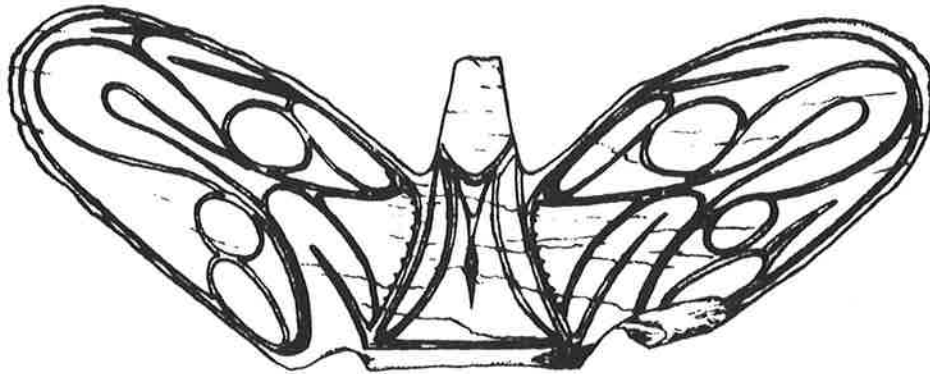


10TH ANNUAL MEETING

CANADIAN ARCHAEOLOGICAL ASSOCIATION



ABSTRACTS

RESUMES

ASSOCIATION CANADIENNE D'ARCHEOLOGIE

10E REUNION ANNUELLE

MAY 5-8 MAI 1977

OTTAWA ONTARIO

Abstracts appear in alphabetical order by author, in the language in which the papers will be presented.

Les résumés sont classés par ordre alphabétique d'après le nom de l'auteur, dans la langue utilisée pour la présentation des communications correspondantes.

AMSDEN, Charles W., University of Manitoba

*A Case Study from Northern Alaska and Implications for Thule Culture (Session 12)*

A critical reduction in the northern Alaska caribou population during the late 1800's resulted in mass human emigration from the area and major adjustments for those who remained. The primary adaptations to these hard times by one group of interior Eskimos are presented as an illustration of the general strategies for coping with extreme scarcity of critical resources. Recent studies of various arctic animal populations suggest that such especially hard times may recur regularly. Implications are discussed in the context of specific problems related to Thule and other prehistoric Eskimo cultures.

ARTHUR, Brian, Canadian Conservation Institute

*Introduction to Conservation Session. (Session 7)*

ARTHURS, David

*Historic Site Survey on the Missinaibi River, Northern Ontario (Session 5)*

BAILEY, D., and D.J. Huntley, Simon Fraser University

*Source Identification of Obsidian by Thermoluminescence (Session 20)*

The thermoluminescence (TL) of several Pacific N.W. obsidian sources has been studied in order to find out to what extent it can be used to characterize these sources and hence identify the sources of artifacts. Both the natural TL and TL resulting from a laboratory radiation dose are reported. It is found that the different sources do exhibit characteristically different TL glow curve shapes and that these have a within-source intensity variation typically of a factor of two; the between source variation is up to five orders of magnitude. It is concluded that thermoluminescence can be used as a method of characterization.

BALL, Bruce, Simon Fraser University

*Bears, Bogs and Brush: Problems in probability in northeastern British Columbia (Session 3)*

Impending development in a vast northeastern section of British Columbia necessitates the initiation of an archaeological impact assessment which implicitly and explicitly requires some enumerations and estimates to be made of the heritage resources within identified impact zones. Archaeological survey techniques developed in the southwestern United States suggest that perhaps the most propitious approach towards estimations and enumerations of cultural activity within a given region involves some form of probability sampling. Some of the problems involved in using probability sampling techniques in a region of Canada's north are discussed. A statistical approach towards the problem is offered as a heuristic device to be tested in theory and in the field.

BANNING, E.B., University of Toronto

*X-Ray Fluorescent Analyses (X.R.F.) of Japanese Coins (Session 20)*

The clustering of obsidian artifacts by trace element patterns has succeeded in indicating raw material sources and trade patterns, while physical analysis has contributed to classification of other artifacts. Coins have received little attention in this respect (excepting studies of inflation and monetary reform) although neutron activation analysis has had some success in testing the reliability of mint-marks on certain Mexican coins.

An X.R.F. study has been undertaken to discover how well coins are suited to this sort of cluster analysis where the same coin type has been minted for a long time and/or at numerous semi-autonomous mints.

Analyses of *Kanei Tsuho* coins, cast in Japan from CE 1636 to 1863 show principally Cu, Sn, and Pb. Fe and Ag occur as trace elements while As, Sb and Zr, the most important contaminants, occur in concentrations varying by more than a factor of ten from one stylistic variety to another. The degree to which the results cluster in such a way that they may be related to mint, chronology or technology, will be discussed.

Fitting of X-ray spectra has been done with the aid of a PEAKFIT program written at the University of Toronto by Dr. R.P. Beukens for a DEC 10 computer.

This paper reports the results of a project undertaken as part of an advanced course in Physics and Archaeology, at the University of Toronto, coordinated by Prof. R.B. Drewitt, Department of Anthropology, and Prof. R.M. Farquhar and Prof. A.E. Litherland, Department of Physics.

BIELAWSKI, Ellen, University of Calgary

*Contactual Transformations: The Dorset-Thule Succession (Session 17)*

Evidence for possible contact situations between people of the Dorset and Thule cultures is found in sites showing dual occupations and in mixed Dorset and Thule artifact assemblages. These archaeological manifestations of contact are examined and classified as to what interpretations may be made about contact situations. Consideration is also given to success of adaptation and to the effects of overlapping economic orientation between the Dorset and Thule groups. The nature of possible cultural contact situations between Dorset people and Thule people is outlined. Finally, it is suggested that a perspective including physical contact between Thule and Dorset people be adopted in methodology and interpretation of the Dorset-Thule succession.

BLAKE, Michael, University of British Columbia

*Spatial Analysis of a Dispersed Excavation Sample Using Clustering and Multidimensional Scaling (Session 3)*

Both Q-type and R-type cluster analyses are compared with multidimensional scaling in their ability to discern patterns of artifact distributions from a small and dispersed sample of excavation units. Data from 1975 excavations of the prehistoric occupation site DjPv-14 (Wildhorse River site) in the East Kootenay region of British Columbia are used as a test of the methods. Multidimensional scaling is found to be the most efficient method of revealing both associations of artifacts and locations of activity areas. However, when scaling is used in combination with clustering, interpretations of the dimensions are greatly facilitated.

BONNICHSEN, Robson and David Sanger, University of Maine

*Integrating Faunal Analyses - An Example from Passamaquoddy Bay, New Brunswick (Session 11)*

The problem of comparing faunal analyses are discussed with reference to a large collection of remains from a number of sites in Passamaquoddy Bay, New Brunswick. A technique for systematic designation of bone elements and machine handling of data is presented. The methodology is demonstrated through examples of intra-site and inter-site analysis with comments on various sampling procedures. The conclusion is that faunal analysis must be systematically rigorous if it is to be meaningful and thus achieve its full potential.

BOUTRAY Bernard de et Patrick Plumet, Université du Québec à Montréal

*Recherche sur la différenciation des Quartzites dits "De Ramah" par examen Petrographique au Microscope Polarissant (Session 13)*

Des lames minces provenant d'échantillons de quartzites couramment identifiés "Ramah Chert" ont été examinées au microscope polarisant. Ces échantillons proviennent des carrières de Raham et du cap Mumford, de Norvège et de quartzites archéologiques du Labrador, de l'Ungava et de Baffin. Des différences marquées apparaissent dans la structure de ces quartzites. Il sera peut être bientôt possible de savoir si les quartzites archéologiques dits "de Ramah" proviennent d'une seule et même source ou de plusieurs.

BREDE, C., Royal Ontario Museum and E. Vandersterre, University of Toronto

*Analyses of a Resistivity Survey at Fort York, Toronto (Session 20)*

During the autumn of 1976, a detailed resistivity survey was made at Fort York, Toronto, Canada, using fixed current-electrodes and a potential-dipole measurement system. A total of 500 individual readings were taken over an area 18 ft. x 100 ft. in an effort to locate as precisely as possible the location of an early cook house. The fixed current-electrode method is

rarely used in archaeological prospecting, but has the advantage that once set up the surveying can be done by one operator.

The data from the survey has been handled in two ways. One approach was to plot the data on graphs and estimate correction factors before contouring the data manually. The only tools used for this analysis were a four-function hand calculator and readily available drafting equipment. The second approach was to use a large digital computer (IBM 360-165). Corrections and contouring were done entirely with data processing equipment. The two types of analysis were conducted simultaneously and the results compared only after their completion. In both cases careful records of man hours and computer time were kept for the purposes of comparison of the cost-efficiency of data analyses.

An account of the results of the survey and comparison of the manual versus computer analysis efficiencies will be given.

This paper reports the results of a project undertaken as part of an advanced course in Physics and Archaeology, at the University of Toronto, coordinated by Prof. R.B. Drewitt, Department of Anthropology, and Prof. R.M. Farquhar and Prof. A.E. Litherland, Department of Physics.

BRIGGS, D., Imperial Chemical Industries, and M. Thompson and E.T. Leventhal, University of Toronto

*The Potential of X-Ray Photoelectron Spectroscopy as an Analytical Tool in Archaeological Chemistry (Session 20)*

In recent years X-ray photoelectron spectroscopy (XPS or more commonly ESCA) has rapidly become established as an analytical technique of wide applicability especially in the field of surface analysis. The potential exists to carry out an elemental 'mapping' of a surface for all elements (with the exception of hydrogen and helium) together with the possibility for obtaining information on the speciation of each element from chemical shifts and other data. Furthermore, use of the technique in conjunction with iron-etching can yield a depth-concentration profile of a multi-layer system. In this paper some work in the area of archaeological chemistry will be presented. For example, pigment identification in objects of archaeological interest will be described and the potential of the technique discussed.

BRINK, John W., University of Alberta

*Microwear/Functional Analysis: Experiments in Use-Wear Formation on Scraping Tools (Session 13)*

A resume is presented outlining the state of the art of lithic microwear/functional analysis in contemporary archaeology. It is suggested that much of the work in this field has utilized an unsound methodology, and that new directions in use-wear studies are needed if the technique is to be of value to the general archaeological audience. An experimental

study was undertaken by the author which was designed to implement some new methods of microwear recognition and definition. A sample of experimental "scrapers" was manufactured, microscopically examined, used in a controlled manner on a variety of raw materials and the resulting wear patterns examined. Throughout the tool-using tests, emphasis is placed on accurate reporting of the experimental variables and communication of the results in a form suitable for utilization by other researchers.

BRUMLEY, John H., University of Calgary

*Ramillies: A Late Prehistoric Bison Kill and Campsite located in Southeastern Alberta (Session 19)*

The Ramillies site is a multioccupational bison kill and campsite extensively excavated during the summers of 1972, 1973 and 1974.

The site is located in an area of shortgrass prairie bounded on the north by a deep steep walled coulee. Analysis of data recovered indicates the major period of site occupancy occurred between circa 150 to 965 A.D. by prehistoric groups representative of the Avonlea and Old Women's phases. These groups initially enlarged and modified a natural oval shaped depression located on the edge of the prairie in order to construct a bison pound. Bison were driven into the pound with the aid of 3 stone drive lines located in the rolling prairie to the south. The pound was quite small probably capable of containing no more than 20 to 30 bison at a maximum. The pound was apparently used repeatedly during the spring, summer and fall by Avonlea and later Old Women's phase groups. Bones of slain animals were cleaned from the pound between use episodes and deposited on the steep coulee wall immediately to the north. A small level area on the floor of the coulee several hundred meters north of the pound served as a secondary processing and camp locale for groups using the pound. Nine stone tipi rings, 3 stone cairns and a small quantity of stone tools and debitage in the prairie adjacent and to the south of the pound indicates use of that area as a camp locale as well.

BRYANT, Vaughan M. Jr., Texas A. and M.

*Broad Perspectives in Archaeobotany (Session 21)*

BURCH, Ernest S. Jr.

*Caribou Eskimo Origins: An Old Problem Reconsidered (Session 17)*

The question of Caribou Eskimo origins has been the subject of debate for more than half a century. The generally accepted view today is one originally elaborated by Elmer Harp: the historic Caribou Eskimos descended from Thule Eskimos who migrated south along the west coast of Hudson Bay in the 13th century A.D., then expanded inland. In this paper I review

the relevant ethnohistorical, linguistic, and archaeological evidence, and conclude that, on the contrary, William Taylor was correct when he suggested that they were descended from people who migrated overland from the Copper Eskimo area as recently as the 17th century. This conclusion raises some interesting new problems, however, such as the question of what happened to the Thule people who did, in fact, inhabit the west coast of Hudson Bay during at least the 14th and 15th centuries A.D.

