



ARCH NOTES

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Newsletter of

The Ontario Archaeological Society (Inc.)

OLDEST ANCESTOR

A fish fossil found in central Australia is 480 million years old, a Sydney museum claims. It is about six inches long and comes from a genus discovered for the first time.

Sunday Times - April 31, 1977

A BOOK STEAL

Pendergast & Trigger, 1972. "Cartier's Hochelaga and the Dawson Site"

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NORTH INTO SOUTH

Two startling phenomena in earth's history could explain each other - the coming of ice ages and the flips in magnetic field which have turned North into South and back again at periods in the planet's remote past. Christopher Doake of the British Antarctic Survey suggests that when the size of polar ice sheets and distribution of water mass changes around the planet, the earth's rotation then has to change to keep momentum. The change could shift the boundary between the core and the mantle of the earth, and that would affect the mechanism which generates the earth's magnetic field. If Doake is right, his theory could allow palaeontologists to use evidence of magnetic fields, held in ancient rocks, to date more exactly the drastic climatic changes of the past.

Sunday Times - June 5, 1977

O.A.S. SYMPOSIUM

Saturday, October 15, 1977, is the date to book for our Symposium/Banquet at the Sheraton Centre in downtown Toronto. The theme - "Ethnohistory and Archaeology".

O.A.S. - QUERIES AND INFORMATION

If members have any queries, or need any information, please feel free to contact any of the Executive or Committee members who have their phone number or address listed at the back of Arch Notes.

ONTARIO ARCHAEOLOGY #28

A corrected page to replace the incorrect contents page in this issue will be supplied with Ontario Archaeology #27, which is now at the printer's.

THE PRESIDENT'S PAGE

Dr. Peter G. Ramsden

Since this is my first communication as President, to the Society at large, I will take the opportunity to express my thanks to those who supported my election to the office. Also, in keeping with the trend toward accessibility on the part of elected officials, I should say that I would be happy to hear from any member of the Society on any issue. I can be most conveniently reached by letter at the Department of Anthropology, McMaster University, Hamilton, L8S 4L9, or by phone at 416-525-9140, ext. 4423.

In this message, I would like to outline briefly a few of the goals which I will be encouraging the executive committee and the appropriate committee chairmen to work towards, and on which I will be asking the membership at large to express their opinion, eventually by a mail ballot.

First, I would like to see a re-structuring of the OAS executive to the point where there is a clear separation between the administration of the province-wide Society and the activities of the Toronto-Hamilton-area membership, from which the members of the executive are almost always recruited. To this end, I anticipate the formation of a small executive board of three or four members, whose terms of office would be two years in length, and overlapping. The duties of this board would include all of those society responsibilities which are provincial in scope, such as the organization of the annual Symposium, making representations on behalf of the Society to government or other bodies, and generally being responsive to the membership and to external interests on a province-wide basis. I also anticipate the formation of a Toronto chapter, which would be responsible for many of the functions which presently fall under the OAS executive, such as holding monthly meetings in Toronto, and organizing lab sessions, courses, and other events that attract essentially the membership resident in the Toronto area.

The advantages of this kind of structure are several. First, it allows the provincial executive to be drawn from all across the province, since they would not be required to attend monthly meetings in Toronto, but could arrange their own meeting times and places as necessary. This, in turn, would lend greater credibility to the OAS as a province-wide society. Second, those people might be encouraged to sit on the executive board who are interested in being involved in administering the OAS, but who do not wish to be involved in organizing Toronto-centered activities such as monthly meetings. Third, it would provide an opportunity for people to be involved in the executive of a Toronto chapter who do not, at the same time, wish to be involved in a province-wide responsibility.

A second major goal I wish to work towards is the formation of new chapters, so that virtually every area of the province where there are members, is organized on a chapter level. This may involve the creation of membership regions, some of which may be full-fledged chapters and some of which may not, but each of which would have a person willing or responsible to report to the executive board on matters of concern within that region.

Finally, I would like to see a drive to increase the membership of the Society. This should be part of a wider programme to reach the general public and increase their awareness of archaeology in general, and of the OAS in particular.

* * * * *

O. A. S.

MONTHLY GENERAL MEETING

TORONTO - APRIL 20, 1977

A New Addition To The OAS Library: The Brodie Club, the oldest Natural History Club in Toronto, suffered the loss last January of one of its esteemed members, Wilf Auger. Dr. Auger was a long-time amateur archaeologist and in his memory they have presented to the O.A.S., via Dr. Howard Savage, a copy of Jim Pendergast and Bruce Trigger's "Cartier's Hochelaga and the Dawson Site". In making the presentation Dr. Savage said that this was both a particularly appropriate memorial to Dr. Auger and a most welcome addition to our library.

Anti-Confrontation Confab In The Works: Dr. Savage announced that a conference of various of our Indian groups, with the OAS as both co-host and co-sponsor, was proposed and unanimously endorsed at the April 7th Executive Meeting. The plans include inviting two representatives from each of the following: Treaty 3 and Treaty 9 people; the Union of Ontario Indians; the Association of Iroquoian and Allied Tribes; the Chiefs (both elected and hereditary) of the Six Nations Indians. In addition, representatives will be invited from the National Museum of Canada, the Royal Ontario Museum, several Ontario universities (Trent, McMaster and University of Toronto, for example), the Ministry of Culture and Recreation, and the Archaeology Committee of the Ontario Heritage Foundation. It is hoped that this forum for the expression of opinions will help to avoid such confrontations as those which have recently taken place.

Up-Date On The OAS Funding Proposal: OAS President, Peter Ramsden, reported that we have received a request from the Ontario Heritage Foundation to submit a revised version of our proposal for funds that will allow the Society's program to continue and expand. According to the President, it would appear that, although OAS will be funded, it will not be funded at the level we had expected.

The Sidey MacKay Site: Charles Garrad, our guest speaker of the evening, provided us with two very interesting and very different talks. The first was a statistical study on the Petun Project, focussed specifically on the reported and unreported data for the Sidey MacKay site and intended both as a tribute to William J. Wintemberg, who excavated part of the site in 1926, and as a review of what has occurred in the fifty years since Wintemberg's work there.

The Sidey MacKay site was first mentioned by Andrew Hunter in 1904 and was subsequently investigated by the Huron Institute in 1908-09. In 1926, William Wintemberg of the National Museum of Canada, using locally-hired help, excavated at least part of the site west of the Village of Creemore; his report was published in 1946, five years after his death. According to Wintemberg's report, only one European artifact -- a piece of sheet brass buried in a refuse deposit -- was found. Provided that this genuinely belongs to the site and was not introduced, it suggests that the site is very early in the Petun sequence, all other sites being historical. When, in 1952, Dr. Richard MacNeish's Iroquois Pottery Types established the pottery type system being used in the Petun area, the important percentages of the various pottery types at Sidey MacKay became available; after studying 278 rimsherds from the site at the National Museum, MacNeish found Huron Incised (Wintemberg's Huron Oblique) to be the dominant type at 31%, followed by Sidey Notched at 24%.

In 1953, excavations of the second Petun site, MacMurchy, were carried out by Doug Bell of the University of Toronto under J. Norman Emerson. Bell's statistics for MacMurchy, some 13 miles north of Sidey MacKay, bore little similarity to the latter's figures and it has been a problem ever since to explain and reconcile the two, apparently quite dissimilar, Petun sites. Bell suggested that the difference was a result of some local in situ late prehistoric diversion development from a common ancestral site, for which he advanced Woodbridge. The percentage of Sidey Notched is the factor which differentiates the two sites, because at MacMurchy, Sidey Notched was more than double that at Sidey MacKay; the Sidey MacKay percentages used by Bell were, of course, based on MacNeish's 1952 study of the 278 rimsherds that showed Sidey Notched at 24%. On the same seriation study, Frank Ridley had drawn the conclusion in 1952 that "it becomes increasingly difficult to consider Sidey MacKay Petun".

In 1961, Dr. Emerson's "Problems of Huron Origins", a revised study of Huron development based on ceramic seriation data, appeared. New rimsherd data from the MacMurchy site was included, as was a revised rimsherd seriation for Sidey MacKay which adjusted the percentage of Sidey Notched downward from 24% to 22%, bringing it even closer to Woodbridge's 19%. Dr. Emerson, who had already concluded that Sidey MacKay was not Petun, also introduced an analytical refinement: on the basis of the coefficient of similarity technique (and still using MacNeish's 278 rimsherds), Sidey MacKay was seen to have a first-degree relationship with Woodbridge (MacKenzie).

In 1966, Dr. J. V. Wright suggested that historic Petun sites may be characterized by a high frequency of Sidey Notched pottery types, so that Sidey MacKay may be a late prehistoric development which gave rise to the historic Petun. From this it would follow that Sidey MacKay, if Petun, is prehistoric; if it is historic, it is not Petun. In 1968, Dr. Emerson published his "Understanding Iroquois Pottery in Ontario", which re-accepted Sidey MacKay as Petun and as a site related to MacKenzie-Woodbridge, but considered it developmental Huron because of the low percentage of Sidey Notched. Also in 1968, Dr. William Noble accepted Sidey MacKay as Petun, but took issue with Wright's suggestion that the high frequency of Sidey Notched is diagnostic of the historic Petun. He concluded it varied in frequency on Huron and Petun sites alike. Both suggestions are correct: Sidey Notched does vary, but within a range of 38% to 74% -- with a mean of 52% -- and Sidey MacKay does not fall within the range.

In 1974, a major study of all Petun sites and Petun area material known at that time was commenced; of the 239 reported area sites, 18 were interpreted as major winter villages. Of these 18, one was clearly prehistoric Lalonde unrelated to the later Petun occupation, three others were early historic and not entirely Petun, and then there is Sidey MacKay. The 13 remaining shared certain similarities on the basis of both clay pipe bowl and rimsherd seriation data developed for them. Work during 1975 and 1976 was devoted to increasing samples from the weaker sites, with a goal of 200 rimsherds for each.

Now, for the first time, Sidey MacKay could be looked at within the context of the entire Petun picture. And still, if a high percentage of Sidey Notched is taken as diagnostic of Petun, Sidey MacKay sticks out like a sore thumb.

Using the data of Dr. MacNeish, which has been accepted without question by researchers subsequent to 1952, the statistics marooned Sidey MacKay alone in time and space, with no preceding sites and no succeeding ones. Since this

cannot possibly be the case, the source of the data on which this conclusion had been based -- the 278 rimsherds studied by MacNeish -- had to be examined. By setting up a type system for other artifacts, in this case clay pipe bowls, MacMurphy and Sidey MacKay information was re-typed and the results, using coefficient of similarity techniques, showed a significant first-degree of relationship between the two sites; but the 22%-24% of Sidey Notched had still to be explained satisfactorily. Bill Ross' M.A. thesis furthered the application of computer techniques to archaeological statistics relative to the Ontario Iroquois. Using the most recently-available rimsherd data -- including that developed for the Petun in 1974 -- he generally confirmed the results of previous researchers. Reviewing the literature, he terms premature Dr. Noble's suggestion that the percentage of Sidey Notched simply varies; Ross' statistical exhibit indicates that Sidey Notched is the predominant Petun pottery type, with the single and major exception, of course, of Sidey MacKay.

The Sidey MacKay site does not fit in -- ceramic-wise, at least -- with other Petun sites and one pottery type alone is responsible for this. Is it not a Petun site, as some have suggested? Or is there another explanation? Fifty years after its excavation, we still do not know whether to regard Sidey MacKay as prehistoric, protohistoric, early historic or historic; we are uncertain whether it is Petun or Huron; we cannot say if it represents a mature or developmental stage of the historic Petun; on its ancestry we are vague and of its later fate entirely without knowledge. We don't know whether the evidence influences our connecting it to the east (Roebuck), west (Middleport), south (Toronto) or north (Lalonde). Our dilemma hinges on two things: the rimsherd data (MacNeish's) accepted for the site with its 22%-24% of Sidey Notched, and the fact that only one European item was found during Wintenberg's excavations.

