore body. Remarkably again this area was Laurion. Half of the Cretan artifacts were made of copper from mainland...
Laurion, which, according to Dr. Branigan, "has never previously been thought of as a potential source of copper for the Aegean civilizations.

Previous to the work of the Gales, the most popular choice by archaeologists for the source of much Aegean bronze had been deposits on Cyprus. None of the Cretan artifacts, however, had lead-isotope fingerprints matching those found by Noel Gale and Edward Spooner (Department of Geology, University of Toronto) for the well-known copper deposits of Cyprus.

More work on bronzes, and on the Cypriot and other ore bodies, needs to be done, but it is clear that lead-isotope fingerprinting will have a major impact on the unravelling of patterns of trade not only in the Aegean, but in many parts of the ancient world.

From Derek York's column,
The Globe and Mail, July 30, 1982

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REMAINS COULD UNEARTH NEW FACTS

A farmer has unearthed the remains of a mammoth -- a prehistoric elephant that roamed southern Ontario as long as 12,000 years ago.

Calling the discovery a rare find, scientists from the Royal Ontario Museum in Toronto have confirmed a number of bones on the farm of Terry Poole, near Brunner and about 20 km (12.5 miles) northwest of Stratford, were those of a young mammoth that lived just after the retreat of the last glacier. Officials say the find, one of only a few in Ontario and probably the most extensive, will reveal new facts about the region's prehistoric past and has already sparked plans for more excavations on the farm.

The discovery was made last May when Poole was planting corn for the first time in a field that had always been used as pasture. A tractor driven by a neighbour stuck on something that turned out to be a group of unusual bones. Poole's wife, who has studied anthropology, took the fossils to an expert at the University of Western Ontario in London, who informed the Toronto museum.

Recently, scientists came to the farm, but at first they were skeptical. They thought the bones came from a mastodon -- another prehistoric elephant far more common in the area -- but reservations turned into enthusiasm when they realized what they had. "We were thrilled," said Toronto paleontologist Arlene Reiss. "The bones are in good shape and there's a chance more is down there."

The scientists have determined that the bones they found -- a tooth, part of a jaw bone, a shoulder bone and part of the vertebrae -- were from a young mammoth that had lived between 10,000 and 12,000 years ago. Scientists hope to discover more than just bones. They want to find out when and why the mammoth became extinct and they hope to uncover traces of early man in the area. "If we find a spear point in the dig it will be a major discovery," said Toronto botanist Dr. John McAndrews. "The first men entered Ontario around that time and this might turn into one of their kill or butchering sites."

From the Windsor Star, June 15, 1982
FORT DIG AT CNE WORRIES CURATORS

The excavation of an eighteenth-century trading post, buried under the site of Toronto's Canadian National Exhibition, has angered museum curators who object to money available for historic sites being used to rebuild the fort.

Fort Rouille is being excavated this summer to mark the 150th anniversary in 1984 of the founding of Toronto. Although there are no immediate plans to reconstruct the fort, the city will study the idea.

"It is absolute nonsense when we're being told there just isn't money for cultural and historic sites," said Lynne Kurylo, curator of Toronto's Enoch Turner Schoolhouse. "Why do we need another stockade with phony Frenchmen running around inside it?" Chris Castle, curator of Gibson House, a restored nineteenth-century house in North York, said the excavation may provide useful information for scholars and museums, but a rebuilt fort could be a problem. "We are all a little concerned about a new large-scale site downtown... There are already sites in Toronto that need more financial assistance and public support," Ceta Ramkhalawansingh, interim co-ordinator of sesquicentennial celebrations, said the issue had been raised by the Toronto Historical Board. "Their concern has been that we should be spending money on existing projects," she said. "We will set up a committee to investigate the feasibility of reconstruction, to figure out whether it should proceed and how it will be paid for."

John McGinnis, managing director of the historical board, said it has not opposed the project but "has not made it a practice to reconstruct buildings."