BURLEY, David, Simon Fraser University

*A Quantitative Analysis of Interassemblage Variability Within the Marpole Phase (Session 3)*

The Marpole phase, as it is currently employed on the southern Northwest Coast, roughly spans a thousand year period between 500 B.C. and A.D. 500. Basically distinguished by a few *fossil directeurs*, little else is known of this important 'culture type'. The present paper is an investigation of inter-component variability within this phase. Assemblages from 20 sites are subjected to both cluster and principal components analyses and implications for a more refined chronology and settlement pattern studies are outlined.

BURLEY, David, Simon Fraser University

*False Narrows: A Recent Look at Some Old Data (Session 16)*

During the field seasons of 1966 and 1967, salvage oriented excavations were completed at the False Narrows site (DgRw-4) on Gabriola Island off of the east coast of central Vancouver Island. A relatively large area of this midden was excavated and a varied collection of cultural materials, features and burials were recovered. Since that time, several hypotheses regarding the occupational sequence and concomittant associations of the cultural components have been presented yet never tested. Indeed, not only has the artifact analysis been deferred, but even a cursory summary of the 1967 project is yet to appear. Having recently completed a full report on this material, I will present a compendium of my findings in light of current speculation on the site.

BYRNE, William J., Archaeological Survey of Alberta

*Breaking the Code: A Guide to the Preparation of Archaeological Impact Assessment Reports (Session 10)*

CAMPLING, Neil R., University of Manitoba

*Lithic Tool Energetics: Some Theoretical Considerations (Session 13)*

Previous analyses of lithic tools are basically empiricist. Continuous variables such as edge thickness, length and angle have been measured and

statistically manipulated to determine tool types, functions, chronological change or activity centers. Such determinations cannot be verified or falsified on the basis of probability alone. The distribution of tool types, and the patterns of tool clusters must be explained, and sites different in space and time must also be comparable. The failure of previous analyses stems from a very limited consideration of what exactly is being measured by continuous variables, as well as a general theoretical deficiency.

Lithic analyses require formulation of process-oriented generative models, the consequences of which must be tested against the data. Common to all tools is their ability to do work, to convert energy from one form to another. It is suggested that a tool energetics approach would provide a uniform basis for the analysis and comparison of tools, tool clusters, cluster patterns and sites. Tools could be characterized by an index directly proportional to the tool's ability or rate of converting energy. The index could be derived by relating edge length, angle and geometry to tool volume or total maximum dimensions. Index characterization of tools, tool clusters, and the unique pattern for individual sites could then be related to the ethnographic and archaeological data to determine tool and site functions, and the change in functions through time.

CARRUTHERS, Peter, Ontario Ministry of Culture and Recreation

*The C.O.R.T.S. Historical Planning and Research Study: Heritage Conservation and Land Use Control in Southern Ontario* (Session 10)

The C.O.R.T.S. (Canada-Ontario-Rideau-Trent, Severn) Corridor is an irregularly shaped planning area which stretches from Port Severn on Georgian Bay, through the Bay of Quinte-Prince Edward County area on Lake Ontario, to the Ottawa River at the mouth of the Rideau River. Associated as it is with the main drainage systems of central and eastern Ontario, it encompasses regions of important prehistoric and historic activity.

The main objectives of the project include: 1) providing an inventory and mapping of all known and suspected heritage resources in the vicinity of the corridor; 2) through environmental reconstruction, attempting to explain human activity through time in terms of available resources and resource extraction techniques; 3) presenting the results of the study in the form of interesting and understandable themes which stress the on-going relationship between man and his surrounding environment; 4) preparing comprehensive recommendations about the interpretation and conservation of all heritage resources, taking into consideration the various types of pressures extant and the range of legislation as well as both public and private programmes available to alleviate the pressures.

The C.O.R.T.S. study is being carried out by a joint team from the Historical Planning and Research Branch, M.C.R. Ontario, and Parks Canada, Eastern Region.

CARRUTHERS, Peter, Ontario Ministry of Culture and Recreation

*The Quackenbush Site (BdGm-1): A Large 15th Century Settlement on the south-Shield border of Ontario (Session 18)*

Located near the eastern end of Stony Lake in Peterborough County the site has attracted research attention on five occasions since 1954. Atypically Iroquoian, the site, although large, is easily observed from the surrounding high ground, and would have been difficult to defend. Evidence for palisades around the 10 acre area is inconclusive. The nature of the cultigen remains and the absence of any quantity of carbonized wild plant material suggests that horticulture contributed part of the subsistence base; most of the foodstuffs however, were derived from the hunting, fishing, and gathering of faunal resources. Ceramically, the strongest affinities of the Quackenbush people seem to be with late Ontario Iroquoian groups; this is confirmed by the bone artifacts as well. The lithics, however, caution us that the Iroquoian-Algonquin symbiosis is poorly understood and that what we usually think of as 'Huron' may be a complex group indeed. Of importance as well are the indications that the site may have served as a manufacturing and trading centre for ground stone wood-working tools.

CASTEEL, Richard W., Simon Fraser University

*Verification of Dependence of Minimum Number of Individuals Upon Method of Grouping Data (Session 11)*

It has been suggested that methods of grouping faunal data have a predictable influence upon the resultant minimum numbers of individuals. To examine this phenomenon, minimum numbers of individuals estimated by means of the maximum and minimum distinction methods were compared with average minimum numbers of individuals predicted from the numbers of identified specimens. In both cases the minimum numbers of individuals behaved as expected with the maximum distinction approach yielding values above those predicted and the minimum distinction approach producing values below those expected. In both cases the differences are significant.

CHARLTON, Arthur S., Assistant Provincial Archaeologist, British Columbia

*Cultural Resource Management and the Archaeological Warden System in British Columbia (Session 10)*

Recently in British Columbia, a heightened awareness of heritage values has resulted in an increase in funding by the Provincial Government, in an attempt to protect and conserve the archaeological resources of the province. Steps have been taken by the Archaeological Sites Advisory Board to develop comprehensive programs based on a conservation ethic, which attempt to deal with major land developments in the province. Despite the increasing government commitment, modern land altering activities and vandalism, especially at the regional level appears to be accelerating, which in turn diminishes the resource base.

The initiation of a volunteer archaeological warden system has been one strategy which has been developed to cope with the situation. The goals of such a program are outlined and the system as implemented to date is discussed and thoughts on the future of such a program are offered.

CHOQUETTE, Wayne, University of Idaho

*Archaeological Survey in the Rocky Mountains, Southeastern British Columbia, II (Session 16)*

A Heritage resource inventory was conducted in 1976 in the middle Elk River drainage utilizing three proposed coal mine impact areas as arbitrary sampling units. A four stage research design including geochronological studies and judgemental, arbitrary vector, and random transect sampling procedures was employed which supported an hypothetical culture history reconstruction based on previous survey data. The hypothesis depicts pronounced changes in prehistoric human land and resource utilization patterns in the area within the last 2000 years.

CINQ-MARS, J., University of Toronto

*Northern Yukon Archaeology: An Interim Report (Session 6)*

This is a survey paper dealing with the known and/or emerging prehistoric sequence of the northwestern Cordilleran system, with special reference to the Porcupine River basin. An attempt is made to characterize both the Pleistocene and Holocene cultural assemblages, and whenever possible, integrate them in a broader prehistoric northwestern boreal ensemble.

CLARK, Brenda L., Newfoundland Museum

*The Thule Occupation of West Hudson Bay (Session 9)*

This paper presents the results of four field seasons of archaeological investigations on Thule sites in the Rankin Inlet area. Evidence for the Thule/Inuit occupation of the west coast of Hudson Bay and adjacent barren grounds is summarized and a model is proposed regarding the mechanics of population expansion and occupation of this region.

CLARK, Donald W., National Museum of Man

*A Visit to the Engigstciak Site (Session 6)*

In July 1976 the writer, accompanied by R. Gadacz, examined the Engigstciak site, northern Yukon Territory, which previously had been excavated by R.S. MacNeish when he was with the National Museum of Man. This past year's project was intended to assess the potential of the site for further excavation as well as for familiarization pertinent to a re-examination of the extant collection from the site. The greater part of this collection belongs to the Arctic Small Tool tradition (ASTt).

Seven test pits were excavated to frost, and although these did not penetrate soil horizons attributable to two controversial pre-ASTt phases (Flint Creek and British Mountain) they did sample the ASTt and later horizons. Each pit was archaeologically positive, but nevertheless yielded poorly, and considering also the scant representation of the earliest phases during previous excavations it is doubtful if Engigstciak warrants renewed major investigations.

In addition, a small rockshelter, with stone-walled structure, located at the base of the Engigstciak outcrop was excavated. It yielded proto-historic or early historic-period Eskimo implements.

COLLINS, Henry

*Closing Comments - Thule Eskimo Culture: An Archaeological Retrospective*  
(Session 17)

COUPLAND, Gary, Trent University

*Computer Applications on Free-Form Faunal Data* (Session 3)

Generally, free-form data is not amenable to numerical analysis within the computer. This poses serious problems to the investigator who must deal with large amounts of data of this nature, generally in inventory files.

Recently, a large file of free-form faunal data from an archaeological site was subjected to a series of computer manipulations which resulted in a transformation of the file into fixed field formatted data numerically coded and amenable to statistical operations.

COX, Steven L., Smithsonian Institution

*Paleoeskimo Occupations on the North Labrador Coast* (Session 1)

Surveys in the Nain and Okak areas of the Labrador coast by William Fitzhugh and Steven Cox have produced approximately 120 sites containing paleoeskimo material, and have revealed a 3000-year span of paleoeskimo occupation, lasting from approximately 1900 B.C. to sometime after 1000 A.D. The Labrador paleoeskimo sequence is summarized, including changes in implement types, house forms and settlement patterns, and possible relationships to other areas of the eastern Arctic are discussed.

CUMBAA, Stephen L., National Museum of Natural Sciences

*Hunting and Fishing at Lanoraie, a mid-14th Century Laurentian Iroquois Village* (Session 8)

Analysis of approximately 7000 faunal remains from within and adjacent to the remaining longhouse at the Lanoraie site (BlFh-1), near the St. Lawrence River in Berthier County, Quebec, has indicated a number of

differences in the fauna as well as related hunting and fishing strategies used by the people at Lanoraie as compared to those at coeval southern Ontario Iroquoian sites. Distribution of faunal remains generally agrees well with ethnohistorical accounts of longhouse life, and seems to have pointed out at least one potential activity area.

CYBULSKI, Jerome S., National Museum of Man

*Probable Archaic Period Human Remains from Coteau du Lac, Quebec* (Session 19)

One burial and the fragmentary bones of at least three other people, excavated at Fort Coteau du Lac, Quebec, in 1975 are described. The remains have been suggestively assigned to the Laurentian Archaic Tradition. One bone sample produced a radiocarbon date of  $6660 \pm 145$  years. Morphological comparisons suggest similarities with previously reported materials from the site and with remains from two New York State Archaic period sites, Frontenac Island and Cole. The Coteau du Lac remains differ from a third Archaic period sample, Morrison's Island-Allumette Island in the Ottawa River valley, a sample previously shown to be unique in its morphology among Archaic period sites.

DEWHIRST, John, National Historic Sites (Parks Canada, Ottawa)

*The Origins of Nootkan Whaling: A Definition of Northern and Central Nootkan Ecological Orientation for the Past Four Millennia* (Session 16)

The highly maritime aspects of Nootkan culture, especially whaling, have long been a concern in theories of Northwest Coast cultural origins and development. This paper evaluates Nootkan maritimeness depicted in such theories, within the contexts of cultural ecology, and indicates Northern and Central Nootkan subsistence orientation for the past 4000 years.

DRIVER, Jonathan C., University of Calgary

*Ethnoarchaeology and Archaeological Theory* (Session 19)

Ethnoarchaeology is defined as "the archaeological consideration of ethnographic data for the purposes of refining archaeological method and theory." One of the main interests of ethnoarchaeologists has been the relationship between material culture and prehistoric social organisation. The majority of such studies have shown a positive relationship between material culture elements and the society which produced them, yet none have provided a sound basis for the study of prehistoric social organisation through material remains. A review of the present literature suggests two conclusions: a) ethnoarchaeology provides specific data of value in the Direct Historic Approach, but contributes little to the development of archaeological theory; b) the study of prehistoric social organisation is not compatible with the methods of social anthropology. A new method of analysing prehistoric social organisation is described.

DUBOIS, J.E., Manitoba Museum of Man and Nature

*Building and Using the Faunal Collections at the Manitoba Museum of Man and Nature* (Session 8)

This talk will consist of a short historical review of faunal work done in Manitoba and the part the Museum has played in aiding and abetting it. Some of the difficulties in assembling comparative collections will be discussed, along with zoologist-archaeologist communication.