With respect to the one European item reported, it is entirely possible that recovery techniques left something to be desired. Based on recovery totals from other sites, some 30,000 items can be suggested and, of this vast number, one would have expected hundreds of smaller items such as chert points, drills, stone beads, plum pits and shell beads; but Wintenberg's report lists remarkably few numbers of such items and this hints strongly that recovery techniques did not favour the smaller items. Could this be the reason that only one piece of brass was recovered? The answer to this question might well lie in Wintenberg's back-dirt at the Sidey MacKay site; a major development in the interpretation of Ontario Iroquois prehistory might be accomplished this year by just one person with a shovel and a fine mesh screen.

On the major question -- the low percentage of Sidey Notched at Sidey MacKay-- it is clear that MacNeish had only a partial collection with which to work. Wintenberg's report tells us that he excavated 2,360 rims, not 278. The sample which MacNeish saw and on which all his and subsequent constructions are based, was only 12% of the total excavated; the National Museum had, for reasons unknown found it necessary to disperse to other institutions much of the material that Wintenberg had excavated at Sidey MacKay and at the other four major sites, prior to Dr. MacNeish's seeing it.

Could we locate, in any of the other institutions, Sidey MacKay material which had been sent to them and which MacNeish had not seen? If we could, would the percentage of Sidey Notched confirm the figures currently in use? A telephone call to the Royal Ontario Museum revealed that this institution had received Sidey MacKay material from the National Museum on July 13, 1939, well before MacNeish's study.

The 78 Sidey MacKay rimsherds at the ROM were studied; the percentage of Sidey Notched was 47%. We will recall that, from other sites, 38% had been established as the lowest Petun percentage, and 52% the mean. This does not prove that MacNeish's figures are wrong, since the ROM sample is quite small; but it certainly did not confirm the National Museum sample. As long as that point remains unresolved, the figures currently in use for Sidey MacKay are suspect and consequently everything we think we know about this site and its place in Ontario Iroquois development, when such is derived from rimsherd data, is possibly wrong and probably very wrong.

Angela: Charles Garrad's second topic of the evening centred on his excavation of the burial of a young girl who had osteo-arthritis and who has been affectionately named Angela. Angela was accidentally discovered in 1969, when Mr. Garrad observed human bone scatter while walking along a ridge between two Indian sites near Collingwood.

Mr. Garrad cited three reasons for bringing up the subject of Angela now, even though she was discovered some eight years ago: firstly, the OAS Symposium last fall seemed to point to a resurgence of interest in human osteology and physical anthropology; secondly, we have some newer knowledge relative to the discovery; and thirdly, since there now seems to be some moral issue attached to the excavation of human graves, our speaker wished to point to the fact that justifiable reasons for such excavations do exist.

Following the observation of surface bone scatter, the excavators went into the grave vertically, digging a working trench around the burial. The curvature of the pit was found to have been lined with a single piece of birch bark, then with rocks. On poles laid crosswise, the body had been laid in a crouched position with the forehead faced down and it had then been covered in birch bark and weighted with stones. Angela was a girl who had died in her twenties and who, because of an osteo-arthritic condition, had probably never walked comfortably in her life. Dr. Howard Savage made the diagnosis of her condition and confirmed a congenital, bilateral dislocation of the hip. X-rays taken revealed adaptive reaction growth and showed that the dislocation was partial. Since Angela's tibia showed at least ten, and possibly twelve, of the tree-ring-like Harris lines, it appears almost certain that she was bed-ridden for at least the entire winter during all of her teen-age years.

As to the question of which came first, the dislocation or the arthritis, Dr. R. Salter of Toronto has, without using any archaeological data for confirmation, developed a theory. From his research, he has concluded three things: 1) that girls, rather than boys, are predisposed to osteo-arthritis; 2) that North American Indians are genetically predisposed to the condition and 3) that children who, because of their group's custom, are restrained in the extended position -- for example, on a device such as the cradleboard -- are often found to have the condition as they mature. By coincidence, Angela was discovered in the same year that Dr. Salter's theory was published. And so it was that, 325 years after her death, her bones played a small part in the important, on-going research into osteo-arthritis.

O. A. S.

MONTHLY GENERAL MEETING

TORONTO - MAY 9, 1977

A Coprolite By Any Other Name: Dr. Vaughn M. Bryant Jr., Chairman of the Department of Anthropology at Texas A & M University, took time out from his very hectic schedule to talk to OAS members about coprolites -- specifically, human coprolites -- and to give us a glimpse of the kinds of valuable information these can provide. Using a technique pioneered a decade ago by the late Eric O. Callen of MacDonald College in Canada, Dr. Bryant and his team of researchers are carrying out laboratory analyses of desiccated human feces which have been uncovered in an archaeological context at prehistoric sites in both the New and Old World, and which range from a few hundred to some two million years in age.

The key step in the coprolite analysis procedure is the immersion of the specimen in a dilute solution of trisodium phosphate for at least 72 hours; this causes the coprolite to absorb water and thus to be restored to its original consistency. Since coprolites are basically amorphous, each is first weighed and photographed and then cut in half down its long axis; one half is treated and analyzed, the other is preserved as it was found so that it remains available in the event that new techniques for analysis are discovered in the future. The solution in which the specimen to be analyzed is immersed will either remain translucent or will become pale brown, yellowish, dark brown or black. It can almost always be discerned whether one is dealing with a human coprolite or not from this; only one mammal other than man (the coatimundi) is known to leave feces that give rise to a chemical reaction turning the fluid either dark brown or black. Another test is the odour: Dr. Bryant assured us that human feces possess an odour distinct from other species, this varying somewhat with diet. Solid residues are retrieved by several screenings and washings with distilled water, then dried and prepared for microscopic examination; the liquid part is centrifuged to collect pollen grains, plant crystals and any other small objects it contains. From this material it is possible to discover dietary preferences of groups and individuals, the presence or absence of parasites that affect an individual's health, facts concerning the techniques of food preparation, information on contemporary environmental conditions and perhaps even at what seasons of the year a site was occupied. In addition to qualitative and quantitative dietary analysis, tests are now being carried out in an attempt to isolate viruses and, for cases where intestinal bleeding had occurred, blood.

A wealth of valuable information on prehistoric diet, environment and behaviour has come to light through analysis of more than 2,000 human coprolites discovered by Dr. Bryant and his team at Hind's Cave in southwestern Texas. The inhabitants of this rock-shelter had, it was discovered, pounded or ground cactus seed for eating, while other types of seeds had been either ground, roasted or eaten whole. Some 60% of their diet consisted of cactus -- not only the fruit and the pads, but the flowers as well -- and the agave was also an important source of food. Identification of phytoliths (plant crystals) demonstrated that several individuals had eaten prickly-pear cactus and agave, even though the coprolites in which the crystals were found did not contain identifiable fibres, seeds or pollen from the plants. Scanning electron micrographs provided analysts with a method of identifying

air-, insect-, and animal-borne grains of pollen. The information gleaned from animal material included fragments of feathers which could be identified as to species; the scales of fishes and reptiles, which are distinctive and which, once an adequate reference collection for comparison is assembled, will permit the pinpointing of species; fragments of grasshoppers, crickets and other insects; the bones and teeth (and sometimes the whole skeleton) of small mammals, reptiles and fishes; the remains of parasites such as fleas and lice ingested in the process of human grooming; the eggs of intestinal parasites; fragments of flint swallowed accidentally while retouching artifacts with the teeth; and hairs, which are species-specific, and which, for the cases of large prey where other evidence may not exist, allow the investigator to recognize what has been eaten.

The most ancient coprolites recovered at the shelter were less than 3,000 years old, but Dr. Bryant has recently begun laboratory work on a large sample of material from Terra Amata, a French Mediterranean site, and these supposedly human coprolites may be as much as 300,000 years old. Apart from coprolites, no human remains were found at this site, although stone tools uncovered there imply that the camp was probably inhabited by *Homo erectus*; preliminary analysis indicated the use of fire in food preparation (charcoal) and points to a specific food resource (mollusks), but much work remains to be done with these specimens. Dr. Bryant's laboratory regularly receives specimens for analysis from all parts of the world and most recently has begun work on South African material which is some two million years of age. The potential of human coprolite analysis has obviously gained increasing recognition among archaeologists excavating in a variety of prehistoric contexts. Members interested in obtaining reprints of papers which have issued from coprolite research are invited to write to Dr. Bryant, who will be happy to fill any such requests.

Janet C. Cooper

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A PRELIMINARY REPORT ON THE LATE ARCHAIC
MONEY MUSK SITE, SAULT STE. MARIE, ONTARIO

by

Thor Conway
Regional Archaeologist
Sault Ste. Marie

The Money Musk site (CcIc-6) is located in Mark's Bay Park Reserve on a raised beach ridge. The bay is surrounded by undeveloped bush on the St. Marys River, ten kilometres from downtown Sault Ste. Marie, Ontario. This Late Archaic campsite is named after an eighteenth century Scottish strathspey. Mature pine and oak forests cover the site which occupies the elevated areas of a raised beach ridge, above the St. Marys River.

A total area of 13.5 square metres was excavated in the summer of 1975. Two 10 centimetre square test pits were also dug to help define the site's limits. Money Musk was chosen for rescue excavation since the north edge of the site has been subjected to severe erosion for several years. An estimated two metres of shoreline are lost annually.

Two hearths and copious amounts of chert debitage were recovered from the site. The stone tools suggest the presence of techno-traditions based on the physical properties of specific raw materials.

All cultural items were mapped in situ. Trowels were employed for excavation and the soil from each unit was sifted through 1/4" screens. Only the present erosional face could be salvaged during 1975. Further field work is planned for Money Musk. This report presents a summary of initial findings and an important radio-carbon date. All field notes are on file with the Historical Planning and Research Branch, Ontario Ministry of Culture and Recreation.

Stratigraphy and Soils: Uniform soil stratigraphy prevails throughout the Money Musk site. A thin root mass and decayed leaves cover its surface. A zone of leached dark grey sand lies under the root mass. This layer is followed by a light grey zone, consisting of fine aeolian-deposited sand. All cultural items are found in the light grey coloured sand and features rest on the inter-face of the cultural stratum and sterile, orange coloured sands.

Soils are highly acidic so faunal preservation is poor. The exposed edge of the Money Musk site undergoes a process similar to isostatic rebound. Soil zones expand to twice the thickness noted at protected interior areas of the site. This expansion is uniform and proportional. It appears that increased moisture absorption and loss of forest cover at the erosion face caused this phenomenon.

Features and Living Floors: Three cultural features were recognized during excavation. They appear on the composite floor plan (Figure 1). Two hearths with associated areas of concentrated lithic remains and four post moulds were recorded.

Feature #1 is an oval hearth measuring 91 cm by 43 cm in diameter. This hearth is characterized by dense, tightly packed fire cracked rock, slight ash stains and pieces of charcoal (Figure 1). The hearth is basin shaped. A charcoal sample was taken from it. A date of 1660 BC + 80 (DC567) was determined. The date is totally acceptable and conforms with the artifact assemblage and raised beach correlation.

Feature #1 first appeared 20.3 cm below surface and continued through the orange coloured subsoil for another 20.0 cm. It had been dug below the original occupation surface of the Money Musk site.

Two thirds of the hearth was filled with fire cracked rock while the western section appeared as oxidized sand and ash. Apparently the fire cracked rock, which had originally occupied the western portion of feature 1, was removed and dispersed within the immediate area in prehistoric times (Figure 1).

Twenty chert flakes occurred inside the hearth. All were thinning flakes of Gordon Lake chert similar to the lithic industry surrounding this feature.

A concentration of fifty-eight chert flakes was plotted on the living floor just northwest of feature 1 (Figure 1). Numerous other flakes surround the hearth, in greater density than in areas away from the hearth.

A second hearth was partially exposed. Feature #2 is at least 76 cm wide and consists of closely packed fire cracked rock. It could not be completely exposed due to the presence of a mature pine tree.

Feature #3 refers to post stains. Only four definite stains could be observed at the Money Musk site. Each was round and tapered to a blunt end in cross-section.

Lithic Remains: Most of the stone tool industry consists of Gordon Lake chert. A total of 673 chert, quartzite and siltstone items were recovered from the Money Musk site. Almost all chert flakes are biface thinning flakes with distinct platforms.

