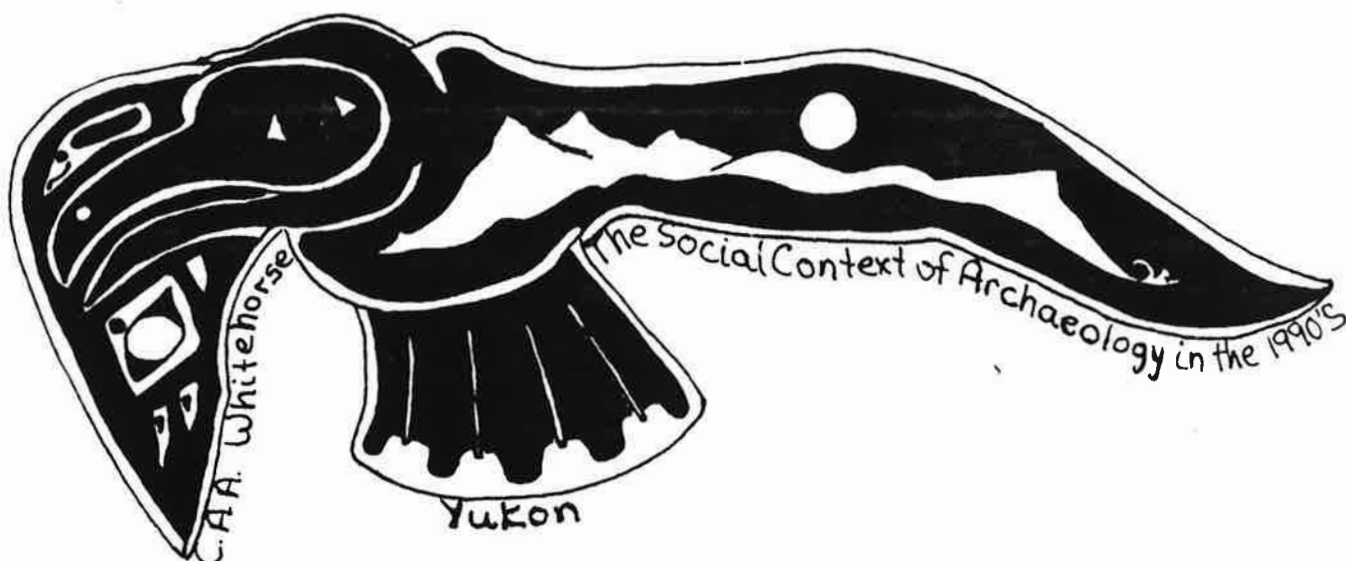


CANADIAN  
ARCHAEOLOGICAL  
ASSOCIATION  
XXIII ANNUAL MEETING



MAY 9-13, 1990

WHITEHORSE, YUKON

FINAL PROGRAMME  
AND ABSTRACTS

## **1990 CAA ORGANIZING COMMITTEE**

**Norm Easton, Conference Coordinator  
Yukon College**

**Ruth Gotthardt, Programme Coordinator  
Yukon Heritage Branch**

**Greg Hare, Programme and Registration  
Yukon Heritage Branch**

**Jeff Hunston, Transportation and Tour Coordinator  
Yukon Heritage Branch**

**Louise Proffit-Leblanc, Social Events Coordinator  
Yukon Heritage Branch**

**Gerry Gardiner, Publicity Coordinator  
Yukon College**

**T. J. Hammer, Audio Visual Coordinator  
Yukon College**

## **CAA EXECUTIVE**

**Robert McGhee, President  
David Meyer, President-Elect  
Frances Stewart, Vice-President  
Lesley Nicholls, Secretary-Treasurer  
Bjorn Simonsen, Executive Secretary  
David Burley, Past President**

**Cover Artwork: Crow design by Gerry Gardiner**

The Organizing Committee would like to acknowledge the generous financial and physical support of Yukon College, the Heritage Branch, Department of Tourism, Government of Yukon, and the City of Whitehorse. Thanks are also due to the staff and members of the Yukon Historical and Museums Association, the McBride Museum, and the Arts and Science Division of Yukon College who have given much time and labour to bring about a successful conference. Masi Cho.