DYCK, Ian G., Saskatchewan Museum of Natural History

*Archaeology of an Intensively Cultivated Site: Fort Pitt, Saskatchewan* (Session 5)

During 1976, Fort Pitt Provincial Historic Park was explored for archaeological remains. Fort Pitt, a Hudson's Bay Company provisions post on the North Saskatchewan River, was built in 1829, sacked during the rebellion of 1885, and rebuilt, and then finally dismantled in 1890. Historic documents are spotty and the exact location(s) of the fort have been lost with time. Previous researchers found the approximate location of the 1885 site and, after extensive test pitting, concluded that all physical features had been destroyed by 30 years of deep cultivation. On the contrary, large scale mechanized excavations in 1976 proved that the 1885 phase is surprisingly intact beneath the plow zone, that Fort Pitt occupied two separate sites, and that traditional surface observations and excavation units are grossly inadequate investigative techniques for certain kinds of archaeological problems.

DYCK, Ian G., Saskatchewan Museum of Natural History

*Initiating a Provincial Block Survey in Saskatchewan* (Session 10)

With the passage of the Heritage Act in 1975 came the beginnings of official provincial commitment to systematic investigation and management of archaeological resources in Saskatchewan. In 1976, as a first step toward a "Saskatchewan Archaeological Survey," the Saskatchewan Museum of Natural History undertook a survey of a 2800 square mile tract of west-central Saskatchewan. The purpose was to gain experience with logistics and sampling techniques on large scale surveys and to investigate an unknown area. The results show that it is feasible to inspect an 8-10% stratified random sample of cultivated land in a 1400 square mile area and to record private collections in the same area with a 5½ person crew during a 4 month period.

FECTEAU, R.D., Royal Ontario Museum

*Archaeobotany of Ontario: Field and Laboratory Methods* (Session 21)

During the past winter, archaeobotanical material has been examined from 21 sites, historic and prehistoric dating from the past 1000 years;

eleven from Ontario, one from northern Quebec and eleven from Ohio. Our results indicate that corn was the cultigen that occurred most frequently and in greatest number; corn was present on five sites (Reid, Seed, Beeton, Hamilton and Richardson). The cultigens bean, squash and sunflower occur on the Seed and Hamilton sites and are present in small numbers. In general, the fossil wood assemblage indicates relative stability in the different forest regions over the last thousand years.

FINLAYSON, William D., David G. Smith, Ronald F. Williamson, Peter G. Ramsden, Roger F. King, Frazer Mark, Anne Bohdonowicz, Grant Tripp and John W. Dawkins

*Archaeological Investigations at the New Toronto International Airport, 1974-1976 (Session 4)*

This symposium is designed to provide a progress report on the results and implications of the archaeological investigations at the New Toronto International Airport between 1974 and 1976. These investigations were initiated due to the proposed construction of a new airport in Pickering, Ontario. The research was organized by the Archaeological Survey of Canada, National Museum of Man funded by the Ministry of Transport and the Archaeological Survey of Canada and carried out by contracts to Grant Tripp and the University of Western Ontario with W. Finlayson, P. Ramsden and R. King as principal investigators. The symposium summarizes the rescue excavations at the Draper site in 1975 and at the White site between 1974 and 1976. Included also are the results of an archaeological survey of the 18,500 acres expropriated for airport construction.

FITZHUGH, William, Smithsonian Institution

*Maritime Archaic Occupations of Central and Northern Labrador (Session 1)*

Indian and Eskimo groups have occupied the central Labrador coast for the past 7-8,000 years. Maritime Archaic settlement accounts for about half of that period. This paper describes regional and chronological variants of Maritime Archaic cultures, of the central and north coast and their tool complexes, settlement pattern, site functions, and religious forms. Environmental data suggests northern dispersal of Early Maritime Archaic culture in advance of the forest movement. Following its introduction to the north coast, long-term cultural stability is evident until the appearance of Paleo-Eskimos and other factors results in retreat from these regions. Comparison with Maritime Archaic occupations in southern Labrador is made. The stability of Labrador Maritime Archaic tradition is contrasted with the later Indian prehistory which, during a period of climatic fluctuation and Eskimo presence on the northern frontier, is far more variable in technology, distribution, and general culture history.

FITZHUGH, William, Smithsonian Institution

*The Non-archaeology of Neo-Eskimo Stone Structures (Session 17)*

Research on Thule and later Eskimo cultures has concentrated on excavation of winter houses, middens, and, to a lesser extent, graves. There has been great neglect of other structural remains which comprise the far greater number of sites and physical evidence of Neo-Eskimo occupation. These include many varieties of tent rings, cache structures, fox traps, weirs, stone alignments, hunting blinds, stone figurines, kayak supports, hearths, quarries, "play" constructions, and other remains. The problems of recording, dating, and interpreting these data are discussed with examples from the Labrador coast. Inclusion of these data is important in any holistic approach to culture and is particularly vital to functional studies and settlement pattern reconstruction. Northern archaeologists should collect this type of information and integrate it with other aspects of Neo-Eskimo archaeology. The vulnerability of structural remains to disturbance and destruction makes this need urgent as human activity in the North increases.

FLADMARK, Knut , Simon Fraser University

*Alternative Migration Routes for Early Man in Northwestern North America (Session 16)*

This paper will discuss the alternatives of coastal vs. interior migration routes for early man moving into southern North America from the Alaskan-Yukon refugium during the late Pleistocene. Environmental constraints on channels for human movement and occupation will be summarized, and the proposal put forth that the Northwest Coast represents a feasible, late Wisconsin migration route for "Early Man."

FLORIAN, Mary-Lou E., Canadian Conservation Institute

*Data on "Microenvironments" of Organic Archaeological Artifacts is Needed (Session 7)*

Interdisciplinary data from archaeological sites has been used to reconstruct natural environments in the past. Rarely is data collected to document the deteriorating "microenvironments" (immediate environment) of excavated artifacts of organic material.

Such data assists in the interpretation of the deteriorated material which is prerequisite to logical conservation treatment.

The microenvironments and subsequent deterioration of bone from exposed arctic, shell midden, boreal forest-tundra, eastern hardwood swamp and marine littoral zone are compared. The mini-microenvironments and subsequent deterioration of wood of a grave marker from arctic site are described.

The interrelationships between these examples of microenvironments and deterioration and the choice of conservation treatment is summarized and illustrates the need for "microenvironment" description.

FORSMAN, Michael, Parks Canada, Winnipeg

*Reflections of Red River Society, 1835 - 1870 (Session 2)*

The Red River area witnessed the impact of several economic and social developments during the mid-nineteenth century that were instrumental in leading to the Manitoba uprising of 1869 - 70. Occupation of the Riel House site occurred within this *milieu* and the archaeological investigations carried out in 1976 yielded material manifestations regarding aspects of cultural evolution in the Red River community. Description of these results are presented and hypotheses made concerning future research in the area.

FRANKLIN, Ursula Martius, University of Toronto

*A Modern "Materials Science" Approach to the Study of Ancient Artifacts (Session 20)*

Materials Science deals predominantly with the relationship between structure and properties of materials; the development and refinement of its diagnostic techniques provides effective tools for the study of ancient artifacts. The paper will present a survey of the relevant techniques and will illustrate their strengths and their limitations using examples of investigations of ancient artifacts by the Toronto group.

FREEMAN, Milton M.R., McMaster University

*The Thule Culture in Ethnological Perspective (Session 12)*

This paper takes issue with certain archaeological interpretations of Thule Culture subsistence, more especially the importance accorded to bowhead/Greenland whale hunting.

It is proposed that bias in interpretation has resulted from widespread acceptance of a generalized ethnographic model based, uncritically, upon North Alaskan Eskimo whaling society.

The argument presented in this paper is that (1) the concept of subsistence risk (contra subsistence plenitude) and (2) use of ethnographic and ethnohistoric research in the eastern arctic, will allow a different and fuller interpretation of Thule society than that which is currently accepted.

FRENCH, Diana E., Archaeological Sites Advisory Board of British Columbia

*A Summary of Archaeological Survey in the Atlin Lake Area, Northwestern British Columbia (Session 16)*

The results of two seasons of systematic inventory of heritage resources on Atlin Lake are outlined. Approximately one hundred sites have been recorded to date, and six site types defined on the basis of geographic location and ethnographic data. Three archaeological horizons appear to be present in this region of northwestern British Columbia.

FRENCH, Diana E., Archaeological Sites Advisory Board of British Columbia

*Smallest Space Analysis of Inland Tlingit Gravehouses, Northwestern British Columbia (Session 3)*

Hypotheses concerning possible relationships between Inland Tlingit gravehouses, based on observable features of each structure such as differences in method of construction, architectural style and means of decoration are tested statistically. Forty-two attributes and sixteen cases (gravehouses) are subjected to an R-SSA-1 and Q-SSA-1 analysis respectively. Results of these analyses indicate three phases in the development of the gravehouse for northwestern B.C.

Distribution of gravehouses through time appears to be determined by 1) the type of materials used in construction, 2) the type of platform present, and 3) the number of burial boxes found in each structure. They can best be classified into two groups according to roof style. Cottage-roofed structures tend to be smaller in size, less decorative, and share a greater number of "older" characteristics, while gable-roofed structures tend to be larger, more elaborately decorated and contain more burials.

GRIFFITHS, D.M., Parks Canada, Ottawa

*Use Marks on Ceramics (Session 5)*

One of the procedures for clarifying and increasing information on object function and utilization is through detailed observations of residual marks produced during the use of an object. Such analyses, pioneered by Semenov (1964) have produced sophisticated results. Ceramics is one of the classes of artifacts which are amenable to use mark analysis. Observations based on preliminary examinations of excavated and museum specimens indicate that the study of use marks is feasible with historic ceramic material, and will provide a readily available and relatively easily useable index of the actual utilization of an object.

Although unquantified as yet, the observations indicate consistent differences in the marks left by various methods of utilization and some seven categories of use marks have been identified on the basis of research thus far.

The object of this research is to collect, collate, organize and synthesize the data on use marks on historic period ceramics, so that it can be used by Material Culture Artifact Researchers and Archaeological Staff for derivation of more accurate and specific functional information.

HALPERT, A.F., University of Toronto

*A Proton Magnetometer Survey at East Karnak, Egypt (Session 20)*

During late November and early December, 1976, a proton magnetometer survey was undertaken east of the Karnak enclosure at Luxor, Egypt. Its primary purpose was to locate the north wall of the temple of Akhenaten. Trial readings were taken over an area where a wall (width 2 m. and at least 1 m. in vertical thickness) was known to exist and also over regions where mud-brick structures were evident. In general readings taken over the former produced negative anomalies while mud-brick walls produced positive anomalies, relative to the surrounding soil. The negative anomalies, of up to -20 gammas, are probably the result of a negative magnetic susceptibility contrast between the wall and the surrounding sand.

Three main areas were surveyed: 1) the known limestone wall was followed to the point where it appears to have turned (somewhat obscured by varying elevations); 2) an area in front of the excavation's residence; and 3) a north-south series of squares to locate the temple's northern wall. Several squares produced interesting results, including what we believe to be the northern wall. The data obtained, and our interpretation of it, will be presented. Next season's excavations (May/June, 1977) will concentrate on these areas and (hopefully) confirm our results.

This paper reports the results of a project undertaken as part of an advanced course in Physics and Archaeology, at the University of Toronto, coordinated by Prof. R.B. Drewitt, Department of Anthropology, and Prof. R.M. Farquhar and Prof. A.E. Litherland, Department of Physics.

HANCOCK, R.G.V., University of Toronto

*Multielement Analysis of Potsherds (Session 20)*

Using neutron activation analysis with fluxes of  $\leq 2.5 \times 10^{11}$  n/cm<sup>2</sup>.s, approximately 3 dozen elements may be routinely determined in potsherds. The methods employed will be discussed and estimations of accuracy and precision of measurements will be presented. Some aspects of the merits of thermal and epithermal neutron activation analysis will also be discussed.

HARP, Elmer, Jr., Dartmouth College

*The Thule Occupation of Southeastern Hudson Bay (Session 9)*

A descriptive account of four survey expeditions in southeastern Hudson Bay and the Belcher Islands from 1967-1975. Primary research interest focussed on the Dorset Eskimo marginal colonies in that area, but a number of Thule sites were discovered and partially investigated. The seasonal orientation of these will be explained and compared with the Dorset settlements. Although there was a potential overlap of 100-200 years in the closely adjacent Dorset and Thule communities, no evidence of contact or acculturation was found.

HETT, Charles, Canadian Conservation Institute

*Making Soil Sections at Lanse-aux-Meadows (Session 7)*

HICK, Sharon, Royal Ontario Museum

*Archaeobotany of Ontario - The Published Record (Session 21)*

Based on the literature and archaeobotanical studies at the Royal Ontario Museum, 53 archaeological sites in southern Ontario yielding charred cultigens were mapped and tabled to determine 1) patterns of distribution and 2) chronology.