Gordon Lake chert has a green colour and is regarded as a medium quality chert. Only two areas of primary deposits are known for Gordon Lake chert. It is exposed along several lakes in Mississauga Provincial Park north of Elliot Lake, Ontario (Conway, 1974). Prehistoric quarries and campsites attest to its use over a long period of time in that area. The second series of outcrops can be found along the shoreline of Smoothwater Lake, 142 kilometres northwest of North Bay, Ontario (Pollock, 1975).

Scott quarry chert was also used for tools at Money Musk. It is a brown to grey coloured Petoskey formation chert with white inclusions. Scott quarry lies in the upper peninsula of Michigan about 50 kilometres from the Money Musk site.

A fine white chert is represented only by small thinning flakes. Its source could not be identified. Another chert is semi-translucent and creamy white to grey in colour. At least one of the latter pieces had quartz inclusions.

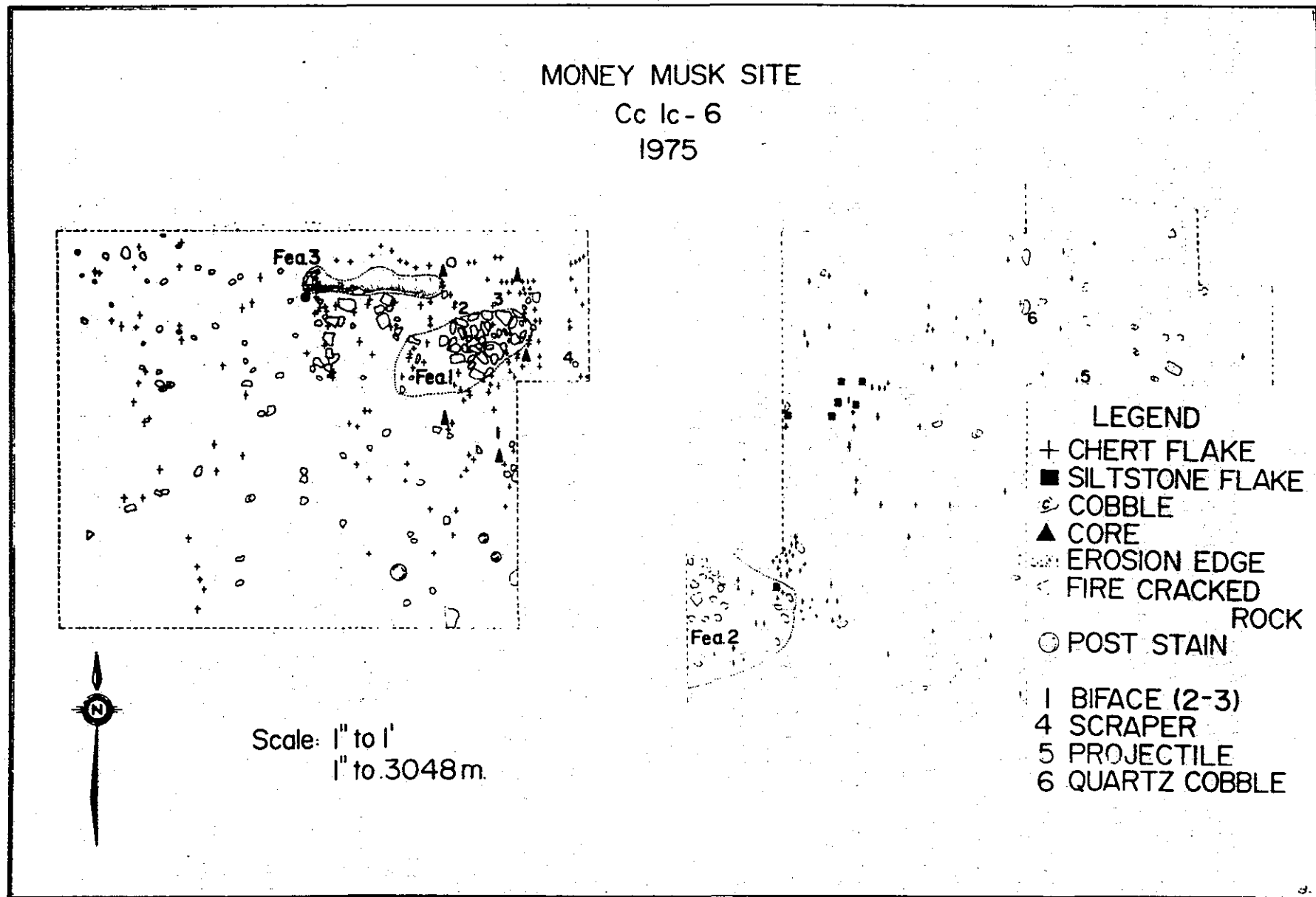
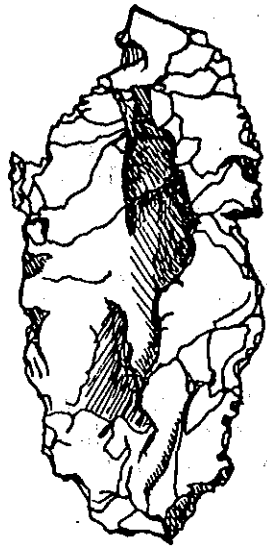


Figure 1



A



B



C

Figure 2

A = typical ovoid biface from Money Musk, edges damaged by fire

B = an unfinished end scraper

C = corner notched, asymmetrical tool

Figure 1

The distributions of artifacts, flakes, and fire cracked rock can be observed on this floor plan. Note the clusters of artifacts near hearth features.

Siltstone flakes are characteristically grey to purple in colour in the Sault Ste. Marie area. Each of the siltstone flakes was a thinning flake, likely from adze manufacture. Siltstone occurs commonly in the Sault area.

A number of white to purple-hued quartzite thinning flakes appeared in two excavation units. The quartzite flakes could represent sharpening of a single tool. The source of this quartzite is not known.

The lithic remains weighed a total of 587.3 grams. Tools weighed 219.0 grams, while flakes and cores weighed 323.3 grams and 45.0 grams respectively. The ratio of flakes and cores by individual piece to recognizable tools is 74:1. The same ratio based on weight comes to 1.7:1.

Bifaces: There are four bifaces present at the Money Musk site. A nearly complete one is ovoid and measures 6.9 cm by 3.4 cm. It is 0.8 cm thick.

Another biface is tear drop shaped. Its length, width and thickness are 5.2 cm, 2.4 cm, and 0.8 cm. The third biface is represented by a fragment which suggests that it, too, was ovoid. It is 0.5 cm thick.

Each of these bifaces was made on a large flake of Gordon Lake chert.

The fourth biface is a fragment with an ovoid outline and plano-convex profile. It is made of Scott quarry chert and may have been intended for use as an end scraper. It was never utilized.

An asymmetrical projectile point was chipped from Scott quarry chert. It is 3.6 cm long with a straight and thinned base. Base and shoulder width are 2.0 cm and 2.5 cm. The notches are high and shallow. The point can be classified as side notched. If the base lacked its distinctive ears, this projectile point would be termed corner notched. Thickness of the blade reaches 0.5 cm.

Scrapers: Two distinctive Gordon Lake chert scrapers are present at the Money Musk site. The one end scraper is unfinished. A flaw caused its rejection.

A large core scraper was found on the eroded bank of the site. It is somewhat sandblasted or waterworn. It, too, is ovoid with a plano-convex profile.

Cores: Only nine cores and core fragments appeared in the excavation units. Judging from the amount of biface thinning flakes, most tools reached the site in a state of refinement. Little primary stone tool production took place at the Money Musk site. This situation is understandable when one considers the distance to the indentified quarry sites. Most of the chert items reflect thinning or reshaping of bifaces.

The cores vary in size and are irregular in form. Most are waste fragments and do not indicate the type of core used by these people at a workshop. The lack of cores reinforces an understanding of Money Musk as a temporary food resource, procurement station.

Intrasite Behaviour: Settlement data can provide useful cultural parameters for characterizing temporal and behavioral patterns. Limited excavations at the Money Musk site yielded directional data. For example, hearths appear to have

been the nucleus of recognizable activity. Each hearth has an attendant zone of chert tool production. The density of chipping refuse decreases abruptly at a distance of 50 cm from both hearths. All of the excavated cores rested beside hearth #1; as well as 66% of the tools.

Fire cracked rock is dispersed in northwest and southwest directions. There is also evidence that one-third of feature #1 was cleaned out for some unknown purpose. None of the chert appears heat treated, so this hypothesis for hearth disturbance is not useful. A certain amount of hearth stones dispersal is natural at a campsite.

If the hearth were enclosed in a structure, then the path of dispersal could indicate the direction of the structure's entrance.

I would argue that the Money Musk site, like the majority of neighbouring Late Archaic campsites, is a summer camp.

Money Musk is located on a raised beach ridge which formed a cusped spit at the time of the site's use. Such an exposed spit is not suitable for fall, winter and spring occupation due to Lake Superior weather patterns. This inference is also supported by archaeological data from other spits on the St. Marys River.

The dwelling may have been temporary and not recoverable archaeologically, such as lean-to windbreaks. Or the dwellings may have been formal structures. The dearth of post moulds may be explained by the soil and antiquity of this site.

Ethnohistoric accounts certainly describe how Ojibwa wigwams could be built in a few hours. Formal, oval structures are often mentioned at summer fishing stations (McKenny, 1827: 253). In the historic era, bark covering for a dwelling was often transported from site to site. Only the frame needed to be obtained locally. Therefore, the identification of a site as a short duration summer station does not imply a lack of formal dwellings.

Two observations suggest some sort of doorway or shelter orientation facing the area northwest of feature #1. First, the major line of fire cracked rock dispersal extends along a northwest axis from the hearth. Such a pattern could conceivably result from intentional clearing of highly fragmented hearth stones or casual directionality caused by traffic. The fire cracked rock fragments decrease in size as one moves away from the hearth on a northwest axis.

Second, Gordon Lake chert flakes increase in size but diminish in quantity along the axis. A significant difference existed for flake size of specimens found immediately northwest of hearth feature #1 in unit 1 as compared to more distant flakes in unit 6.

Hearth feature #2 could be only partially exposed. It, too, consists of tightly packed, fractured granite cobbles. A concentration of chert thinning flakes lies along the western end of the hearth. Thinning flakes from quartzite and siltstone tools are included with the stone tool industry of feature #2. Like feature #1 the lithic remains indicate sharpening and repair of tools rather than actual tool production. Both Scott quarry and Gordon Lake chert flakes are present beside this feature. Scott quarry flakes form a greater percentage of feature #2 chert.

Comparisons: The few tools excavated from the Money Musk site are similar in form and size to stone tools from other Archaic sites in northern Ontario. Although the sample is small, the Money Musk tools represent a single occupation at a site radio-carbon dated to 1660 BC.

The nearest Late Archaic sites lie less than fifty metres away from the Money Musk site. All of the nearby sites are believed to be later than Money Musk. This contention is supported by changes in projectile point form and types of raw materials found at sites located on lower beach ridges.

Gordon Lake chert comprises the greater part of Money Musk lithic by-products and tools. As mentioned this raw material is available 135 kilometres from the site. It is the closest known chert source in Ontario. Tools made from Gordon Lake chert are restricted to ovoid bifaces and two types of scrapers. Gordon Lake chert has rarely been observed in Late Woodland contexts along the St. Marys River corridor, and never found on the northwest shore of Lake Superior sites.

However, it is present in Late Archaic contexts at the Harvest Home site (CcIc-10) on the St. Marys River, at the Archaic Drunken Point site near Swastika, Ontario (Wright, 1972b: 107, Plate VIII), at several Archaic sites around Smoothwater Lake (Pollock, 1975), and at several stratified camp and quarry sites north of Elliot Lake (Conway, 1974). The latter are difficult to place temporally since test excavations yielded mainly nondiagnostic stone items. Several of the sites in Mississagi Provincial Park are aceramic, but that does not necessarily equate to an Archaic time period.

Scott quarry chert is the second most common chert at Money Musk. It is not as useful for temporal insights since the prehistoric inhabitants of the St. Marys River made tools from Scott quarry chert from Late Archaic times through Middle and Late Woodland eras.

The siltstone flakes found at Money Musk are the only indication of adze production. Interestingly, pecked and polished stone tools are common to Archaic sites near Sault Ste. Marie. At Late Archaic Par Point (CcIc-5), La Salamandre (CcIc-4) and Mark's Bay sites (CcIc-8) chipped and subsequently polished adzes and gouges were discovered.