# **CANADIAN ARCHAEOLOGICAL ASSOCIATION**

## **XXIII ANNUAL MEETING**

**MAY 10 TO MAY 14, 1990**

**WHITEHORSE, YUKON.**

Welcome to the Yukon and the 1990 annual meeting of the Canadian Archaeological Association. This programme contains general information about the conference, details of scheduled sessions, workshops and business meetings, and abstracts of all scheduled papers.

### **GENERAL INFORMATION**

#### **REGISTRATION AND INFORMATION**

The registration desk will be open at the following times and places:

Wens. 1700 - 2030 hrs at the MacBride Museum  
Thurs. - Fri. - 0830 - 1700 at Yukon College  
Sat. 0830 - 1400 at Yukon College.

Full registration will cost \$65.00 (regular) and \$50.00 (students) and will provide participants with a complimentary registration package including a copy of the programme and abstracts, transportation and coffee services, and a general invitation to scheduled social activities (see below for schedule).

Information on the conference or the Canadian Archaeological Association can be obtained at the registration desk in the main foyer of Yukon College. You may join the CAA or renew your membership at the registration desk.

Detailed information on restaurants, bars, shopping, and tourist attractions will also be available in your registration package and at the desk. Several establishments have supported the conference by purchasing advertising in this programme and we would encourage your patronage of them.

## **BANQUET**

Banquet tickets may be purchased at the registration desk up till Thursday evening. Cost will be \$30.00. The menu features complimentary wine and a buffet-style service including salads, vegetarian and meat entrees, and desert. A dance band will entertain until 0130. Tickets to attend the dance only will be available for \$5.00.

## **MESSAGES**

Messages for conference members can be left at the Message Board in the central foyer. The bulletin board may also be used for job postings and notices for archaeological employment. As well, any changes to the programme or conference events will be posted here.

## **TRAVEL**

The city of Whitehorse may have a relatively small population but that doesn't mean it's a small town geographically. Distances between various points in the city can be intimidating, but transportation to the various conference activities should be straightforward.

All of the conference activities are being staged at six locations within the city: Yukon College, Mount McIntyre Centre, the Gold Rush Inn, Westmark Whitehorse and the Yukon Indian Centre, all located within a four mile radius.

Chartered bus service will be provided between Yukon College and the downtown area several times each day. Transportation will also be available for the Thursday evening cultural programme at the Yukon Indian Centre and the Friday night reception and banquet at Mount McIntyre Centre. The scheduled times and points of departure and arrival for these buses are included on a separate sheet in the registration package. Any changes and additional schedules are available at the Registration Desk.

Participants are required to follow the schedule promptly if they wish to use the charter bus service.

You may, of course, choose to make your own local transportation arrangements. Public transit serves much of the Whitehorse area, including Yukon College, on the Takhini line. Bus schedules are included in your registration package and will be posted at the registration desk. Further bus information can be obtained by calling 668-2831.

There are also numerous taxi companies serving the Whitehorse area. Please check your

Yellow Pages for phone numbers.

For those who seek greater freedom of movement, Budget, Hertz, Avis and Tilden all have car rental offices at the airport and in downtown Whitehorse.

## TRAVEL GRANTS

Limited funds are available to offset expenses incurred in travel to the conference. A claims form will be available at the Registration Desk. You are eligible for funding if you are a CAA member. Note that this funding is for travel only, and cannot be used for hotel costs.

## CHILDCARE

Arrangements have been made to provide daytime childcare services for the children of conference participants Wednesday through Friday at the Yukon College Childcare Centre. Saturday care may be arranged individually with one of the registered daycare operators downtown. The cost is approximately \$25 a day. Further details and registration are available at the Registration Desk.

## SYMPOSIA

Symposia will run from approximately 0900 to 1700 hrs on Thursday, Friday and Saturday.

ALL PAPERS HAVE A MAXIMUM TIME LIMIT OF 20 MINUTES.

Session chairs have been asked to enforce this rule rigorously. If a scheduled paper is not presented, chairs will declare a 20 minute break or will allow time for questions and discussions. This will ensure that all papers are presented at the times advertised, allowing people to move from one session to another and hear papers at the scheduled time. Any unavoidable programme changes or cancellations will be posted on the Bulletin Board.