Land elevation related to summer temperature appears to be a factor in the location of cultigen yielding sites. No site occurs above 1000 feet, i.e., the Dundalk Uplands and Huron slopes.

Corn (53 sites) is the first cultigen to arrive in Ontario. It appears first at the Princess Point site - ca. A.D. 500 (Stothers 1973), and later at Porteous - A.D. 700, Miller - A.D. 800, and Van Besien - A.D. 945 (Noble 1975). Domesticated sunflower, beans, and squash appear much later. Sunflower (9 sites) appears first at the Uren site - ca. A.D. 1300 (Wright 1966). Beans (20 sites) appear first during the Middleport Substage - A.D. 1350 - 1400, at Crawford Lake (Finlayson and Byrne 1975). Squash (8 sites) appears first at Roebuck - ca. A.D. 1400.

To date, 7 sites, Copeland, Draper, Hamilton, Flanagan, Roebuck, Seed, and Sidey-Mackay have yielded all four cultigens. These sites represent the fully developed Late Ontario Iroquois Stage.

HICKEY, Cliff, University of Alberta.

*The Intercontinental Bering Strait Trading System: Archaeological Evidence for a Prehistoric Precursor (Session 12)*

Recent interest in the aboriginal trade network in northwestern North America and Northeastern Asia during the nineteenth century has generated

some differences of opinion (see, e.g., Burch n.d., 1975; Ray 1964, 1967, 1975; Smith 1969; VanStone 1962). While all writers agree on the scope and importance of the trading network, disagreement centres on the nature of the so-called Malemiut traders and what part the trading system played -- if any -- in the apparent territorial expansion of Eskimos speaking the dialect of the same name. This paper will not specifically address the "Malemiut Question," but will summarize the consensus viewpoint of characteristics of the trading system. It will then present archaeological evidence which can be interpreted as suggestive that a similar -- though undoubtedly simplified -- network may have arisen several centuries earlier. Thus, while the immediate genitor of the ethnographically known system may have been the establishment of the Anyui-Kolyma Trade Fair by the Russians in 1789, it will be suggested that Northwest Alaskan Eskimo society was structurally organized such that it could quickly translate the increased availability of exotic goods into a far-reaching and complex system of distribution. Implications for the parent Thule Culture are briefly discussed.

HODGES, Henry, Queen's University

*State of the Art* (Session 7)

HUNSTON, Jeffrey R., University of Calgary

*Archaeological Investigations in the Alaska/Yukon Boundary Area* (Session 6)

HUNSTON, Jeffrey R., University of Calgary

*1975 Thule Archaeology Conservation Project Investigations on Northern Baffin Island, N.W.T.* (Session 17)

A Thule Archaeology Conservation Project field crew spent six weeks during the summer of 1975 evaluating Thule period archaeological sites near the settlements of Pond Inlet and Arctic Bay on Northern Baffin Island. This paper presents a preliminary assessment of the Thule period archaeological sites visited during this work, in terms of past, present, and future disturbance, and the archaeological potential of the sites. Particular emphasis is placed on the impact of Inuit extraction of whalebone from these sites for use in their carving industry. Some recommendations for future work in the region are made.

JOHNSTON, Richard B., Trent University

*The Atherley Narrows Fishweirs near Orillia, Ontario* (Session 14)

For some years the remains of apparent fish weir structures have been reported in the Atherley Narrows between Lake Simcoe and Lake Couchiching and sometimes referred to as Champlain's Fishweir as he was the first,

in 1615, to record that here the Huron "...make great catches of fish ...by means of a number of weirs..." A systematic underwater survey of the Narrows has established the survival of numerous remains, and a series of radiocarbon dates from wooden weir stakes indicates that at least certain of the structures were in place during the Archaic period more than 4,000 years prior to Champlain's observations.

JONES, Olive, Parks Canada, Ottawa

*Essence of Peppermint: A History of the Medicine and its Bottle (Session 2)*

Glass bottles inscribed BY THE/KINGS PATENT/ESSENCE OF/PEPPERMINT have been found on many archaeological sites in North America, including military, fur trade, Indian and domestic sites. This paper briefly outlines the history of Essence of Peppermint, including the cultivation of the peppermint plant, essence of peppermint as an 18th century English patent medicine, the process of its distribution and a discussion of the distinctive bottle. Finally, based on archaeological and documentary evidence, the type of persons or organizations using the medicine will be discussed. The history of the medicine and its bottle illustrate how many factors contribute to the production and use of an individual group of artifacts. It also illustrates how important it is to distinguish between the history of the production of an artifact and the history of its use and deposition.

JORDAN, Richard H., Bryn Mawr College

*Inugsuk Revisited -- An Alternative View of Neo-Eskimo Chronology and Culture Change in Greenland (Session 17)*

Explanations of Neo-Eskimo culture change in Greenland have relied on either trait diffusion and multiple migrations from Arctic Canada or Norse contact. Site chronologies have been established by comparing complete culture trait inventories.

A revision of site chronology is presented on the basis of radiocarbon determinations and a reclassification and seriation of harpoon forms. One major result of this revision is a rejection of the traditional view that the Inugsuk phase was primarily influenced by Norse contact. Successive influence from Arctic Canada following initial colonization of the Thule District is also rejected.

External influence on the Inugsuk phase can be directly or indirectly attributed to Dorset influence. The source of this influence probably originates in northeastern Greenland via movement of small groups through Peary Land during the early fourteenth century.

JORDAN, Richard H., Bryn Mawr College

*The 400-Year Sequence of the Labrador Eskimo in Hamilton Inlet (Session 1)*

Excavations of Labrador Eskimo winter houses in the Narrows region, Hamilton Inlet, central Labrador have revealed a 350-400 year sequence of European contact. Employing historical data from Hamilton Inlet, Zimmerly (1975) hypothesizes that ecological adaptations were initially major behavioral determinants. These were replaced by political adaptations following World War II. Archeological data from the same area indicate that refinements of this hypothesis are necessary. The historical sequence, which extends beyond adequate documentation, has been divided into three periods which reflect Eskimo responses to the European presence. These are the Expansion and Predation Period (late 16th and 17th century), the Whaling Period (18th century) and the Trapping Period (19th century). While ecological adaptations remain important throughout the sequence, Eskimo economic adaptations to European activities play an important role in the transformation of Eskimo culture in Labrador.

KAPCHES, Mima, University of Toronto

*Alternate Edge Beveling: An Early Archaic Lithic Technique (Session 13)*

A number of early archaic projectile points from the Bennett site (AiGx-1) have recently been found in the collections from that site at the University of Toronto. These points will be described. The technique of resharpening points to produce the bevel will also be discussed.

KAPCHES, Mima, University of Toronto

*The Pound Village Site: 39 Years Later (Session 18)*

The Pound Village Site (AeHf-1) is a Middleport period Iroquoian site which was excavated by Dr. Philleo Nash, then of the University of Toronto, in 1938-39. There has been no analysis of the entire artifact collection, nor a presentation of a description of the site. This project has been undertaken and the results of the study to date will be reviewed.

KEENLYSIDE, David L., National Museum of Man

*An Archaeological Survey of Pelee Island, Southern Lake Erie, Ontario (Session 14)*

A week's survey of Pelee Island isolated a minimum of 12 prehistoric sites; collections were photographed from each locale. All sites were disturbed by cultivation and only 2 sites appear to have undisturbed cultural deposits, the most productive being the Schaeffer site. Cultural affiliations are seen with the McGraw site in Ohio and other 'Initial Woodland' manifestations from the Lake Erie western basin region.

KEMP, William B., and George Wenzel, McGill University

*A Speculative Interpretation of the Change from Thule to Modern Inuit*  
(Session 12)

Presently, the framework constructed by archaeologists for the evolution of Inuit Culture from Thule to modern times describes the earliest phase of this continuum as dependent on large marine mammals, specifically *Balaena mysticetus*. The utilization of whale remains in house construction and the presence of a range of harpoon types reinforce this view. The decline of large whales due to climatic and geological causes is seen as leading to a modified Thule adaptation based on a more diverse resource base. The arrival of Anglo-American whalers and traders in the 18th and 19th centuries aided the change toward the Inuit adaptation observed today.

This paper suggests that early Thule populations may not have been as strongly dependent on bowhead whales as has been supposed and that ethnographic patterns may reflect the adaptation practiced from early Thule times until socio-economic changes were imposed by Euro-Canadians. It is assumed that one method for evaluating an adaptation is through archaeological reconstruction. Another method is to suggest the theoretical requirements supporting a population and to develop possible harvesting strategies that would fulfill these needs. This paper will stress the second approach by developing a model for assessing population needs and offering hypothetical strategies to meet these needs.

KENNEDY, Clyde C., The Ottawa Valley Historical Society

*Characteristics of the Middle Woodland in the Ottawa River Drainage Basin*  
(Session 14)

Extensive surveys in the Ottawa River Drainage Basin have yielded Ottawa Middle Woodland ceramics that have characteristics similar in some features to those reported for Laurel in other regions and for Point Peninsula in New York State. Excavations have yielded information not obtained from surface collections and small test pits. The coil-manufactured vessels of the Ottawa Middle Woodland are generally small, with most not exceeding heights or diameters of nine inches; a few conical bases have been found. Most vessels are decorated over the entire exterior surface and have decoration on the upper part of the interior, below which is "channelling" apparently often made with one of the same tools used to make the decorations. The common "pseudo scallop shell" decoration appears to have been made with natural shell in at least some cases. Castellations occur on a few vessels bearing "pseudo scallop shell" and other Middle Woodland decorations. Radiocarbon dates from six sites in the basin range from 1,750 B.P. to 2035 B.P.; another site in the basin yielded a date of 2440 B.P. Apart from any possible Laurel and Point Peninsula influences on Ottawa Middle Woodland, origins should be sought through southern Quebec, where similar ceramics are found and into the Maritimes where relatively little archaeological research has been carried out.

KNIGHT, Dean, Wilfrid Laurier University

*Archaeological Consulting: The Survey as a Job or a Research Objective*  
(Session 10) (See Addendum for Abstract)

KROKER, Sid, The University of Manitoba

*Contemporary Pollen Dispersal and Archaeological Implications* (Session 21)

An important adjunct of any archaeological investigation is the determination of the environmental regimen in which the occupation occurred. Reconstruction of the vegetational context through palynological techniques requires the delineation of local, regional and extra-regional pollen. Studies of contemporary pollen rain fall can be utilized to construct models of air mass movements, which can aid in reducing the error factors introduced by long-range transport of pollen grains.

KROKER, Sid, The University of Manitoba

*Thule Architecture on Somerset Island* (Session 17)

Excavations at two Thule winter village sites on Somerset Island, N.W.T., during 1976, resulted in the retrieval of a large quantity of data concerning construction technology. Of the six structures excavated, five were dwellings and the sixth was a karigi (ceremonial house). Descriptions of individual houses illustrate variations and similarities within the generalized Thule format. Building techniques are demonstrated by scale-model photography.

Data obtained from analyzing structural components has been utilized to develop a methodology that enables the determination of the size of individual households. This methodology is seen as having pan-Thule applications.

LAGUNA, Frederica de, Bryn Mawr College

*Therkel Mathiassen, His Contemporaries and Successors: The Background and Immediate Consequences of the Publication of The Archaeology of the Central Eskimos, 1927* (Session 9)

This paper will sketch what was known or assumed about the origin of Eskimo culture at the time of the Fifth Thule Expedition, and the effects of Mathiassen's next five to ten years. His contributions should be assessed in the light of methods, problems, and assumptions current in the 1920's, and not as we might formulate these today. The value of Mathiassen's work lies not simply in the theories he proposed, but also in the counter-arguments he stimulated, in the work of those he trained, and in the meticulous details he published which permit us today to reinterpret his own data. The roles of his contemporaries, colleagues, and one-time assistants, Kaj Birket-Smith, Diamond Jenness, Henry B. Collins, Helge Larsen, and even myself, will be sketched, and illustrated with slides.

LATTA, Marti, University of Toronto

*Current Work at the Beeton Site, BaGw-1; A Prehistoric Lalonde Occupation in Simcoe County, Ontario (Session 18)*

The Beeton Site, located near the headwaters of three major drainage systems in southern Ontario, is ideally situated to participate in trade exchanges between the Lake Ontario region and the regions of the historic Huron and Petun near Georgian Bay. Ceramics from the site show resemblances to those of the Terminal Iroquoian sites in the Toronto region and in Huronia, but the lithic and bone assemblages seem closer to Petun and Neutral industries. This site may well be a key to the understanding of prehistoric population movements in southern Ontario.