Functionally, both scrapers are end scrapers. The core scraper represents the upper limit of an end scraper size continuum. At least one different form core scraper was found at the Knechtel I site in Bruce Co., Ontario (Wright, 1972a: 7). However, it does not appear that such core scrapers are commonly found at Inverhuron Archaic sites. Core scrapers are a diagnostic element of many Shield Archaic sites in Ontario and Manitoba (Wright 1972b).

I suspect that small, notched projectiles similar to the one from Money Musk are characteristic of the Late Archaic in Algoma. Limited samples from nearby sites show that projectiles remain small but vary in certain attributes.

The Late Archaic sites near Sault Ste. Marie show similarities to Michigan sites, such as the Late Archaic component at the Young site (Fitting, 1975) and Feeheley (Taggart, 1967).

Conclusion: The Money Musk site is a short term campsite used by Late Archaic groups about 2000 BC. The site was situated on the lee side of a large cusped spit and

bay on the waters of a late glacial lake. There is some evidence that these people lived in oval dwellings with activity zones occurring beside stone lined hearths. Stone tools and chert debris suggest some relationship to Shield Archaic populations and cultural ties with neighbours in Michigan. It is not surprising to find sites on the St. Marys River that act as cultural interfaces. There is evidence that specific techno-traditions are associated with available raw materials. Money Musk is the latest Archaic site in the Sault that manifests such a Shield Archaic nature. Its settlement pattern and stone industry do contain elements which relate to more recent Late Archaic sites in the same area. Continuity between beach ridges is suggested

Acknowledgements:

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THE PAST IN THE PRESENT: (PRE)HISTORICAL
RESOURCE APPRAISAL IN THE TORONTO AREA
A SUMMARY REPORT

by

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Introduction: The last decade has seen a growing public interest in the past and an increasing concern for the future of our heritage. Government agencies responsible for the management of historical and prehistorical resources are certainly aware of this interest and concern but a clear understanding of what constitutes the public interest is lacking. Investigation of public attitudes towards and involvement with the past is basic to the evaluation of alternative uses of historical and prehistorical remains and hence to policy formulation.

This study was conceived with the objective of examining some of the principle aspects of public appreciation of the (pre)historical environment in order to provide answers to such questions as: what needs does the past fulfill? what in the past has value and for whom? what should be preserved, and where and in what form? To fulfill this objective a major survey of Toronto area residents was conducted. This was designed to determine their general and specific attitudes toward the past and their involvement with the (pre)historical environment.

The same survey was administered to two groups whose interests and professional responsibilities are directly related to (pre)historical resources. These groups comprised members of the Ontario Archaeological Society and professionals in academic and government positions. This information provides a basis for comparing "professional" and "lay" attitudes toward the (pre)historical environment.

This report summarizes the major results of these surveys. The detailed results, research design and planning implications are reported elsewhere and may be obtained from the authors.

Research Objectives:

1. To measure the dispositions of Metropolitan Toronto residents toward the (pre)historical environment.
2. To determine residents' attitudes and involvement with the (pre)historical environment in the Toronto region.
3. To relate residents' dispositions to their attitudes and involvement.
4. To examine social class and spatial variations in dispositions, attitudes and involvement.
5. To compare Metropolitan Toronto residents' dispositions, attitudes and involvement with those of O.A.S. members and the professionals.

6. To examine the planning implications of residents' attitudes towards and use of (pre)historical resources in the Toronto region.

Research Design: To achieve the stated objectives, a questionnaire was designed to collect measures of personal 1) dispositions toward the past, 2) involvement with the past, 3) attitudes toward the utilization of the past, and 4) socio-demographic characteristics. Each of these four components comprised a separate section of the questionnaire administered to Toronto area residents. The Ontario Archaeological Society and the professional (pre)historians' questionnaires included additional measures of attitudes toward the utilization of the past and socio-demographic characteristics. The additional attitudinal measures were included to examine specialist group opinions on issues in (pre)historical resource preservation and management not familiar to the general public. Supplementary socio-demographic measures included type and length of group membership. On the other hand, possible obtrusive and redundant measures of education and income were deleted from the professional (pre)historian's questionnaire. In all other respects the survey instruments for the three sample groups were identical in order to allow comparison of responses among the groups.

Measures of personal involvement with the past were designed to examine aspects of behaviour related to the past; measures of personal attitudes toward the utilization of the past took the form of affirmative statements, each followed by a set of closed-ended and mutually exclusive response alternatives. The socio-demographic section of the questionnaire comprised questions pertaining to age, sex, marital status, family size, home ownership, income, occupation, education and cultural background. In addition, detailed data on the use of leisure time and residential history were sought as potential correlates of appreciation of the past.

The development of the disposition measures was more complex. Environmental dispositions are personality dimensions underlying specific attitudes and behaviour employed by an individual in describing, comprehending and evaluating the environment (Craik, 1969, 1970). The identification of dispositions toward the past was based on an extensive review of the literature dealing with the past in the present and attitudes toward the past. A statement pool was generated tapping divergent aspects of personal response to both the immediate and remote past. Statements were written and scaled consistent with normal psychometric practice. Hypothesized a priori scales were extensively pre-tested on four student groups at McMaster University. The measurement of dispositions toward the past is accomplished through verbal self-report procedures similar to those employed by McKechnie (1970, 1972) in his study of general environmental dispositions. Respondents indicate the degree and direction of their agreement with each of the total set of statements by selecting a number on a five point response scale ranging from strongly agree to strongly disagree. Analysis of the pre-test results indicated that only one of the a priori scales, general appreciation of the past (interest), remained, while the other scales disintegrated to form the following three disposition scales: conservation of (pre)historical remains (conservation), appreciation of the past as cultural heritage (heritage), and appreciation of direct experience with the past (experience).

The statement pool was restructured to reflect these scales. The antiquarianism scale from McKechnie's (1972) Environmental Response Inventory was included in the final questionnaire in order to provide an immediate basis for comparison with existing work and to enhance the theoretical significance of the findings from the Toronto study.

The study area comprised the City of Toronto and the Boroughs of Etobicoke, York, East York, North York, and Scarborough. A number of reasons support the selection of Metropolitan Toronto for the empirical examination of residents' appreciation of the past in the present. These include the social and cultural diversity of the population; the range of (pre)historical resources in the Toronto area; and the demonstrated level of public interest and involvement in the past. These conditions taken together make Metropolitan Toronto a particularly fertile base for examining both attitudinal and behavioural aspects of residents' appreciation of the (pre)historical environment.

Responsibility for sample selection was contracted to the Survey Research Center of York University. This decision was based on the recognition that the Center has developed sophisticated sampling procedures for survey research in Metropolitan Toronto. In consultation with the Center, a stratified sample design was chosen. Two strata were incorporated: three levels of social class and two levels of geographic area. The decision to stratify the sample in this manner follows from the desired objective of examining social class and spatial variations in the residents' appreciation of the (pre)historic environment. A total of 1214 interviews were completed. Results of the survey indicate a strong validation of the sample design and response rates that are certainly good. A detailed treatment of this aspect of the study is found in the sample design report (Greer-Wootten and Patel, 1976).

The Ontario Archaeological Society is a Toronto-based group of professionals and laymen concerned with the study and preservation of Ontario's archaeological heritage. Interests extend from the examination of early man in Ontario to the excavation of 19th century structures and industrial sites. As such the O.A.S. provides an appropriate specialist group against which to compare the responses of the general Toronto population. A mail-back version of the questionnaire was sent to all of the members except those who were full-time professionals in the fields of (pre)historical teaching, administration, research and resource management. These individuals were included in the professional sample. A total of 235 questionnaires were mailed to O.A.S. members. The overall response rate of 63.4% can be considered an excellent return for a mail-back questionnaire. While return of the questionnaire was encouraged by a covering letter and the inclusion of a stamped return envelope, the relatively high response rate certainly reflects the level of concern for objectives of the study among O.A.S. members.

The professional sample group comprised individuals, largely in academic and government positions, whose professional responsibilities are directly concerned with the historic and prehistoric past. The basis for selection was a comprehensive mailing list compiled by the Historical Planning and Research Branch, Ontario Ministry of Culture and Recreation. This list included the professionals deleted from the O.A.S. sample group. Mail-back questionnaires were sent to the 141 persons named on the list. Of the potential respondents, 120 were males and only 21 females. The higher proportion of males is a reflection of the underrepresentation of female specialists in this group and is not the result of any sample bias. Again, the response rate was encouraging. Of the 141 questionnaires mailed, 80 were returned, representing a response rate of 57%, a figure only slightly lower than that for the O.A.S. In view of the fact that the content of the questionnaire was geared to the layman's level, this response rate is regarded as very satisfactory.

Results of the Analysis: This section summarizes the main results of the analysis of the data collected in the surveys. The results are reported under five headings: residents' dispositions toward the past; residents' attitudes toward and involvement with the past; the relationships between dispositions and attitudes and involvements; social class and spatial variations in dispositions, attitudes and involvement; and comparison of residents', O.A.S. and professionals' dispositions, attitudes and involvement.

Residents' Dispositions Toward The Past: As described in Section III, the dispositions section of the final questionnaire comprised statements tapping five underlying scales. Four of these scales were developed in the preliminary phases of the project, namely: conservation of (pre)historical resources (conservation); general interest in the past (interest); appreciation of the past as cultural heritage (heritage); and appreciation of direct experiences with the past (experience). The fifth scale included was the antiquarianism scale developed by McKechnie as part of the Environmental Response Inventory (McKechnie, 1974).

Statistics were calculated to assess the reliability and validity of the final disposition scales. McKechnie's antiquarianism scale was excluded because its reliability and validity were already well established. The item-scale correlations are in all cases positive and statistically significant beyond the .05 level. In most cases the coefficient is above .50 indicating very strong item reliabilities. The internal consistency of the scales is also shown by the high alpha coefficients which all exceed .79. The construct validity or reproducibility of the scales was assessed through factor analysis of the responses. Three of the four scales: conservation, heritage, and experience are clearly reproduced by the factor scales. The interest -- the most general of the dispositions--is less clearly reproduced. Given the general nature of the interest scale, the lack of clear empirical reproducibility is not surprising. Overall, the results indicate that the scales are reliable and valid measures of the psychological dispositions they are designed to represent.

The disposition statements for each scale were designed to be treated in combination in the data analysis rather than as separate variables. However, by entirely ignoring the responses to the individual statements some rich information is lost. The responses were scored on a one to five (agreement/disagreement) scale such that a score of five indicated a sentiment strongly favouring the past irrespective of the wording of the particular statement. Similarly, a score of one was in all cases associated with a sentiment strongly opposed to the past. Given this, the mean statement scores show that the Toronto sample expressed very consistent favourable dispositions toward the different aspects of the past described in the statements. The consistency is underlined by the mean statement scores on each scale which were: conservation 3.88; interest 3.88; heritage 3.92; experience 3.66. Another index of the predominance of favourable dispositions toward the past is that in all but two cases the modal response score was 4, and in one of those two instances the modal response was in fact 5. Not only are the mean statement scores consistently high, the standard deviations are also consistently low--in most cases below 1.0. The standard deviation can be usefully thought of as an index of controversiality. As such the relatively low values resulting indicate that there is general consensus in public sentiment toward the past. Those whose sentiments are unfavourable clearly represent a minority position. The question arises of whether disaggregation of the data reveals subgroup variations. This question is considered with respect to the effects of social class and geographic location in the final part of the analysis section.

As previously indicated, McKechnie's antiquarianism scale was included in full as part of the disposition section of the questionnaire. The antiquarianism scale was developed as part of the Environmental Response Inventory which comprises a set of scales designed to tap very varied dispositions toward natural and built environments. Antiquarianism represents a composite of loosely defined subscales related to different facets of personal appreciation of the past (McKechnie, 1972). The main intention of including McKechnie's scale was to clarify the nature of these subscales by examining the relationships between the antiquarianism items and the disposition statements developed in this study. Between scale correlations show antiquarianism to be strongly related to each of the other four scales. The correlations are: conservation .67; interest .72; heritage .65; and experience .75. These results indicate McKechnie's scale represents a combination of sub-scales which strongly relate to the four basic dispositions toward the past identified in the preliminary phases of this study and that appreciation of direct experience is the disposition most strongly expressed in the antiquarianism scale. A factor analysis of responses to items on all five scales indicates that antiquarianism items load highest on a factor together with statements from the experience scale. Twelve of the twenty antiquarianism items had their highest loadings on this factor as did five of the twelve experience items. All of the items with loadings above .40 were from one or the other of the two scales. These results reinforce the conclusion that the composition of McKechnie's antiquarianism scale represents different facets of direct experience with the past. Although related to the other three dispositions toward the past identified in this study, McKechnie's scale is not a direct measure of them.