Fort Rouille was a 15-man trading post built by the French in 1750-51 to intercept Indian traders travelling to the English post at Oswego on Lake Ontario's south shore. Retreating French soldiers burned the fort in 1759 to prevent it from falling into British hands during the Seven Years' War.

This summer's excavation, financed by the City of Toronto, the Toronto Board of Education and the Ontario Heritage Foundation, is the third dig at the site -- between the CNE's bandshell and horticultural building.

From the Globe and Mail, June 15, 1982

RE-OPENING OF ROM DELAYED BY STRIKES

The Royal Ontario Museum has pushed back its re-opening date because of strikes by tradesmen completing its major renovations.

The museum, which was shut down in January 1980, for a $56.6-million overhaul, was scheduled to re-open on July 1.

"We want to open during the summer if we possibly can," James Cruise, museum director, said in an interview yesterday. "I'm personally hopeful we can have our quiet private opening before the end of July, but this is just wishful thinking."

Work stoppages by plumbers and pipefitters, sheet metal workers and terrazzo tile finishers in the past week led to a decision by the executive committee of the museum's board of trustees to put off the gala event.

From the Globe and Mail, June 3, 1982
FROZEN ESKIMO BODIES FOUND IN PERFECT STATE

Several bodies found in a 200-year-old Eskimo home were so perfectly preserved in ice that it looked "as if time had stopped", an archaeologist says.

The house, possibly smashed by a huge block of sea ice, contained a skylight made of seal skin and a wealth of everyday tools, jewellery and other objects, said John Lobdell, an archaeology teacher at the University of Alaska. "They were preserved virtually as if someone had stopped time," he said. "Normally in archaeology, you find things discarded. In this case, we found them still in use -- as if time had stopped."

The preserved bodies of the Inupiat Eskimos found in the home on the outskirts of Barrow included two adult women and a 10-year-old girl. "Clearly these are the same people who live there today," Lobdell said. "It was a picturesque and beautiful society." A tub of caribou remains, the hood of a raincoat, two pairs of mukluk boots, 20 barbed bone arrow points, several baleen-sewn baskets, and cup made of baleen also have been recovered, he said. Baleen is a fringed, hornlike substance lining the mouths of certain whale species, once used for buggy whips and corset stays.

A sewing bag and six jade earrings also have been unearthed, along with dance masks, a cane with a goose head containing inlaid eyes, games and a small bag of charms and amulets. "Obviously these people were practising their religion," said Lobdell. No evidence of western culture was found in the home, and there was no indication that the Eskimos had yet come in contact with European explorers or commercial whalers, he said.

"We will be able to reconstruct the life ways of the Inupiat Eskimos prior to the European impact," he said. "What we're finding is that they were a thriving and resourceful people -- just as they are today."

From the Toronto Star, August 7, 1982

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ROMANIAN TREASURES ON VIEW AT THE NATIONAL MUSEUM OF MAN

An exhibition of archaeological treasures featuring over 500 artifacts from the collections of thirty Romanian museums had its North American premiere at the National Museum of Man in Ottawa on May 5, 1982.

"The Dacians: Archaeological Discoveries in Romania" highlights material from the most ancient inhabitants of Romania. The Romans conquered the province of Dacia in the second century and occupied it for almost two hundred years. Their impact on the language and culture of the country is still felt today by modern Romanians who are proud of their Daco-Roman heritage. The exhibition portrays the roots of this heritage through beautiful cast bronze figurines from the Roman period, silver jewellery, goblets and armour pieces decorated with gold, tools and even an aqueduct, evidence of the development of Dacian civilization.

The exhibition will remain at the National Museum of Man until June 23, after which it will travel to Montreal, Sudbury and the United States. The National Museum of Man, Metcalfe and McLeod Streets, is open Tuesdays to Sundays from 10:00 a.m. to 5:00 p.m. It will be open seven days a week from May 23 to September 12. Admission is free.

Jul/Aug 1982 -33- Arch Notes
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Chapter Fees: Individual $3.
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