LAWSON, Eric, Canadian Conservation Institute

*"In Between" The Care of Artifacts from the Seabed to the Conservation Laboratory and some of the Reasons why it is Necessary (Session 7)*

The lecture deals with the undersea archaeological environment and how differing situations within it effect artifacts. Organic and inorganic materials are included as well as suggestions on biocides, the packing and handling of different types of artifacts, labelling and suggested further reading on the subject. Samples of a new labelling material will be handed out and because of time limitations the full text will be available also in handout form. The lecture itself will be mainly slides accompanied by highlights from the written material.

LE BLANC, Ray, University of Toronto

*A Preliminary Statement on Recent Excavations of the Rat Indian Creek Site, Northern Yukon Territory (Session 6)*

During the summer of 1976 a two-year programme of intensive archaeological investigation of the Rat Indian Creek site (MjVg-1) was initiated by the Northern Yukon Research Programme. Excavation has disclosed the presence of at least five occupation levels of probable Athapaskan affiliation spanning the historic and late prehistoric periods. The artifactual remains are very similar to the Klo-Kut assemblage with the noteworthy exception of definite evidence of bifacial technology in the lowest of the prehistoric levels at Rat Indian.

The probable season of occupation of the site has been suggested by an earlier investigator as probably taking place during the spring, presumably for the purposes of interception of northward migrating caribou. A distinct possibility exists however, that summer fishing and hunting, and fall interception of the return migration of caribou may have also

been practised. Indeed, it is speculated that for limited periods of time a year-round occupation may have been ecologically (though perhaps not socially) feasible. This suggests that the traditional concept of a highly mobile people following an annual cycle of activities related to subsistence may oversimplify what was undoubtedly a very complex situation in the Porcupine basin.

LENNOX, Paul A., McMaster University

*Recent Investigations in Historic Neutralia* (Session 18)

Recent archaeological investigations in Southwestern Ontario have yielded new data and new problems regarding the Historic Neutral Indian. The ca. 1640 Walker site provides a basis of definition for the latter part of the Neutral Sequence, but contrasts remarkably from the ca. 1650 Hamilton site. The latter, primarily by ceramic attributes suggests a strong foreign influence or influx of peoples into Neutralia. The proposed paper is primarily concerned with the archaeological and ethno-historical identification of this influence.

MAGNE, Martin, The University of Manitoba

*Lithic Analysis of the Glacial Lake Agassiz Survey Collection* (Session 13)

Extensive survey of the Manitoba Escarpment and the western Glacial Lake Agassiz beaches in the late '1960's resulted in the documentation and artifact collection of mainly lithic materials from more than four hundred sites. An overall examination of the collection has revealed that in relation to the total number of materials collected, very few "type" artifacts are contained in the collection. A preliminary analysis of some of the materials has further shown that debitage analysis can reveal some useful patterns of site activity, and inter-site relations. Statistically, these interpretations rely on an increase in data sample through the utilization of tool remnants and non-utilized flake blanks as representative of the total technological system.

MARCHANT, Vicki, University of Toronto

*Squires Beach Survey Report: A Report on a Surface Survey Carried Out in an Archaic Indian Site along the North Shore of Lake Ontario* (Session 14)

The Squires Beach region is located approximately 30 miles east of Toronto, on the edge of the mouth of Dufferin's Creek, at the point where the creek widens out into a broad, marshy area before flowing into Lake Ontario. It does not constitute a single site, but represents a general area which was probably revisited by groups of people over a period of time. A total of 46 artifact locations were found in this survey, 17 of which were isolated finds. A considerable amount of lithic material from the collections of local residents was also studied, and the cultural assemblage has been identified as belonging to the Laurentian Archaic. The survey itself was carried out during the spring and summer of 1976.

MAXWELL, Moreau S., Michigan State University

*Southeastern Baffin Island: The Thule Period in Perspective* (Session 9)

Archaeological data, ethnohistory, and current interviewing indicate an unbroken occupation continuum of four millennia along 300 miles of Baffin Island's southeast coast. Diachronic settlement analyses indicate major conformity to optimal hunting conditions, but minor changes in settlement location and land use through time. Apparent shifts in hunting behaviours related to these settlement changes are suggested. The Thule period is examined in this perspective.

MAYHALL, John T., University of Toronto

*The Biological Relationship of Thule Culture and Inuit Populations: An Odontological Investigation* (Session 15)

An investigation of the hypotheses regarding the biological relationship of the Thule culture population as represented by burials from the west coast of Hudson Bay and the Iglulingmiut of northern Foxe Basin utilised the only directly comparable material, the dentition. A total of about 1,000 individuals were studied to ascertain the variation and expression of the morphology and size of the tooth crowns. The results from these comparisons support the hypothesis that the Thule culture people were the biological predecessors of the present Inuit.

McANDREWS, John H., Royal Ontario Museum

*Archaeobotany of Ontario: The Environmental Setting* (Session 21)

The late-Pleistocene and Holocene vegetation history of eastern Ontario is reconstructed with 10 dated pollen diagrams. Four time-transgressive zones are present, 1) spruce, 2) pine, 3) maple-hemlock-beech, and 4) ragweed. The deciduous forest region differentiated about 9,000 years ago. The vegetation of the boreal forest region stabilized about 5,000 years ago. A mid-Holocene hypsithermal is weakly represented. The ragweed zone resulting from European disturbance dates from the past 150 years.

Prehistoric corn pollen occurs in two lakes together with weed pollen, and this is followed by peaks in oak and pine that indicate succession on abandoned fields.

Wild rice occurred in Rice Lake near Peterborough for at least the past 4,000 years.

McCARTNEY, Allen P., University of Arkansas

*Bowhead Whale Utilization: A Review of Thule and Related Instances* (Session 15)

The use of bowhead whale products typifies a large proportion of the known human occupations of arctic coasts. This largest of arctic animals produced the widest variety of foods and raw materials over one of the widest ranges of northern animals. North Alaskan and Canadian Thule culture is largely congruent with bowhead whale utilization. This paper reviews varying bowhead whale utilization patterns with emphasis on Thule culture of the Canadian Arctic. Distribution of whales, archaeological and ethnographic evidence of whale procurement, and use and reuse patterns of whale parts are described.

McCARTNEY, Nancy G., University of Arkansas

*Effects of Thule Eskimos on Soils and Vegetation at Silumiut, N.W.T.*  
(Session 15)

The Thule winter house site on the island of Silumiut dates to approximately A.D. 1200. Effects of constructing and occupying such houses are noted in disturbed community types on three varieties of house pits. Thirteen undisturbed control communities surround the house clusters. Cover values for 105 vascular plant species in 58 stands were estimated. Selected horizons from 102 soil profiles were analyzed for chemical and physical characteristics. Analysis of quantitative data from both vegetation and soils make apparent, in both ordinations and polythetic agglomerations, the distinctiveness of the Poa-covered house pits with deep cultural layers as compared with soils and vegetation from undisturbed areas. Moisture gradients are also important. Such analysis highlights long-term disturbance caused by pre-contact northern hunting communities.

McGHEE, Robert, National Museum of Man

*Ivory for the Sea Woman* (Session 17)

Is the structuralist paradigm of any use in archaeological interpretation? An attempt to understand the differential use of ivory and antler by Thule craftsmen suggests a series of structural oppositions in Thule thought. This set of oppositions may have been similar to a set which can be derived from the myths and customs of the historic Inuit.

McGOVERN, Thomas H., Columbia University

*Thule-Norse Interaction in South West Greenland: A Speculative Model* (Session 9)

The nature of the first prolonged contact between North American hunters and European farmers in Greenland, and the influence of that contact upon the extinction of the Europeans, has long been the subject of

research and speculation by northern archaeologists. Available ethno-historical and archaeological data are summarized and previous theories of contact outlined. Recent research into Norse settlement and subsistence in Southwest Greenland is reported. A preliminary time-space framework for contact is presented along with a speculative model for Inuit-Norse socio-economic interaction. Suggestions are made for directions for future research in medieval culture contact in Greenland.

MERBS, Charles F., Arizona State University

*Thule Culture Burial Practices* (Session 15)

The excavation of 385 burials of Thule and post-Thule age by the Northwest Hudson Bay Thule Project (1967-70) allows us to construct a fairly complete picture of Thule culture burial practices in the central Arctic. The burials have been analyzed with regard to 27 categories of data including location relative to other burials, grave construction, age and sex of skeletons, position and orientation, and included artifacts. The orientation pattern is especially interesting since it relates directly to Eskimo beliefs regarding life after death. The Thule culture burial practices show considerable continuity with those of later Eskimos in the area, but contrast markedly with those of the Sadlermiut of Southampton Island.

MINNI, Sheila, Parks Canada, Winnipeg

*Research Strategy for the Investigation of the Economic Phases of an Early 20th Century Gold Mining District* (Session 2)

The 1896 discovery of gold in the Klondike River valley of the Yukon Territory precipitated a period of growth and development on a scale never before known in the north. The communities associated with the Klondike gold fields appeared within a few months of the initial gold discovery and over a period of a few years exhibited a full cycle of birth, growth, stabilization and decline which was directly related to the search for gold. The history of the settlement areas was best typified by waves of gold seekers and entrepreneurs which reflected the history of gold mining, the productivity of gold and the environmental barriers which prohibited easy access to the gold fields.

The pattern of social, commercial and industrial development and decline in the Klondike was directly related to economic phases which were structured by the availability, accessibility and amount of gold. These phases, which can be historically dated, should be reflected in the material culture and structural remains of the settlement areas. The research strategy is designed to identify these economic phases through the archaeological remains. Implicit within this concern, is the understanding of the economic, social, and political elements which characterize and structure each phase and period of transition.

MORLAN, Richard E., National Museum of Man

*Fluted Point Makers and the Extinction of the Arctic-Steppe in Eastern Beringia* (Session 6)

Data and inferences concerning the Late Pleistocene extinction of the Arctic-Steppe biome in eastern Beringia are summarized, and their implications for early man in the New World are examined. A possible link is noted between these extinction phenomena and the sudden widespread appearance of fluted points in interior North America. Various aspects of this problem, including the ecology of the Mackenzie Corridor, the various possible causes of extinction, and the question of archaeological visibility, are discussed with respect to the current need for more and better information on many aspects of Paleoindian research.

MORRISON, David, University of Toronto

*Chipewyan Communal Hunting Patterns in the Barren-Grounds: An Archaeological Perspective* (Session 6)

During July and August 1976 the author and Mr. Frank Metcalf engaged in an archaeological canoe-survey of the Upper Thelon drainage, eastern District of Mackenzie, N.W.T. This project was under the budget and authority of Dr. Bryan Gordon of the Archaeological Survey of Canada. A total of 127 archaeological sites were discovered and tested in this north of tree-line area. Almost all were surface sites, and almost all were found to relate to the newly-defined Taltheilei tradition (prehistoric Chipewyan). The importance of caribou hunting in the summer Barren-Grounds is stressed, and the relationship between site placement and caribou crossing-areas is defined and demonstrated. A number of different hunting strategies involving the use of shooting blinds and "drift fences" (cairn rows used to direct the movement of caribou) are discussed. Finally, an attempt is made to place sites, especially drift fence sites, within the framework of a Chipewyan seasonal cycle.

NAGLE, Christopher, Brandeis University

*Indian Occupations of the Intermediate Period on the Central Labrador Coast: Smithsonian Institution Surveys, 1973-1976* (Session 1)

Evidence for Indian occupations during the Intermediate Period (ca. 3500-1700 B.P.) on the Central Labrador coast is summarized. The central coastal sequence is compared with that developed farther south in Labrador, in Hamilton Inlet, and found to be similar, but of shorter duration, primarily because of the more intensive occupation of the Central coast by Dorset Eskimo groups beginning around 2900 B.P. There is no evidence of continuity between earlier Maritime Archaic populations in the region with these later Indian groups. Rather, intermediate Indian populations appear suddenly around 3500 B.P., originating apparently further south and west in Quebec.

NANCE, Jack D., Simon Fraser University

*Curation: Take it or Leave it? (Session 3)*

From observation made among the Nunamiut Eskimo Lewis Binford proposed the existence of "curated" and "improvised" components in artifact assemblages. Curated items are defined essentially by the fact that they are reused, maintained and transported from locus to locus, while improvised items are those of short lifespan which are therefore usually deposited at the locus of manufacture and/or use. Use of a hypothetico-deductive strategy permits formulation of expected artifact distribution among late Archaic archaeological sites located along the lower Cumberland River in the Southeastern U.S.A. "Goodness of Fit" tests between hypothetically predicted and empirically-observed frequencies of various artifact "types" confirms the probable presence of curation as an important factor influencing artifact assemblage structure. Further multivariate analyses, however, indicate that the curation and improvisation factors are probably not independent sources of assemblage variability. Some implications of these findings for behavioral interpretations of assemblage content are considered.