Attitudes Towards and Involvement With the Past: The strong positive sentiment toward the past expressed in the responses to the disposition statements is also evident in the answers given by Toronto residents to questions concerning their involvement with and attitudes toward specific aspects of the (pre)historical environment. This section provides a brief description of the frequency distribution of responses to these questions.

Involvement with the past can take various forms, ranging from membership in an historical or archaeological society to simply personal reminiscence. To assess the type and extent of involvement among the Toronto population, respondents were asked to indicate which if any activities connected with the past they engaged in. The activities covered included: membership in societies; collecting artifacts of various kinds; visiting (pre)historical sites and places; reading about the past; and thinking about the past. The frequency distributions of responses to the various questions (Figure 1) do not need to be described in detail. A few points are worth noting however. Involvement with the past reaches to the point of membership for very few residents (3%). On the other hand, a large proportion engage in activities which provide what is perhaps a more casual involvement. Collecting is a popular avocation--59% of respondents indicated that they collected one or more of the items listed with those most commonly mentioned being antiques (27.3%) coins (26.4%), stamps (19.4%) and old books (18.1%). The percentage engaging in activities increases to 69% in the case of visiting stores, auctions and markets merchandising artifacts of the past. It increases further where the activities consist of simply observing and appreciating the landscapes of the past. Over 87% of those interviewed indicated engaging in at least one of the activities listed with the most frequently mentioned being that of "admiring old houses, barns or other relics while driving through the country" (74.5%). Precisely the same percentage (74.5%) mentioned an involvement with the past through thought and reminiscence about

Have you visited any of the following places?

From which of the following sources have you learned about prehist. remains in the Toronto area?

Do you read books on any of the following subjects?

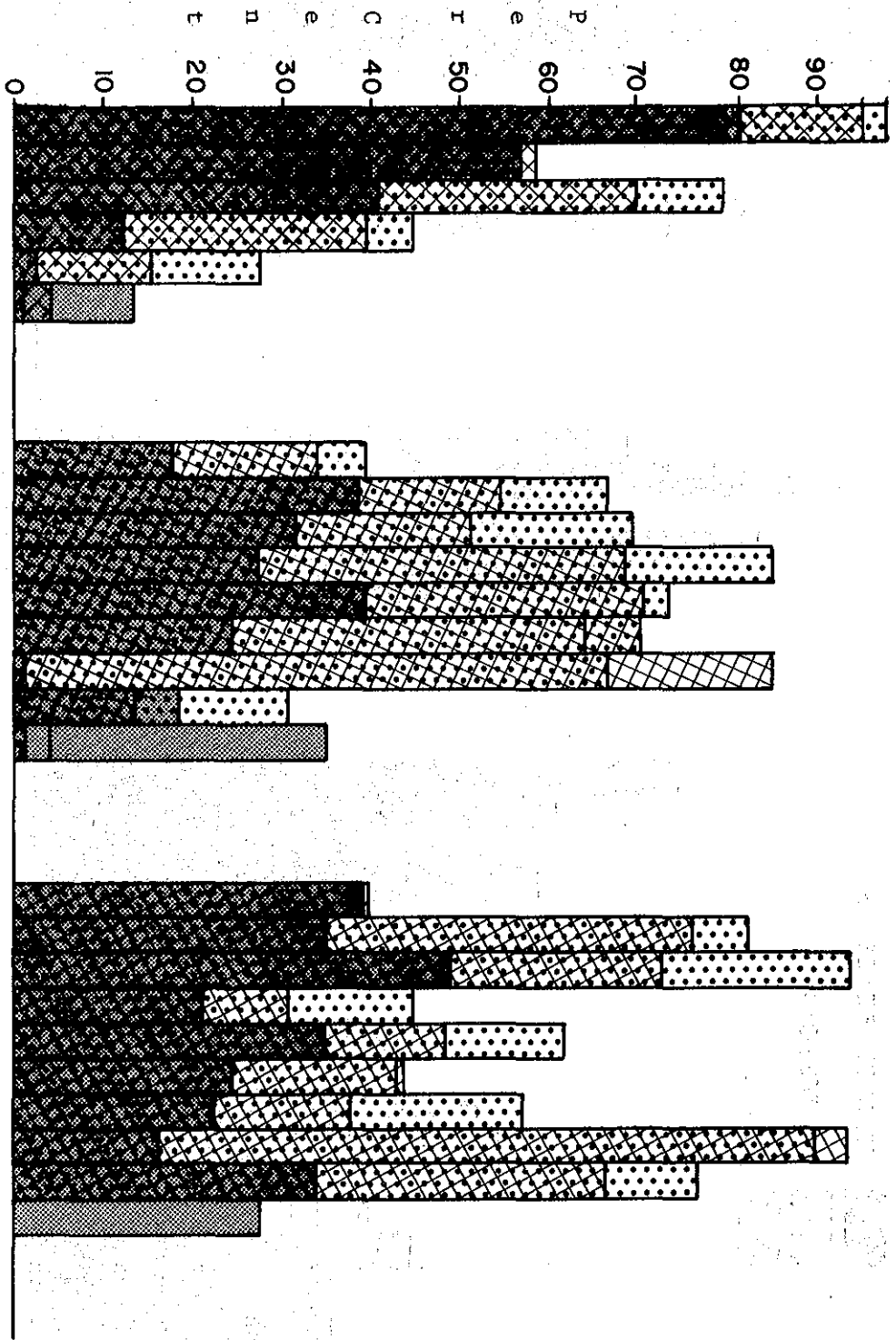


FIG. 1 (cont.)

Do you belong to any historical, etc., societies?

Do you collect any of the following?

Do you visit any of the following?

Do you spend time at any of the following?

Do you ever think, etc. about how Toronto used to be?

Have you visited any of the following?

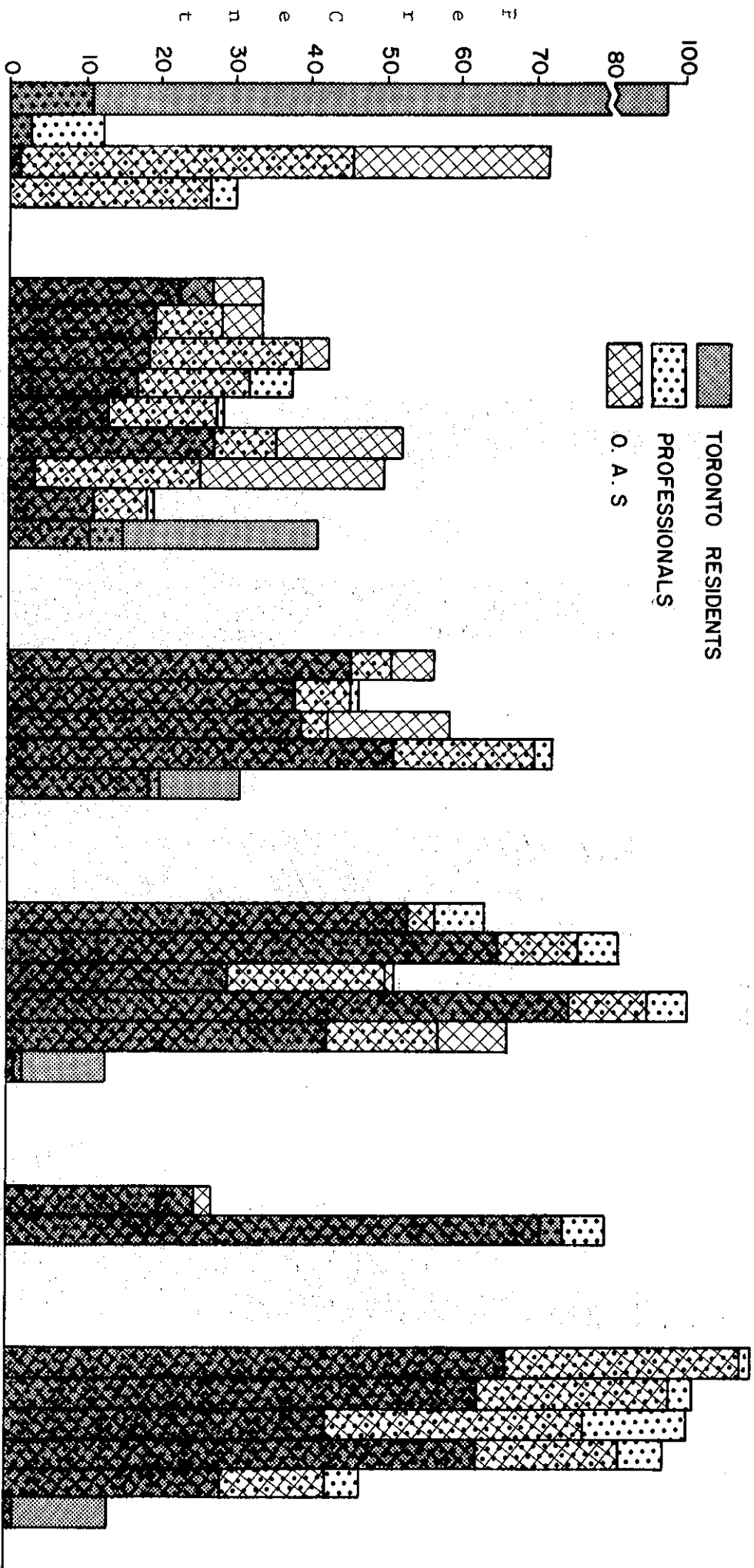
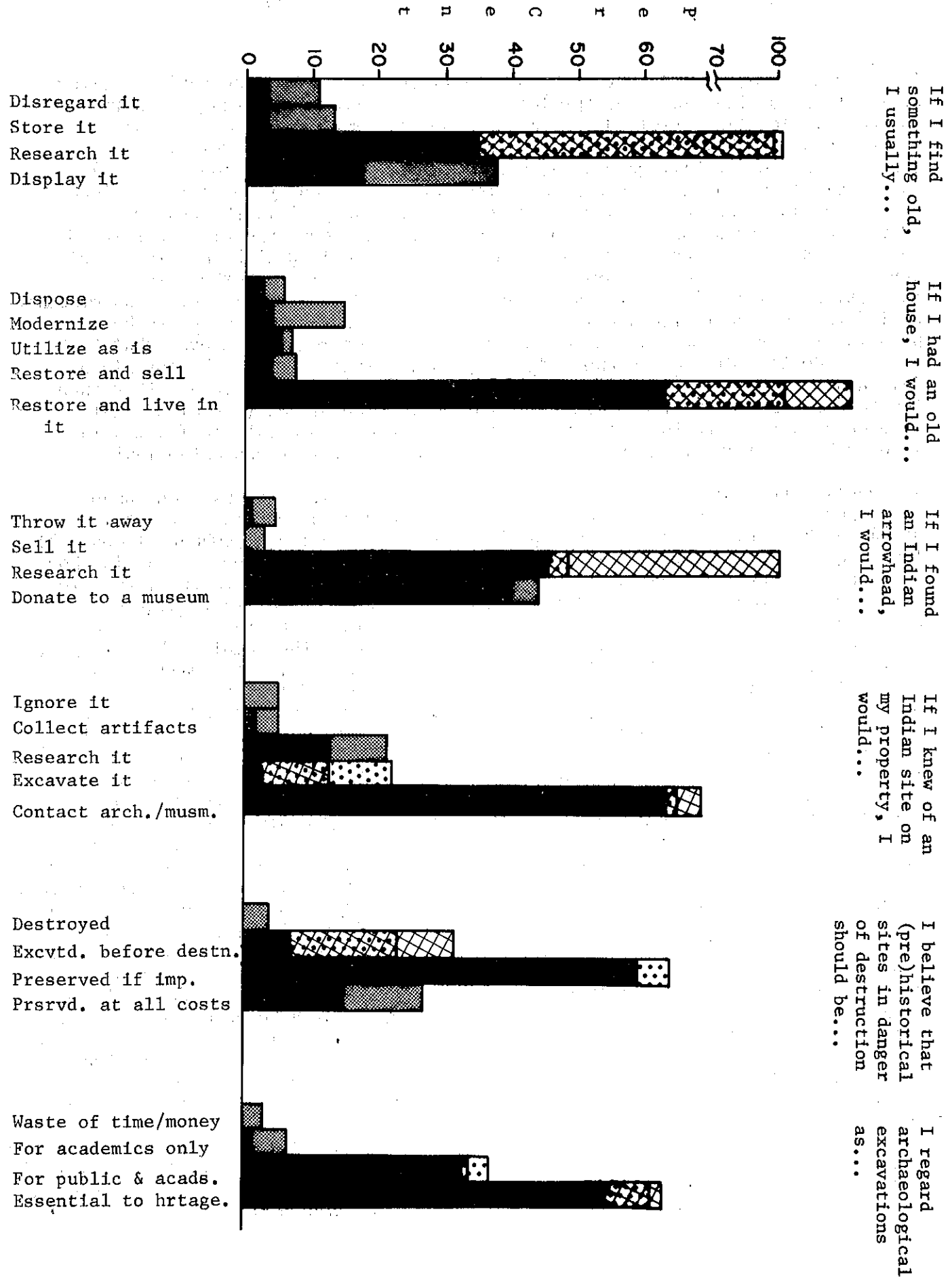