NEWTON, Berry M., and James A. Mountain, Ministry of Culture and Recreation, Thunder Bay

Beginning in early summer 1976, the Historical Planning and Research Branch, Ontario Ministry of Culture and Recreation, initiated a project which focused upon identifying and locating historically significant fur trade communities within the extensive Albany River trading system for the purposes of historical resource conservation. The project's fieldwork phase was designed to survey a corridor of the river in which were located three Hudson's Bay Company posts whose operations spanned nearly one hundred and eighty years. During that time span, the H.B.C. was involved in trade opposition with French traders out of New France (pre-1759), and after the British take-over, with "pedlars" from Montreal. Next the North West Company was a rival concern until 1821, following which independent traders, and the Revillon Freres Company conducted trade in the Albany River system until the early twentieth century. The sites of Henley House, Gloucester House, and Martin Falls House represent trade operations characteristic of the above fur trade "theme segments". The extremely rich source material of the H.B.C. Archives provided considerable data relative to the man-made and natural environments associated with these post sites.

While the approximate location of Gloucester House and Martin Falls House was historically documented, the exact location has now been determined as a result of the survey, identification being verified by the analysis of artifacts recovered from the posts and the companion of these artifacts to material recovered from other sites of the same period. Certain aspects of site location, settlement patterning and material culture will be considered in this paper and related to the historical aspect of the survey as a whole.

*Title: Gloucester House: An H.B.C. Inland Post 1777-1818 (Session 5)*

NICHOLS, Harvey, Institute of Arctic and Alpine Research

*A Climatic Perspective for the Thule Culture (Session 15)*

The chronology and spread of the Thule culture can usefully be set in a paleo-environmental context provided by palynological studies in low arctic and subarctic North America. These data have been combined into one interim paleoclimatic scheme which has been applied to all of northern Canada west of Hudson Bay. Recent palynological work on Baffin Island and Labrador indicates an environmental history broadly parallel to that west of Hudson Bay. The identification of wind-blown tree pollen from the Labrador forests has led to recognition of former summer wind patterns in the eastern Arctic, and further refinement of this technique promises more detailed climatic history for the Canadian arctic islands.

NICOL, Heather, University of Toronto

*Significance of Faunal Findings at Ste. Marie I (1639-1649) (Session 8)*

Preliminary investigations of faunal material at the Jesuit Mission site of Ste. Marie I, as excavated by Kidd in 1941-42, show that there is a greater percentage of domestic species present in the sample than is recorded from other contemporary French fortifications in the Great Lakes area during the 17th century. This comparison is based, for example, on Cleland's study of French and British occupations at Fort Michilimackinac. It is suggested at Ste. Marie I, that although a characteristic pattern of wide exploitation of wild species is maintained, the main stay of the subsistence economy depended upon imported domesticates. Perhaps this can be related to the goals of the Jesuit Mission itself, which was to educate not only in spiritual matters, but in material matters as well. The presence of famine in the area, documented in the 1940's, would also be instigation for such a subsistence pattern.

As a by-product of this study, it is seen that there is forthcoming more information relating to the size and distribution of native Huronia species, e.g., the Giant Canada Goose race (*Branta canadensis maximus*), and perhaps an extended range of caribou in the 17th century.

All of the material analyzed comes from the European compound area, and it is hoped that further investigation and comparisons between this material and the sample from the non-European sector of the site can be made.

PAVLISH, L., M. Latyszewskyj, and R. Beukens, University of Toronto

*The Development and Application of a Thermoluminescence Dating System to Canadian Archaeology* (Session 20)

Participants in a joint Physics and Archaeology course offered at the University of Toronto designed and developed an operational Thermoluminescence Dating (TLD) System utilizing the inclusion grain method.

Material preparation is found to be an extremely important factor in successfully dating pottery, especially that of relatively recent age.

An X-ray machine is used for irradiating the quartz grains and Harshaw TL equipment for heating the material and recording the glow curves. Lithium Fluoride crystals are placed in archaeological site soil in a low background chamber to measure the environmental dose. A computer program calculates the environmental dose received by the pottery itself. Pottery from several archaeological sites in Ontario was processed through the TLD system and dates obtained.

The work reviewed in this paper is in partial fulfillment of requirements for a joint Physics and Archaeology course (JPA 400) offered at the University of Toronto and supervised by Professors R.B. Drewitt, Department of Anthropology; R.M. Farquhar, Department of Physics; A.E. Litherland, Department of Physics. Dr. R. Beukens of the Physics Department, University of Toronto, wrote the computer program.

PIHL, Deborah, University of Toronto (Session 8)

Faunal analysis of a contact Neutral Village in Wentworth County, Ontario, reveals important subsistence information. As expected, deer played an important role in subsistence. The large sample size allows inferences to be made about butchering practices. Dog and racoon are also well represented. The presence of racoon at the site is especially noteworthy because of the unprecedented large quantities in which it occurs; the implications of this are discussed.

PIHL, Robert H., University of Toronto

*An Analysis of the Ault Park Site (BgFr-1) Ceramics* (Session 18)

Ceramic materials from the Ault Park site, excavated between 1956-1958 by Dr. J. Norman Emerson, University of Toronto, are systematically analyzed. Because of the multi-component, mixed nature of the deposits, a computer-assisted, detailed attribute analysis was employed; the procedures are discussed. Results indicate that individual decorative variation is very high, that traditional means of ceramic description should be greatly revised, and that computer-assisted ceramic analysis is a highly desirable and objective method to pursue. The Point Peninsula, Pickering, and St. Lawrence Iroquois occupations are delineated.

PLUMET, Patrick, l'Université du Québec à Montréal

*Dorsetien et Thuléen Dans L'Ungava (Session 9)*

Les fouilles effectuées au nord-ouest de l'Ungava ont fait apparaître la possibilité d'une coexistence de groupes dorsétiens et de groupes thuléens dans la région sans qu'il y ait eu pour autant de mélange entre les populations. Le Dorsétien se serait prolongé jusqu'à la fin de XVe siècle dans la baie du Diana et l'arrivée du Thuléen n'est pas encore datée précisément mais pourrait remonter au XIIIe siècle. Les sites d'hiver dorsétiens et thuléens sont généralement bien séparés dans l'Ungava occidental contrairement à ce que l'on observe dans l'Ungava oriental et au Labrador.

POLLOCK, John, Archaeological Survey of Alberta

*Archaeology of the Clearwater River Area, Northeastern Alberta (Session 6)*

Drawing upon archaeological materials gathered during fieldwork involving basic survey and test excavations on three archaeological sites, along with supporting data from ethnohistorical sources and the work of other area researchers, an attempt is made to delineate a preliminary cultural-chronological sequence. A set of basic research problems and interpretations are presented for northeastern Alberta which clearly requires further research.

PUTT, Neal D., Parks Canada, Winnipeg

*Analysis of Historical Settlement Patterns at Batoche, Saskatchewan (Session 2)*

The village of Batoche is the focus of an archaeological and historical study being carried out by Parks Canada. Batoche was a Metis community located on the shores of the South Saskatchewan River, north of Saskatoon. The community grew and flourished during a short period in the 1870's and 1880's, following which the population and prosperity of the community declined. The objectives of this paper are to explain why the settlement of Batoche was located where it was and to explicate and explain settlement pattern changes which occurred at Batoche from its establishment until the early 20th century. The role of changing transportation systems as a cause of settlement pattern change is discussed. Relevant archaeological and historical geographical data are considered in reference to explanatory hypotheses.

RAMSDEN, Peter G., McMaster University

*A Profile of Canadian Archaeology (Session 19)*

REEVES, Brian O.K., University of Calgary

*Cartifacts or Artifacts?: Pleistocene Man and Geological Process in Mission Valley (Session 19)*

Preliminary field investigations of the few remaining and fast disappearing Late Pleistocene geological sections along Mission Valley, indicate that Texas type materials -- quartzite artifacts (?) and fire-cracked rock are characteristic of fan deposits, slopes and mesa tops throughout the valley. Materials which occur deeply buried in the fans and obviously of considerable antiquity, are in large measure secondary occurrences and represent incorporation through downslope movement and colluvial deposition off the mesa tops, (such processes still continue today). While artifacts do occur in the fan terraces, in association with buried soils/surfaces overlying the river silt/sands of interglacial age, primary contexts and the time relationships cannot be demonstrated until excavations in the fan terraces and other surfaces are undertaken.

Opportunities for such excavations are severely limited today and rapidly being destroyed as terraces are borrow pitted and structures erected.

REEVES, Brian O.K., University of Calgary

*Head Smashed In: 5500 years of Bison Driving in the Northwestern Plains (Session 19)*

Head Smashed In is located on the edge of the Porcupine Hills in Southwestern Alberta. Lying 12 miles west of Fort MacLeod and 2 miles north of the Oldman River in the prime winter rangelands, the site complex consists of a kill associated campsite and gathering basin. The kill situated on a slump block below a 60' cliff is some 800' long, 200' wide and up to 35' deep. On a prairie bench below lies the campsite covering a quarter section. The gathering basic situated 2 miles west of the jump, consists of network of valleys leading into a central basin. A series of drive lanes marked by stone cairns were employed to gather and drive bison from the valleys over distances of up to 10 miles.

Excavations in the kill in 1965, 1966, and 1972 indicated a long and complex use record extending back some 5700 years to when a slump occurred along the cliff forming a fresh platform. Since then native peoples used the site between the fall and spring, beginning with the Mummy Cave Complex (3700-2100 B.C.) and terminating with the Piegans in the mid-1800's. The record except for McKean is essentially complete. It indicates that the complex "Classic" buffalo jump is a basic feature of the plains adaptive pattern for at least 5700 years, the use of which required both large numbers of people and sophisticated social-political mechanisms, cultural features usually attributed to post horse times.

RICK, Anne M., National Museum of Natural Sciences

*"A Bird in the Hand..." Avian Resource Use at the 17th-century Walker site (Session 8)*

Excavations at the Walker Site, a Neutral Village near Brantford dating to approximately 1640 A.D., yielded over 1000 bird bones representing at least 27 species. Although aquatic species were found at the site, terrestrial forms such as the Wild Turkey and Passenger Pigeon were most important to the site occupants. Bird utilization by the Ontario Iroquois is discussed using data from the Walker site, other faunal analyses and ethnographic sources.

ROBERTS, Arthur, York University

*Locational Consistencies Among Aceramic Sites in Burlington (Session 14)*

Statistical analysis of 157 known archaeological sites with precisely defined locations reveals that measures of 1) soil drainage, 2) distance to nearest water source, and 3) drainage order of nearest water source can be used to distinguish these sites from randomly selected locations in the same area. The archaeological sites are well drained and within an average of 63 meters of a small stream (or spring head). Multi-component sites are better drained and within an average of 50 meters of a small stream. It is inferred that multicomponent sites reflect more idealized and typical site characteristics as evidenced by the recurrent use. An examination of site characteristics and artifacts suggest deer hunting as a main activity in the area. Paleo Indian and Woodland sites are notably different from Archaic sites; distributions can be partially explained by inferred adaptation differences.

ROSS, W. Gillies, Bishop's University

*Commercial Whaling and Inuit in the Eastern Canadian Arctic (Session 15)*

The commercial bowhead whaling activities of European and American vessels in the Eastern Canadian Arctic began in 1820 and soon came to dominate the economic life of the Inuit in regions of whale abundance. Through face-to-face contact, trade, and employment, whaling exerted a considerable influence upon native numbers, geographical distribution, diet, health, economic activities, annual hunting cycle, material culture, and social organization and values, until the cessation of whaling voyages about 1920. While the manuscript records of whaling voyages have proved to be a viable data source for a reconstruction of the distribution and nature of these far-reaching changes in Inuit life, they do not reveal directly any of the pre-contact characteristics of Inuit occupation. Yet, in so far as they promote an understanding of the location, duration, and intensity of processes of change during the whaling period, they may lead to inferences about conditions which prevailed before. As an example of the sort of information that is being retrieved from

whaling documents, this paper outlines the distribution and chronology of kills of bowhead whales and other animals by foreign whaling vessels from 1820 to 1920.

ROSS, William, Ministry of Culture and Recreation

*The Petun: A micromigration Pattern Within the Late Ontario Iroquois*  
(Session 18)

The evidence presented in this paper would appear to suggest an origin for the northern historic Ontario Iroquois as follows:

The Bear and Cord tribes of historic Huronia partially have their ancestry with Ridley's Lalonde complex (Wright's northern division) and arose principally in the areas they occupied in historic times with a gradual withdrawal north through time. The Rock tribe has partially derived its origin from a migration up the Trent River System explaining the large number of prehistoric sites in Victoria County and perhaps the Sopher Site's failure to relate to any site in this sample at a level of analysis deemed to be significant. This migration may also include other sites known to exist east of Lake Simcoe but south of the Trent River System.

There were a minimum of two and perhaps three migrations north from the Toronto area at different periods of time. The latest appears to have been part of the group known historically as the Petun. No ancestry has been found for the Graham-Rogers site which is the only known component of this migration.