FIG. 1 FREQUENCY DISTRIBUTIONS OF RESPONSES TO INVOLVEMENT QUESTIONS

"how Toronto used to be". Over 86% of the respondents mentioned having visited at least one of the places of (pre)historical significance listed. With regard to specific locations visited, the most frequently mentioned not surprisingly given its accessibility and extensive collection was the Royal Ontario Museum. Black Creek Pioneer Village was the second most frequently mentioned (55.9%). The less well known and more distant sites were mentioned by far fewer residents. A somewhat more indirect form of involvement with the past is through books. 72 per cent of respondents mentioned reading at least one type of book related to the past. Most frequently mentioned were books dealing with the history of Canada (49.3%), and the history of Toronto (39.5%). This is perhaps some reflection of specific interests in the national and local heritage. Dissemination of information about prehistorical remains in the Toronto area seems to be principally through museums and newspapers. The fact remains however that 35.5% of respondents indicated no knowledge of prehistorical sites in the Toronto area. This undoubtedly reflects the emphasis placed on the more immediate rather than the remote past in the reconstruction and publicizing of the (pre)historical landscape in the Toronto area. Extensive knowledge of prehistorical sites in Toronto has remained largely the preserve of the specialist and enthusiast.

Residents' attitudes towards the utilization of the past were assessed based on responses to statements of belief (eg. "I regard archaeological excavations as:") and behavioural intentions (eg. "If I found an Indian arrowhead, I would:"). The frequency distributions of responses to each statement (Figure 2) again show a strong sensitivity towards the past. A few examples will serve to illustrate this general finding. Each of the statements allowed for the expression of negative as well as positive responses. The predominance of the latter is a measure of the level of sensitivity for the past within the sample. For example, in response to the statement stem: "If I find something old, I usually:" only 11.2% of respondents indicated that they would "disregard it". In contrast, 34.8% said that they would "try to discover something about it" and a further 37.9% stated that they would "put it on display in their home". Similarly, in response to the item: "If I found an Indian arrowhead, I would:" only 4.4% indicated they would "throw it away". Again, sensitivity for and interest in the past is shown by the fact that 45.5% said that they would "try to find out more about it" and a further 44.2% stated that they would "donate it to a museum". Particularly interesting and somewhat unexpected were responses to the item: "If I had an old house I would:". Responses indicative of a lack of personal sensitivity for the past such as "try to dispose of it", "modernize it" and restore it and sell it for a profit" together accounted for only 28.6% of responses. In contrast, 63.4% said that they would "restore it and live in it". While this figure may be somewhat inflated by the inclination of some respondents to express feelings congruent with a popularized ideal, it is still surprisingly high. Responses to the belief statements are equally indicative of a predominance of positive sentiments toward the (pre)historical environment. For example, archaeological excavations were regarded as a "waste of time and money" by only 3.3% of respondents, whereas 54.3% saw them as "essential to the preservation of our heritage". Consistent with this is the finding that only 6.2% of the residents expressed no interest in the preservation of historical and prehistorical remains, and that only 10.5% were not interested in visiting an historical or prehistorical site reconstruction. Several questions elicited preferences for settings in which to view (pre)historical artifacts or sites. With respect to viewing prehistorical remains 53.9% stated a preference for displays in major or local museums. As regards visiting historical or prehistorical site reconstructions, no strong preference emerged for the type

FIG. 2 FREQUENCY DISTRIBUTIONS OF RESPONSES TO ATTITUDE STATEMENTS



If I find something old, I usually...

If I had an old house, I would...

If I found an Indian arrowhead, I would...

If I knew of an Indian site on my property, I would...

I believe that (pre)historical sites in danger of destruction should be...

I regard archaeological excavations as...

I would most likely visit a (pre)hist. site recon-struction where there are...

Recreation facilities preferred in association with site reconstructions ...

To be considered a resource an arch. site must primarily provide...

Arch. resources of the greatest value are those which provide...

The arch. material most effective for public education should consist of ...

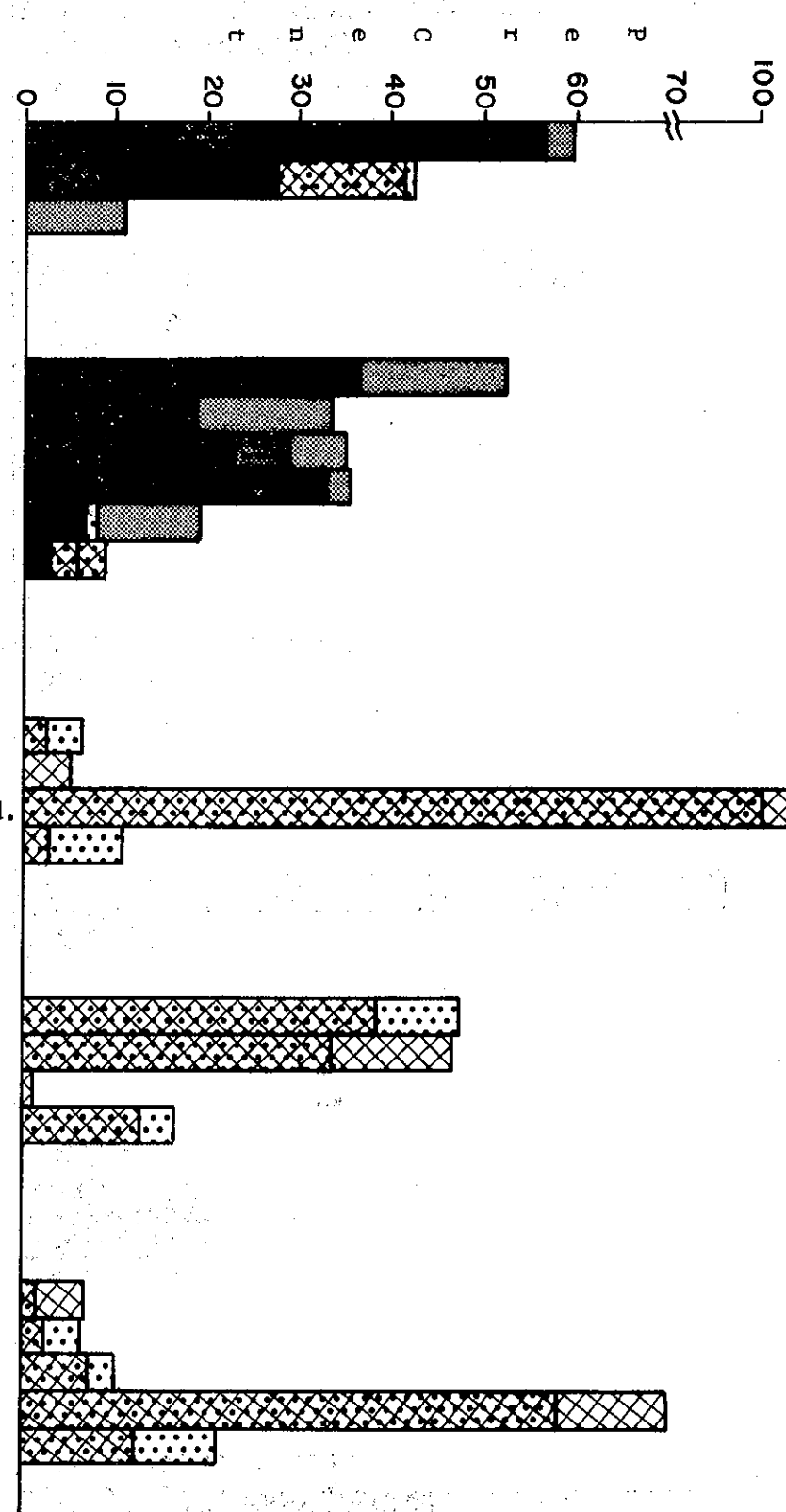


FIG. 2 (cont.)

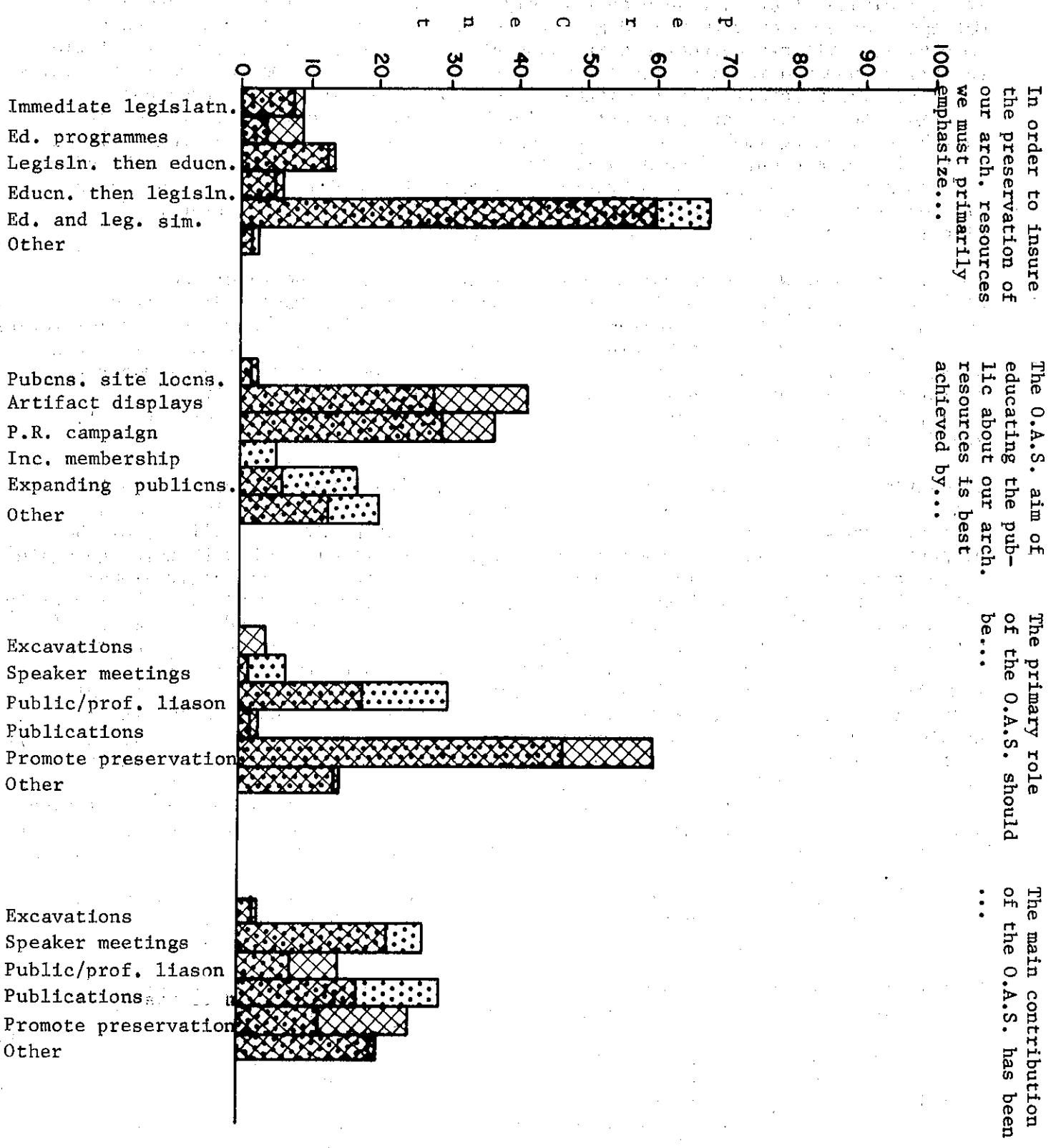
of setting (eg. conservation area, provincial park etc.) but not surprisingly 77.1% indicated that they were most likely to visit a site if it was within the Metropolitan area or within a 50 mile radius of the city. A clear preference emerges for site reconstructions in association with other recreational facilities (59.5%) as opposed to those located where there are no other recreational facilities (26.9%). These results are inevitably in part a reflection of the type and distribution of existing opportunities for historical appreciation. In so far as they have planning implications, they support the development by the regional and provincial governments of such facilities as those found in the Black Creek and Boyd conservation areas and in Bronte Creek and Sibbald Point parks. This point will be raised again in the final section of the report in considering the planning and policy implications of the study.

Relationships Between Personal Dispositions and Attitudes and Involvement: A basic working hypothesis of the study is that residents' personal dispositions toward the past underlie involvement with specific attitudes toward the (pre)historical environment. To test this hypothesis various statistical tests of the relationships between the disposition scales and the measures of involvement and attitude were performed. The results show almost without exception highly significant relationships, and therefore strongly confirm the hypothesis. Selected results are described in this section.

Student's t statistic was calculated to test for significant differences in the mean disposition scores between those engaging and those not engaging in each type of involvement listed in the questionnaire. The predictive validity of the disposition scales is strongly confirmed by the results which show that in aggregate those involved in activities connected with the past have significantly higher disposition scores than those not involved. Again, selected examples will illustrate the general findings. The mean disposition scores for members and non-members of historical and related societies differed significantly (ie. beyond .05 level) on both the conservation and interest scales, differences on the first being the more significant ($t = -2.34$, $df = 1212$, $sig = .01$). Collectors and non-collectors of items connected with the past differed significantly on all four scales with the greatest difference being on the experience scale ($t = -10.57$, $df = 984$, $sig = .000$). Since collecting represents one means of directly experiencing and handling the past, this finding further confirms the predictive validity of the disposition measures and supports the underlying hypothesis linking dispositions and involvement. With respect to visiting museums and (pre)historical sites of various kinds the most significant differences between those who do and don't visit both places are on the interest ($t = -10.23$, $df = 197$, $sig = .000$) and heritage ($t = -9.68$, $df = 206$, $sig = .000$) scales. The significant difference in heritage dispositions indicates that for many who visit museums and sites the desire to have contact with their cultural heritage is a basic motivation.

F statistics were calculated to test for significant differences in dispositions among respondents grouped on the basis of their responses to each of the attitude statements. Once again highly significant differences emerged on all four disposition scales. The most significant differences in the responses to the first two statements ("If I find something old, I usually . . ." and "If I had an old house, I would . . .") were on the experience scale. In relation to the first statement, mean scores on this scale were highest for those responding "try to discover something about it" (45.06). Mean experience scores were lowest for residents who indicated they would "disregard it". Both the highly significant difference among the group means and the direction of the difference confirm again the predictive validity of the disposition measures. The same conclusion holds based on the analysis

FIG. 2 (cont.)



of responses to the second statement. Mean experience scores were highest for those answering that given an old house they would "restore it and live in it" (45.66) and lowest for the response "try to dispose of it" (35.52). Variations among groups defined on the basis of responses to the statement "I believe that historical and prehistorical sites in danger of destruction should be...." were also consistent with the hypothesized relationship between dispositions and attitude. The most significant among group differences in this case were on the conservation scale. The pattern of group means again confirms the predictive validity of the disposition scores. The means by response category were: "destroyed" (36.60); "excavated and recorded prior to destruction" (41.14); "preserved if they are of archaeological importance" (46.64); and "preserved at all costs" (48.82).

Social Class and Geographic Variations in Dispositions, Involvement, and Attitudes: The pattern of responses to the disposition items, involvement questions, and attitude statements as previously described showed very strong positive sentiments toward the past among Toronto residents as a whole. The question raised earlier is now specifically addressed of whether these sentiments show significant social class and geographic variations. Various statistical tests were performed to analyse the effects of social class and geographic location on responses. Three social class and two geographic groups were identified based on the sample design. Tests for differences in responses between groups was the focus of the analysis. In this section, group variations in dispositions, involvement and attitudes will be described in turn.

The separate and combined effects of social class and geographic location on scores on each of the disposition scales were tested based on two-way analysis of variance. The results are consistent across scales in that in each case the combined and separate main effects are significant whereas the interaction effect is not. For two of the scales (conservation and experience) the effect of geographic location is more significant than that of social class; for the other two scales (interest and heritage) the reverse holds true. The direction of the between group differences can be interpreted from the values of the adjusted deviations from the grand mean for each subsample. Positive deviations indicate scores above the grand mean and negative deviations scores below. The values show that the significant effect of geographic location results from the higher disposition scores of city (ie. City of Toronto) as compared with suburban residents. The significant effect of social class reflects the higher scores of the higher class group, the intermediate scores of the middle class group and the lower scores of the lower class group. One factor which possibly contributes to the stronger orientations toward the past among city residents is their relative proximity to the older parts of the city. In contrast, the suburban built environment is typically of much more recent origin with a mixture of apartment buildings and residential subdivisions. It is a landscape which contains few reminders of the less recent past and this is perhaps reflected in the lower sensitivity toward the past as expressed in the dispositions of suburban residents. The differences in dispositions among the social class groups are in the expected direction. Various explanations of the class variation are possible including income and educational differences. These are likely to lead to a greater ability to participate in the past and a greater knowledge of the past within the higher class group. Differences in basic value orientations may also underlie class variations; for example, the tendency noted elsewhere for the higher class groups to exhibit more aesthetic and less functional values, in contrast to the reverse tendency within lower class groups. Here, as in the case of geographic group differences, the relatively small absolute differences in group means has to be noted. The results far from suggest that positive dispositions are characteristic

only of the social elite living in the City of Toronto. In fact, a striking feature of the data is the high level of sensitivity toward the past across the full sample.

Chi square statistics were calculated to test for significant differences in social class and geographic location between those engaging and those not engaging in the activities listed in the questionnaire. Only differences between those involved and not involved in each of the broad types of activity (eg. collecting, visiting, reading) are here considered. Variations in involvement by geographic location are easily summarized, since, with one exception, none are significant. The exception results from a significantly higher proportion of suburban compared with city residents reporting knowledge of prehistorical remains in the Toronto area (Chi square = 31.31, df = 1, sig = .0000). A possible explanation of this difference is that almost all of the existing, or only recently destroyed prehistorical sites, are located in Metro's suburban boroughs. In contrast, in all cases but one, social class variations in involvement are significant. The exception here is that no significant class difference was found between members and non-members of historical and related societies. It should be noted however that a significant difference was found between these two groups where the social class measure was the head of household's occupation score on the Blishen scale (student's $t = -2.17$, $df = 941$, prob. = .015) rather than the more coarse three strata division used in the chi square analysis. The direction of the class variations in involvement are as expected. In general, the proportion involved in activities related to the past was highest for the higher class group, somewhat lower for the middle class group and lowest for the lower class group. While, recognizing these between group differences, it is important to note that in most cases the majority of respondents within each class indicated being involved in some way in each of the broad types of activity. Again, the overall conclusion is that although class variations clearly exist, involvement in the past is by no means confined to a social elite.

Chi square analysis was also the basis for assessing social class and geographic variations in attitudes. Geographic variations in responses to the attitude questions show a higher proportion of city residents indicating positive sentiments and a higher proportion of suburban residents indicating negative feelings. This tendency is shown for example by the geographic breakdown of responses to the statements: "If I had an old house, I would ..." and "I regard archaeological excavations as...". In both cases, the higher proportion of negative sentiments were expressed by suburban residents. (71% of those indicating they would try to dispose of" an old house and 68% of those indicating they regarded archaeological excavations as a "waste of time and money" were suburban respondents.) Equally, the higher proportion of the most positive sentiments came from city residents. (54% of those saying they would "restore and live in an old house" and 54% of those saying they regarded archaeological excavations as "essential to the preservation of our heritage" were city residents.) Social class variations in response were significant for all but one of the attitude statements. The distribution of responses shows that negative attitudes were expressed most frequently by lower class respondents and least frequently by upper class respondents. Beyond this predictable finding it is not easy to generalize about the results. They are again best described with reference to specific examples. In response to the statement "If I find something old, I usually...." the negative response of "disregard it" was most frequently selected by respondents in the lower class group and least frequently by those in the higher class. The other major source of difference among the three groups was in the relative frequency with which the response "try to find

out more about it" was selected. This category was chosen most frequently by the higher class group and least frequently by the lower class group. This suggests a greater level of interest in the past for the higher class group which is consistent with the dispositions expressed by this group as previously reported. Responses to the statement "I believe that historical and prehistorical sites in danger of destruction should be" also show the highest frequency of negative responses (ie. "destroyed") for the lower class group. But it is interesting to note in contrast that this group also had the highest frequency responses in the category "preserved at all costs". The higher class accounted for the highest proportion of responses in the category "preserved if of archaeological importance". This response pattern suggests that class variations are more complex than simply a lower class tendency toward more negative attitudes and a higher class tendency toward sentiments which are more positive. Once more it is important to interpret these class variations in light of the overall response pattern, which shows irrespective of class a predominance of favourable attitudes toward the past. Again, this raises the question of whether statistically significant differences among group responses have more general significance. The conclusion on the basis of these results is that both geographic and social class variations in attitudes toward the past, though statistically significant, are minor aberrations from a relatively uniform response.

Comparison of Residents', O.A.S. and Professionals' Dispositions, Attitudes and Involvement: This section provides a comparison of residents', O.A.S. and professionals' dispositions, attitudes and involvement. The objective is to indicate the major differences which exist and have a potential bearing on policy formulation with respect to the (pre)historical environment. Since the professionals and the O.A.S. members are mainly concerned with the more remote past, particular attention is focused on involvement and attitudes toward the prehistorical environment.

Both the O.A.S. members and the professionals maintain the same four dispositions toward the past as do the Toronto residents. The construct validity or reproducibility of the scales was, again, assessed through factor analysis of the responses. In the case of the professionals, all of the four scales: conservation, interest, heritage, and experience are clearly reproduced by the factor scales. For the O.A.S., conservation, interest and heritage are more clearly reproduced. Experience items are the major components of the strongest disposition which also comprises some elements of interest, conservation and heritage. O.A.S. members' orientation toward direct experience with the past is most pronounced. This disposition is followed by lesser orientations toward conservation, interest and heritage. For the professionals, interest is the strongest orientation, followed by heritage, conservation, and last of all experience. This compares to a sequence of interest, experience, heritage and conservation for the Toronto residents. Indications are that the layman is more inclined toward direct experience with the past than its conservation. For the layman who has become an O.A.S. member, however, society membership demands a stronger orientation toward the preservation of the past. The professional's inclination emphasizes the appreciation of heritage and the preservation of the past over the direct experience which constitutes an "every day" component of his responsibility. Although differences in dispositional emphasis are in evidence among the groups, these differences should not be exaggerated. They are minor divergences in an overall orientation toward the past which is comprised of the same four basic dispositions. Overall, the results reinforce the reliability and validity of the scales as measures of the psychological dispositions they are designed to represent.