ROSS, William, Ministry of Culture and Recreation

*An Unstratified, multi-component fishing site on the Nottawasaga River* (Session 14)

This site was located and sampled by the author during a survey conducted for the Ministry of Natural Resources in the summer of 1974. The time range of the site appears to be from Archaic to Historic. Of special interest are the rim sherds of the Middle Ontario Iroquois period. These would seem to relate most closely with what has been recently defined as the "Nottawasaga Focus" by Conway and O'Brien and extends the areal extent of this focus southward but still relates it to a particular riverine system.

ROSS, William, Ministry of Culture and Recreation

*An Unusual Multiple Primary Burial from BdGm-1* (Session 19)

This paper deals with a multiple primary interment uncovered by Mr. Robert Gordon, on the Quackenbush site (BdGm-1) during his

excavations there in 1972. The burial was uncovered during the excavation of a longhouse. It consists of twelve bodies; 4 males, 4 females and 4 children, who would appear to have been literally thrown into a pit dug in the floor of the house. Some speculative hypothesis are given but more questions than answers will be presented to the audience.

ROUSSELIERE, Guy Mary, O.M.I., Catholic Mission, Pond Inlet

*Remarks on the Thule Culture in North Baffinland (Session 17)*

Contrary to Mathiassen's statement, the Thule culture of North Baffin is as old as that of Jaujan. At the Nunguvik site, which has been inhabited during most of the Thule period, unmixed early Thule remains have been found. A few regional characteristics - mostly of the Thule houses and graves - will be described and the survival of Thule traits in the modern Tununirmiut culture will be discussed.

RUPP, David W., Brock University

*The Jordan Pottery Site: A Preliminary Report (Session 5)*

In 1976 excavation was begun on a red earthenware pottery kiln and workshop located on the Niagara Escarpment above Jordan, Ontario (Lincoln County). The pottery, which is tentatively dated to the second quarter of the nineteenth century, is a heretofore undocumented example of the incipient phase of one of Ontario's rural craft industries.

The site contains a multitude of facets for archaeological investigation and research on early nineteenth century Ontario culture. These include the following. The study and analysis of the red earthenware pottery from the site will allow the further delineation of this tradition in Lincoln County and its relationship to other red earthenware traditions in Southwestern Ontario and western New York state. The relatively undisturbed nature of the site, the presence of at least two waster dumps, and the large quantity of sherds and restorable vessels from the kiln area will provide an excellent opportunity for deducing technical and behavioural patterns related to the early potting industry. And finally, the well preserved foundations and lower walls of the kiln's superstructure will offer new information on kiln design and sources of architectural inspiration for it. The paper will offer an overview of the excavation and the tentative findings of the study and analysis of the archaeological material.

SABO, George III, Michigan State University

*Thule Culture Development Along the Davis Strait Coast, Baffin Island*  
(Session 9)

Recent archaeological investigations have identified a Thule culture occupation, dating from around 1600 A.D., along the Davis Strait coast of Baffin Island, N.W.T. This paper examines archaeological and environmental data in order to reconstruct the Thule cultural system in this region. Pertinent ethnographic data are used to provide models for the description of this cultural system in terms of the interaction between specific animal resources within their respective habitats, the technology and organization of Thule resource procurement systems, and seasonal patterns of settlement and land use. Features of cultural adaptation which characterize the Thule occupation of this region, insofar as the constraints of the physical environment are concerned, are identified through this approach.

SAMSON, Gilles, Laval University

*Archaeological Surveys (1973-74) at Indian House Lake, Nouveau-Quebec* (Session 1)

Results show that two prehistoric lithic complexes are present. Such a conclusion is reached using seriation on the basis of raw materials and elevation. External relationships of the lithic complexes are with the coast of Labrador and the Gulf of St. Lawrence and not with the western interior as represented by Mistassini. Cultural affiliations are with Sandy Cove and Rattlers Bight complexes of the Maritime Archaic tradition. Later prehistoric Indian groups are also suspected. So far, prehistoric and historic Eskimo occupation is absent except for one or two possible sites. However, late historic Indian occupation (1839-1945) is widespread throughout the region. Cultural continuity of occupation of the region is now suspected.

SAVAGE, Howard, Royal Ontario Museum

*Giant Canada Geese in 17th Century Archaeological Sites in Huronia* (Session 8)

Canada Geese bones in 17th century archaeological sites in Huronia average larger than those of present day Canada geese (*Branta canadensis interior*) which migrate across this area. The excavated Canada goose bones are much more comparable in size to those of the Giant Canada Goose (*B. c. maximus*), believed extinct until relict populations were recognized in 1965 in Minnesota. The significantly larger size of the 17th century Canada geese is believed due to the presence of the giant race, rather than due to a greater size of the present day *B.c. interior* of this area. Since the Giant Canada Goose is a largely sedentary race which would have nested in Huronia, its presence in this area from spring until fall, made it available for the villager' subsistence during these seasons. The use of Canada goose bones as indicating spring and/or fall site occupations must be broadened to include possible summer occupations also.

SCHLEDERMANN, Peter, Arctic Institute of North America

*Dorset and Thule Culture Contact in Greenland* (Session 9)

The longevity of the Dorset culture has been demonstrated in several areas of the Canadian Arctic and sub-Arctic. Culture contacts between the resident Dorset peoples and the Thule culture immigrants could have taken place over a period of several centuries. It has often been assumed that the Dorset people had vanished in Greenland prior to the arrival of the Norsemen and the Thule culture Inuits. Material from sagas, legends and ethnoarchaeological studies is presented as evidence of Dorset-Thule contact in Greenland.

SHAY, T., and P. Badertscher, University of Manitoba

*The Prehistoric Use of Plants in Eastern North America* (Session 21)

By historic times, aboriginal groups in Eastern North America were using a wide variety of native plants for food, fuel, medicines and other purposes. In some cases the part used or the number of processing steps needed implies that their properties had been known for some time. But for how long? To answer this question, we must turn to the evidence of plant remains recovered from archaeological deposits, keeping in mind that both cultural and natural factors contribute to the observed variety and abundance. Samples from a series of eastern sites dating from Archaic to Late Woodland times are compared using several indices of diversity that measure both variety and relative abundance. Our results suggest that the overall diversity of plant use increased over time.

SHAY, T., University of Manitoba, and Paddy C.S. Reid, Historical Planning

*The Spatial Analysis of Occupation Debris* (Session 13)

The distribution of lithic detritus on prehistoric camp sites can be a useful measure of the patterning of stone tool production. The value of this measure can be limited by several complicating factors. In order to determine its usefulness we must study how lithic distributions are produced and modified by both cultural and natural agencies. This presentation concerns:

1. The dispersal of detritus produced by different stages of tool production.
2. The modification of such patterns by human trampling.
3. Their further disturbance by such natural processes as frost action and animal burrowing.
4. The resultant patterns observed at an archaeological site. In this case, data from the Fisk site in northwestern Ontario is used.

Several statistical tests of spatial dispersion show, for example, that human trampling in some instances does not significantly alter the dispersion of lithic detritus.

SIMONSEN, Bjorn and Kitty Birnick, A.S.A.B., British Columbia

*The Little Qualicum River Site, an Attempt at Conservation Archaeology*  
(Session 16)

The paper outlines two attempts which have been made to stabilize shoreline erosion at the mouth of the Little Qualicum River, located on the east coast of Vancouver Island, B.C. The purpose for this was to conserve an important archaeological site which contains extensive deposits of perishable prehistoric artifacts.

The paper also reports the preliminary results of analysis of archaeological remains salvaged from the site during the last two years.

SNOW, Elizabeth, Parks Canada

*The Archaeology of the Officer's Dwelling House, Fort St. James, British Columbia* (Session 2)

Excavations conducted by Parks Canada in 1976 around the officer's dwelling house at Fort St. James, British Columbia, were designed to provide architectural information on parts of the structure that have been modified, rebuilt or removed since the house was built in the 1880s. Because the period is so recent, the documentary evidence for these changes is excellent. Especially in the kitchen area where the stratigraphy, while complex, is clear, excavation units can be correlated with dated features and events with a fair degree of precision. Hypotheses developed to account for aspects of cultural behaviour which may be recognized by various patterns of refuse deposition will be tested in a situation where the temporal and environmental parameters are clear.

SPROULL, Jane, Carleton University

*Recent Studies in Thule Art: Metaphysical and Practical Aspects* (Session 17)

It has long been assumed that Thule culture art bore little magical or ritual significance, being principally decorative or play-oriented. Evaluations have been made principally upon comparison with the art of previous Eskimo cultures of Alaska. Studies of Thule (and modern) mythology reveal a different philosophical base, however, and recent work with National Museum collections reinforces Swinton's "female and life oriented" theory (1972: 118) but suggests as well some aspects of magical significance. Further, there seems to be a tendency to favour certain materials over others for the manufacture of specific art pieces. The possibility of stylistic areal trends is also suggested.

SPURLING, Brian E., Simon Fraser University

*The Detection of Inter-Assemblage Variability in the Absence of Temporal Control* (Session 3)

After three years of heritage resource inventory in the Peace River Valley and environs of British Columbia, relatively little is known of the culture history of the area. Of the approximately 400 prehistoric sites thus far surveyed only three have been sampled and such testing has been of a limited nature. No viable *fossil directeurs* have been recovered from these three excavations. In the absence of chronological control it would appear that, operating under a traditional archaeological paradigm, little can be advanced which is of relevance to explaining the prehistory of the region. In this paper I will demonstrate that this need not be the case. Working with surface collections from four sites and utilizing spatial analytical techniques found successful in revealing known artifactual associations at two historically occupied Australian aboriginal sites, I will show that the discovered inter-assemblage variability produces valuable information on prehistoric economies in the absence of temporal control.

STAAB, Margie L., Museum of Anthropology, Ann Arbor

*An Analysis of Faunal Remains from the Silumiut Site* (Session 15)

Analysis of the 45,763 faunal specimens collected from the middens and whale bone houses of the Thule occupation on the Island of Silumiut provided data on species and game age preferences, butchering techniques, and actual meat, by weight, available for consumption. Additional information was elicited concerning such problems as the season of site occupation, the domestication of dogs, and the determination of the primary use of certain species as sources of raw material for tools and clothing.

STEINBRING, Jack, University of Winnipeg

*Recent Investigations on the Fort Alexander Indian Reserve* (Session 5)

The initiation of archaeological studies on the Fort Alexander Reserve in 1976 constitutes the first extensive effort in the vicinity of the mouth of the Winnipeg River. The strategic significance of the area is reflected in the fact that preliminary field and archival research has demonstrated the presence of two French forts, three Hudson Bay Company posts, an "X-Y" post, a Northwest Company post, and the largest provisions depot west of Lake Superior. In addition, there are a number of fishing stations, intensive farming operations, and boat storage and repair areas. The largest of these various sites lie directly upon prehistoric occupations which are apparently continuous from Archaic times at about 3,000 B.C.

Work was commenced in August 1976 in response to a request by the Fort Alexander Band. Prominent among the band's concerns was the loss of human burials through river bank erosion at a non-Christian cemetery dating to the late 18th Century. Several burials were salvaged by the band, and two were later excavated under controlled conditions.

An inventory of 4,935 artifacts (including beads) was surface-collected during the 1976 work. This material fully supports the archival findings, and in some cases suggests additional leads: as in the occurrence of Late 17th Century beads which point to pre-LaVerendrye excursions not demonstrated in the literature. At present, LaVerendrye appears to have established a small military fort in 1734 which was intermittently occupied until 1747 when the Indians burned it down. This fort was rebuilt, probably in a new location, in 1748 and was occupied through at least 1750. This fort is usually called Fort Maurepas, but the view here is that it was not originally named at all and did not come to receive the designation until some time after 1737 when Fort Maurepas on the Red River was abandoned. The Winnipeg River, however, was originally named Riviere Maurepas by LaVerendrye.

Itinerant traders operated in the general area until 1792 when the Northwest Company established Fort au bas de la Riviere. With it was established the great Athabasca Brigades depot. Both continued until 1822 when the Hudson Bay Company took them over upon amalgamation. The H.B.C. post operated until the early 1900's. In 1795, the first of three H.B.C. posts was built some distance upriver from the Northwester's fort. In 1800 it moved downriver to a location very near that of its very successful rival. At the same time, a fort of the "X-Y" Company was set up across the river from it only to be abandoned within a year. This location was subsequently used as a boat storage and repair area by the Northwest Company. Later (1822-23) the same area became the site of a large Metis community.

Detailed studies of beads, buttons, pipes and cemetery materials offer the best opportunities for mature conclusions at the present time. Along with the distribution of aboriginal ceramics, these point to a displacement of the Cree by Ojibwa during the French Regime. The contention by MacNeish that the Cree made Selkirk Ware, as based upon five days of excavation at Alexander's Fort in 1951, is completely sustained. His assertion that the site was near, and connected in some way to, Fort Maurepas is not.

STEWART, Frances L.