As hypothesized, the mean statement scores on each scale show the professionals with the most positive dispositions toward the past (conservation 4.51; interest 4.54; heritage 4.32; experience 3.94), the O.A.S. with slightly less positive dispositions (conservation 4.37; interest 4.50; heritage 4.16; experience 4.01), and the Toronto residents with the least positive dispositions (conservation 3.88; interest 3.88; heritage 3.92; experience 3.66). (Note that the only juxtaposition occurs with respect to the O.A.S. and professionals' scores on the experience disposition.) All scores are, however, strongly positive on all dispositions and the differences among the groups are not great. This result further confirms the general consensus in public sentiment toward the past.

The strong positive sentiment toward the past, as indicated by Toronto residents' answers to questions concerning their involvement with and attitudes toward specific aspects of the (pre)historical environment, can be placed into context through a comparison with O.A.S. and professionals' responses.

Figure 1 provides the frequency distributions of responses to involvement questions for all three groups. Only major similarities and differences are briefly considered here. Reminiscing about Toronto's past is an activity engaged in almost equally by all groups whereas membership in an archaeological or historical society lies at the other end of the involvement continuum and sharply differentiates the professional and the committed layman from the public at large. The percentage of professionals and O.A.S. members visiting each of stores, auctions and markets merchandising artifacts of the past is at least 50%. Antique stores seem to be the favourite. This pattern is consistent with that of the public although percentages are slightly higher for the O.A.S. and professionals. A similar consistency is in evidence where the activities consist of simply observing and appreciating the landscapes of the past. Divergence in involvement patterns, however, occurs with respect to activities which demand a specific, past-related effort of time, travel or money. Professionals and O.A.S. members are more avid collectors, particularly of old books, maps, paintings, antiques and prehistorical relics. Almost all have visited most types of places of (pre)historical significance (eg. museum, pioneer village and Indian village). Since most of the professionals and O.A.S. live in or near the Toronto area, the "distance-decay" effect is also in evidence with respect to visiting specific (pre)historical places in Ontario. The less well-known and more distant sites were mentioned by fewer respondents. (Black Creek Pioneer Village, a place of purely historical significance, received considerably less attention by the predominantly, prehistorically oriented O.A.S. and professionals). Professionals and O.A.S. members all read books about the past. They are substantially better read than the residents on all aspects of the more recent and remote past except Toronto history. The residents are substantially less informed about the prehistoric past of their area. Toronto's prehistory truly remains largely the preserve of the specialist and enthusiast.

A comparison of attitudes toward the past is provided in Figure 2. Although the professionals and the O.A.S. members are generally more sensitive toward the past, rarely are their attitudes in opposition to those held by the majority of Toronto residents. There exists basic agreement that: the discovery of a (pre)historical site demands contacting an archaeologist or museum; (pre)historical sites in danger of destruction should be preserved if important; archaeological excavations are essential to the preservation of our heritage; (pre)historical remains should be excavated under the supervision of archaeologists; and the preservation of (pre)historical remains should be the responsibility of government. Presentation of the

remote past, however, provides an area for disagreement. While Toronto residents feel that they can learn about the (pre)historical past from books, museum displays and reconstructions, most of the O.A.S. and professionals consider either books or reconstructions most effective. Toronto residents are also much more likely to visit a site reconstruction in or within 50 miles of the metropolitan area. Professionals and O.A.S. members tend to be more purist in orientation and indicate less of a preference for recreation facilities in association with site reconstructions.

Seven attitudinal questions were administered to the O.A.S. and professionals only. Frequency distributions of responses to these also appear in Figure 2. The response patterns of both groups are largely similar. Almost all of the respondents (O.A.S. 87.9%; professionals 81.3%) felt that "to be considered a resource an archaeological site must primarily provide both academic value and public education". Most professionals, however, indicated that the archaeological resource of the greatest value must provide data for advancing research while most O.A.S. members said these resources must foremost provide information for advancing public education. Stepped reconstructions were considered by both groups as the most effective means of public education. Both groups also agreed that simultaneous legislation and public education are necessary to insure the preservation of our archaeological resources. There exists general agreement that the major roles of the O.A.S. should be to promote the preservation of archaeological resources and provide a liaison between the professional community and the public.

In a previous section of this report, it was shown that residents' personal dispositions toward the past underlie involvement with and specific attitudes toward the (pre)historical environment. This important finding also holds true for the O.A.S. and professionals. With regard to involvement, one example will suffice. The mean disposition scores of residents who did and did not reminisce about how Toronto used to be differed significantly on all four disposition scales with the greatest differences being on the interest ($t = -10.56$, $df = 488$, $sig = .000$) and heritage ($t = -9.90$, $df = 528$, $sig = .000$) scales. Professionals differed significantly only on the interest ($t = -2.49$, $df = 23$, $sig = .02$) and heritage ($t = -2.38$, $df = 27$, $sig = .024$) scales. And finally, O.A.S. members differed significantly only on the heritage ($t = -2.65$, $df = 69$, $sig = .01$) scale. The significant difference in heritage dispositions indicates that for those who reminisce about Toronto's past, whether they are laymen or professionals with regard to this past, the desire to commune with their cultural heritage is a basic motivation. While dispositions underlying specific involvements are largely the same for each group, these dispositions are more sharply defined and directed for the professionals and the O.A.S. members. Largely common dispositions also underlie specific attitudes toward the past. The most significant differences in the responses to the statement "I believe that historical and prehistorical sites in danger of destruction should be...." were on the conservation scale for the residents and the O.A.S. Mean scores on this scale were highest for residents responding "preserved at all costs" (48.82); almost as high for "preserved if they are of archaeological importance" (46.64); lower for "excavated and recorded prior to destruction" (41.14); and lowest for "destroyed" (36.60). The means by response category for the O.A.S. were: "preserved at all costs" (54.63); "preserved if they are of archaeological importance" (52.81); and "excavated and recorded prior to destruction" (50.85). For the professionals, the only near significant differences were on the conservation and heritage scales. These group comparisons provide further confirmation of the predictive validity of the disposition measures. They also indicate, however, that differences in relative dispositional emphasis of a group do affect attitudes and involvement.

Planning Implications of the Results: Both general and specific planning implications follow from the results of the study. These are most clearly stated in point form.

1. The most consistent finding of the study was the strong positive sentiment toward the past among Toronto residents, a sentiment almost as strong as that of the O.A.S. and professional comparison groups. This was evident in responses to the disposition and attitude statements as well as the involvement questions. The finding has two immediate general implications.

The first relates to the potential receptivity of the public to increased access to the (pre)historical resources of the region. While the dangers of inferring from verbal statements of attitudes to actual behaviour are well established, and acknowledged here, the consistency and uniformity of favourable responses elicited in this study provides a strong basis for concluding that the provision of additional opportunities for viewing and experiencing both the immediate and more remote past would be welcomed and utilized by a large section of Toronto area residents.

The second general implication concerns the potential support for a public policy oriented toward the preservation and presentation of the past. The strong sentiments toward conservation and heritage measured by two of the disposition scales is indicative of the sensitivity of a large majority of residents for the preservation of the past; the orientation toward direct experience demands not only preservation but also conscientious presentation of this past. Responses to the attitude statements support such a public policy. The idea of a disposable urban fabric readily replaced in the cause of change and supposed progress is an ethic which appears to muster little support among the public at large. As such, the establishment and furtherance of policies and legislation directed toward both protection and presentation of (pre)historical resources--whether they be buildings, sites or artifacts--is likely to find public support.

2. Another clear finding of the study having policy implications relates to the general uniformity of attitudes toward the past across social class groups. The argument that interest and involvement in the past is the preserve of a small social elite comprising the upper and certain middle class groups, and, therefore, that the preservation and provision of access to (pre)historical resources should not receive extensive public financing, is not supported by the data. Although statistically significant differences were found among the social class groups in dispositions, attitudes and involvement, the absolute differences were in general marginal. This points to the danger of being easily misled by the results of statistical tests involving large data sets. A distinction has to be drawn between statistical and substantive significance. While the division is not easily made, the smallness of the between group differences in the present data lead to the conclusion that variations both on the basis of residential location and social class represent aberrations from a relatively uniform response pattern.

The level of interest and involvement of lower class groups certainly exceeded expectation, and represents one of the more revealing findings of the study as a whole. A word of caution has to be added here in that to some extent self-selection inevitably entered into the sample composition. It is therefore possible, as indicated in the sample design report, that, in the lower class areas where the response rate was typically worse, residents agreeing to participate in the study were generally more interested in the past. Even accepting this possible

bias, the uniformity of response is impressive and does much more to dispel the belief that the past is a luxury indulged in only by a social elite. The fact that a broad cross-section of the Toronto population expresses a strong concern for and interest in the (pre)historical past of the area reinforces the previous implications for policies aimed at the preservation of and provision of access to these resources.

3. The question now arises: Do the general findings for the Toronto area also relate to other Canadian metropolitan centres and smaller cities? The possibility that Toronto is a special case does exist. More likely, however, is the probability that similar results would be obtained for other urban centres. The results of this study certainly suggest that comparative research would prove useful. The potential implications for a national policy of urban (pre)historical resource preservation and presentation need not be elaborated.

Given the evidence from the data of the likely support for and utilization of increased and improved access to the (pre)historical resources of the area, the specific planning questions arise of where should the resources be located and how should they be presented? Responses to several of the attitude questions are relevant in this context.

4. Concerning the location and display of prehistorical remains, the data support a continuation of the existing policy of concentrating collections in major museums such as the Royal Ontario Museum. O.A.S. and professional responses, however, support the decentralization of collections to local museums in the area as well.
5. At the same time site reconstructions appear to play an important role in increasing public knowledge of the prehistorical past. The policy implication being that site reconstructions are a necessary component in displaying the prehistory of the region. In the history-starved suburbs, where prehistorical sites, however, still persist, the reconstruction could provide a crucial link with the past.
6. Regarding the setting for historical or prehistorical site reconstructions, the data show no strong preference among Toronto residents. Provincial or national parks and conservation areas are the most preferred locations although possibilities such as urban parks also are supported by Toronto residents. These results seem to support the present, incipient policies of the regional and provincial governments.
7. Site reconstructions aimed at attracting visits by Toronto residents should be located within an approximately 50 mile radius of the city. The data suggest a strong distance-decay effect in existing and anticipated future visits to (pre)historic sites.
8. Site reconstructions should be located in conjunction with other recreational facilities so that visits can be combined with other activities. 60% of respondents indicated they would most likely visit a site reconstruction where other recreational facilities exist. Associated facilities most frequently mentioned as preferred were: nature trails, nature exhibits and picnic sites. These preferences further support the location of sites in provincial park or conservation area settings.

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WEDDING BELLS

Members will be happy to hear of the marriage of Ms. Sharon Hick and Dr. John McAndrews which took place on Saturday, May 28, at Dalton, Ontario.

Sharon has been the Society's Corresponding Secretary for some years and is Librarian at the Royal Ontario Museum. Jock, also of the Royal Ontario Museum, is a member of the Society's Constitutional Committee.

The Executive is sure that members will wish to join them in congratulating Sharon and Jock and in wishing them many happy years together.

IN MEMORIAM - Linda Plater 1960-1976

In 1962 and 1963, Jay Blair and I worked on the Plater-Flaming BdB-2 site examining a midden which had been found and drawn to our attention by the Plater family. The three Plater children took an interest and since then the older two, then at school, have grown, married and have their own families. The youngest, Linda, was then but a wide-eyed toddler who helped the best she could, and I well recall her forcing her little self through the tangled alfalfa clothing determinedly an almost unmanageable pitcher of ice-cold lemonade sent by her mother to the hot and thirsty excavators.

Through the succeeding years we watched Linda grow into a fine young lady, much interested in the area's fossils and in the Indian materials we've continued to collect in her father's garden. In 1976, in the event I would be too tied up to call again in the Fall, I asked Linda to watch for anything that came up in the garden. The snow came early, and I did not return that year.

When the 1977 season opened and I again visited the Plater family, I received the material that Linda had dutifully collected, and at the same time the tragic news that shortly after our conversation, a little before her 16th birthday, Linda's life had been taken in a tragic car accident.

In Linda's memory, Mr. and Mrs. Plater have donated the Plater Collection, which had been in our care and trust, to us on condition that it must never be broken up or disposed of, and will henceforth be known as the "Linda Plater Memorial Collection".

Chas. Garrad
O.A.S. President, 1974

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