*Changing Menus at the Potlatch Site (FcSi-2) (Session 8)*

Analysis of the vertebrate remains from the Potlatch Site (FcSi-2) in south central British Columbia revealed much about the subsistence pattern of the Chilcotin Indians through time. Over eighty per cent of the 10,551 remains were mammalian; over ten per cent were fish and three per cent were avian. The occurrence of fish bones was more frequent in the features of later dates and suckers and trouts were the species most commonly represented. Bird bones increased both in numbers and in

the variety of species with time. Grebes and teals were most often recognized. Within the mammalian class, the snowshoe hare remains declined in number whereas the muskrat and caribou specimens increased with time. The methods of butchering the carcasses showed temporal variations as well.

STREET, Charles, University of Toronto

*Distinguishing Passenger Pigeons from Introduced Domestic Pigeons: Some Metric Possibilities (Session 11)*

The specific identification of columbids from later historic sites may require quantitative analysis. This paper reports metric standards for long bone lengths derived from samples of indigenous Passenger Pigeon (*Ectopistes migratorius*) and introduced Domestic Pigeon (*Columba livia*). A minimal size overlap was found for some elements, between the two species.

SUTHERLAND, Pat, University of Alberta

*Cultural Development on the Northern Northwest Coast: An Assessment of Models (Session 16)*

Over the last decade, archaeological research on the Northern Northwest Coast has markedly increased. As a consequence of this research and work undertaken in other areas of the Northwest Coast, a number of models have been proposed for cultural development in the region spanning the last 10,000 years.

These models will be briefly examined in the light of archaeological, physical anthropological, and linguistic data presently available for study. An alternate model will also be proposed with particular application for the prehistory of the Queen Charlotte Islands.

SWINTON, George, Carleton University

*A Visual Presentation and Juxtaposition of (Arti)facts concerning the Iconographic Study of Dorset and Thule Culture Art (Session 17)*

A preliminary checklist of assumptions and questions concerning the comparisons and interpretations of form and content in prehistoric art from the Canadian central Arctic.

The Leitmotifs of this paper are:

"Ignorance ain't what you don't know but what you think you know that ain't so..."

"Reality is merely the data of your consciousness..."

"...what could have been is an abstraction...like a door that was never opened...leading to a rosegarden..."

TAMPLIN, Morgan, Trent University

*Site Catchment Quantification and Food - Procurement Strategies:  
Results of a Test (Session 11)*

A comparative analysis of bioarchaeological and land-inventory data are reviewed. Relative resource frequencies surrounding two sites were predicted from the frequencies of faunal remains recovered from both localities.

The predicted values were compared to actual values of selected resources in catchment areas surrounding the sites, as calculated from Canada Land Inventory Maps. Statistical tests confirm that there are highly significant differences between resources surrounding the two sites. The fact that these differences are reflected in the archaeological record has important implications for understanding hunter-gatherer (and other) food procurement strategies from archaeological data.

TAMPLIN, Morgan, Trent University

*SPSS For the Archaeologist (Session 3)*

The Statistical Package for the Social Sciences (SPSS) is a well-established, thoroughly-documented and integrated group of programmes used by many research workers in many disciplines to organize and analyze their data. Archaeologists have been among this growing group of users, but our experience indicates some problems may develop if they do not fully understand the system.

As the programmes were originally designed for contemporary social research, some adjustments must be made when applying it to archaeological material. This has resulted in a rethinking of the nature of our data, in terms of the nature of cases and variables, and how statistical populations are distributed in archaeological context. We have transferred what has been learned to teaching situations, where SPSS has been found to have powerful heuristic values.

TAYLOR, J.G., National Museum of Man

*The Thule Tradition in Historic Labrador Inuit Culture (Session 12)*

This paper examines the evidence of early archival sources for the persistence of Thule culture traits in historic Labrador Inuit culture. The nature and abundance of such traits suggest that the Labrador Inuit of the early contact period were particularly good representatives of a late Thule tradition, showing fewer changes than most of the Canadian Inuit cultures which have been described ethnographically. It would appear from this that the culture of the historic Labrador Inuit can provide the Arctic prehistorian with an unusually good base from which archaeologically "invisible" aspects of Thule culture can be inferred by ethnographic analogy.

UTERMOHLE, Charles J. and Charles F. Merbs, Arizona State University

*Population Affinities of Thule Culture Eskimos in Northwest Hudson Bay*  
(Session 15)

The large skeletal series recovered by the Northwest Hudson Bay Thule Project (1967-70) provides an excellent opportunity to begin establishing the population affinities of Thule Culture Eskimos in the Central Arctic. This series, representing approximately 400 individuals, comes from eight sites. Two of the sites, Kamarvik (LeHv-1) and Silumiut (KkJg-1), account for more than 80 percent of the total. Employing a large complement of craniometric measurements, variation between sites and time periods can be evaluated. Analysis of burial clusters was conducted in a search for possible biological-time correlates. Population affinities of this Thule culture series to Birnirk and other Arctic groups are discussed in relation to theories on the origin and spread of the Thule culture. The relationship of Thule culture people to Sadlermiut and Caribou Eskimos is also considered.

VAN-GEERSDAELE, P.C., National Historic Sites Service

*Some Uses for Plaster of Paris in the Field* (Session 7)

Plaster of Paris has many uses in conservation; it is easy to obtain and simple to handle. The main disadvantage is the weight factor when used in large quantities.

In this short paper its application for picking up fragile objects, backing soil sections and mouldings in the field will be discussed.

One should make sure when ordering plaster that a grade which sets within 25 minutes is obtained, otherwise valuable time could be lost.

Expanded polyurethane is most certainly a better material for lifting objects but it is expensive and not always obtainable when required at short notice.

WATSON, Gordon D.

*Rideau Lakes Archaeology: A Preliminary Report* (Session 14)

The Rideau Lakes area is southwest of Ottawa, Ontario at the western limit of the deglaciation-phase Champlain Sea. Archaeological survey of 1975 and 1976 and preliminary study of surface collections of the National Museum of Man, the Royal Ontario Museum and the Perth Museum indicate aboriginal occupation in the Paleo, Archaic, Woodland and Historic Periods. The paper will describe and illustrate the nature of the surface collections and report on the survey findings. This data base will be used to make a preliminary assessment of the archaeology of the area.

WENZEL, George, McGill University

*Analysis of a Dorset-Thule Structure from Northwest Hudson Bay (Session 12)*

In 1970, as part of the final survey phase of the Northwest Hudson Bay Thule Project, a small dual component Dorset/Thule site (KkJf-3) was located below Winchester Inlet. Preliminary survey indicated what appeared to be five Thule and two sub-rectangular Dorset house depressions. Late season conditions, however, permitted only the testing of a small midden area.

During the 1971 season, extensive excavation at KkJf-3 was begun. House feature II, which appeared to be a typical oval Thule structure, yielded chert and quartz artifacts and debitage and no Thule materials. Also, while the house appeared to be of Thule construction, non-Thule design features were distinguishable. The structural type and material culture assemblage in this feature indicate the presence of a late Dorset adaptational form similar to that reported by O'Bryan at Mill Island (1953).

WHATE, R.E., Parks Canada, Ottawa

*The Information Retrieval System of the Material Culture Research Section of Parks Canada (Session 5)*

For the past few years, the Archaeological Research Division of Parks Canada, Material Culture Research Section, has been evolving an information storage and retrieval system for the thousands of artifacts recovered from Parks Canada archaeological projects. While the development of this system is not completed, we have progressed to a stage where the final form of the system has been defined. We have not only produced a system tailored to our very specific needs but also one which is flexible enough to be melded into the National Museums of Canada Corporation's computer system. This talk will briefly outline the structure of our system and discuss some of the problems met and resolved in the evolution of it.

WHITE, J.M., Simon Fraser University

*Was Starvation the Cause of the Classic Maya Collapse? (Session 19)*

Cessation of elaborate ceremonialism and population decline marked the Classic Maya collapse. It is thought that the decline in population would have a more marked effect on the ceremonial hierarchy than a decline in ceremonialism would have on the general population, so population decline is held to be a key feature requiring explanation. Support of the general population by long-distance trade of foodstuffs is improbable for a pre-industrial society; regional production of own needs must have been the rule. Late Classic population densities suggest an agricultural system which had maximized production at the expense of productive stability. Maize is very susceptible to water stress, and even brief intervals at critical times in its growth can severely reduce its production. Climatic evidence suggests the possibility of rainfall fluctuation during Late and Terminal Classic times, while European demographic history demonstrates

the potential severity of starvation following two years of agricultural failure. Thus, it is proposed that population decline due to climatic variation, hence agricultural failure under conditions of maximal production, is the most powerful single explanation which can be offered for the Classic collapse.

WILMETH, Roscoe, National Museum of Man

*The Protohistoric Period and the Direct Historic Approach* (Session 16)

The problem of the "archaeological visibility" and significance of the protohistoric period, recently raised by Bishop and Ray is discussed in terms of archaeological work at Anahim Lake, British Columbia, and Old Aishihik, Yukon. Linking of the protohistoric and late prehistoric rather than recognition of the former is found to present difficulties.

WOOD, William J., Archaeological Survey of Alberta

*An Archaeological Reconnaissance of the Tyrrell Sea Beach, Manitoba* (Session 6)

During the summer of 1976, an archaeological reconnaissance was conducted along the Tyrrell Sea Beach in northern Manitoba. This beach was formed about 7300 years ago during the maximum extent of the Tyrrell Sea -- an early post-glacial extension of Hudson Bay. During the reconnaissance, no archaeological sites were observed. That the Tyrrell Sea Beach was not occupied can be explained in terms of northern Manitoba prehistoric human population distributions and the paucity of desirable subsistence resources.

WRIGHT, Phillip J., Ministry of Culture and Recreation, Ontario

*The Prehistory of the Mattawa River* (Session 14)

The Mattawa River flows east from Trout Lake in the city of North Bay to the town of Mattawa on the Ottawa River. For the most part, archaeological investigations have been restricted to the present shoreline area with most of the presently known sites occurring in either Mattawa Wild River Provincial Park or Samuel de Champlain Provincial Park.

The location and size of habitation sites on the Mattawa is controlled by the physiography of the Mattawa shoreline. The shoreline is characteristically rugged in nature, limiting the number and size of potential camping areas (and thus archaeological habitation sites). Most of the habitation sites on the Mattawa represent small camp sites.

The earliest evidence of occupation on the Mattawa River dates from the Archaic Period. There is cultural evidence of the continued use of the Mattawa River by aboriginal groups right up to the Historic Contact period. While the archaeological evidence suggests that the Mattawa was used continuously by a number of different groups, information on their exact use of the area remains limited. A preliminary investigation of the

habitation sites in the area suggests the use of the area by transient groups. These transient groups exploited the natural environment of the Mattawa shoreline leaving evidence of their passage in the form of faunal remains, primarily from the fur bearing aquatic animals.

WRIGHT, J.V., National Museum of Man

*Trends and Consequences in Canadian Prehistory* (Session 19)

The changing natures of archaeology and social anthropology are resulting in a progressive estrangement of the two disciplines that is particularly detrimental to the former in its junior position within most anthropology departments.

YORGA, Brian, McMaster University

*Migration and Adaptation: A Thule Culture Perspective* (Session 15)

In the last decade the increased availability of palaeoclimatic data has resulted in the development of hypotheses attributing the origin and spread of Thule culture to past climatic events. These hypotheses have relied heavily upon the importance of the Bowhead Whale (*Balaena mysticetus*) as a primary food resource; and its susceptibility to climatic shifts. Archaeological and ethnographic evidence suggests that this emphasis is limiting.

This paper suggests that a cultural change hypothesis derived primarily from climatic data tends to ignore other equally important cultural/ecological factors.

## ADDENDUM

KNIGHT, Dean, Wilfrid Laurier University

*Archaeological Consulting: The Survey as a Job or a Research Objective*  
(Session 10)

Governmental awareness of archaeology has been heightened by the emphasis now being placed on environmental impact studies in conjunction with road construction, head pond flood areas of new dams as well as new housing subdivisions. Much of the archaeology associated with these projects are surface surveys to record the presence of archaeological sites in the project zones. Due to the nature of the projects involved and the legislation which covers the need for such archaeological work, individuals or groups are being hired on a contract basis to conduct the surveys in the shortest possible time with the hope being that nothing of archaeological importance will be located. It would seem that such work is not inherently wrong however it is usually done on a short, non-research oriented basis which may or may not be conducive to good archaeology in view of the recent statements concerning archaeology as a "scientific and research oriented discipline." It is argued that the surveys done on a contract basis can be done in a research light if given sufficient time and personnel. At the same time, it may not always be possible or even desirable to approach such surveys with research in mind. The fact that the sites are recorded and perhaps not destroyed unknowingly may be sufficient for the purposes at hand and can perhaps lead to interest and research in the area at a future date.