All scientific sessions will be held at Yukon College's Ayamdigut Campus, located in the Takhini area of Whitehorse. Room numbers are listed in the programme and a map of the campus is included at the end of the programme for delegates reference.

## **COFFEE BREAKS**

Free coffee services are scheduled for 10:20 and 15:00 hours, for twenty minute periods. Service of coffee will be available in the college cafeteria and delegates should display their name tag for free service. The morning service will include a pastry or muffin. Additional snacks can be purchased through the cafeteria at the times noted below.

## **COLLEGE CAFETERIA FOOD SERVICE**

The college cafeteria is open for food service during the following times:

Wednesday - Friday: 0730 - 1845 hrs

Saturday: 1030 - 1700 hrs

Meals in the cafeteria range from \$2.00 for sandwich specials to \$5.00 for a full-course meal. Participants are encouraged to make use of the cafeteria service at lunch-time in order to save time traveling downtown and back at midday.

## **SMOKING**

Smoking at Yukon College is restricted to the Smoking Lounge, located on the main floor. Participants are requested not to smoke anywhere else within the building.

## **ABSTRACTS**

Abstracts of all formal presentations at the meeting are published in this programme and are included as part of the conference registration package. Additional copies of the abstracts may be obtained at the registration desk for \$5. a copy. Copies of the symposia or contributed papers are not available at the meeting unless provided by the author - chair. A photocopying service is available to facilitate this.

## **PHOTOCOPYING**

A photocopying service will be available to conference participants at a cost of 10 cents per page. A basket will be available at the Registration Desk for material to be copied. Copies may be picked up usually within four hours.

## **AUDIO-VISUAL**

Carousel-type 35mm transparency projectors and overhead projectors will be provided in each room. A volunteer will be available in each session to assist with projection.

A preview room is located in room A2603 where delegates may prepare their slides. A limited number of carousels will be available for short-term use.

Participants are asked to pass along their organized carousels to the sessions audio-visual technician **PRIOR** to the beginning of the session in order to facilitate the scheduling of presentations.

## **POSTERS**

Posters will be set up in the central entrance foyer at Yukon College. Displays and publications which require additional security will be set up in the library at the College. Library hours are noted below under "Bookroom."

## **FEDERAL ARCHAEOLOGICAL HERITAGE INITIATIVE**

Personnel from the Archaeology Policy Section of Communications Canada will be on hand May 10 to provide information on the federal archaeological heritage initiative.

## **BOOK ROOM**

The book room will be located in the College Library, on the second floor. Hours of operation during the conference are:

Thurs - 0830 - 1900

Fri - 0830 - 1700

Sat - 1300 - 1700

If you have material to display please contact one of the bookroom volunteers, or the registration desk.

## **PUBLIC EVENTS**

"STONES AND BONES" - A public information booth staffed by volunteer members of the CAA will be open Saturday afternoon, May 12, from 13:00 to 16:30, in the College library. Members of the public will be invited to bring along their "stones and bones" for identification and information on recording sites. Volunteers to meet with the public are still being sought. If you are interested and can spare a half an hour, contact the registration desk.

## **MEETING ROOMS**

Several private meeting rooms are available at the College for use of delegates requiring them. See the registration desk for reserving their use.

## **FIELD TRIP**

A limited number of seats may still be available for the Southwest Yukon field trip scheduled for Sunday, May 13. The one day field trip will be led by archaeologists Donald W. Clark (Archaeological Survey of Canada), Jeff Hunston (Yukon Heritage Branch), and Sheila Greer (Boreal Institute for Northern Studies), geologist Steve Morrison (Northern Affairs) and Scott Smith (Soils, Agriculture Canada). A variety of archaeological and palaeoenvironmental features will be visited, including the Kusawa Bluff, Canyon and Champagne archaeological sites, the neoglacial Lake Alsek beaches, Champagne moraine and the Kluane National Park Visitor Reception Centre. Cost of the field trip is \$40. Contact the Registration Desk for more information and registration.



## **WORKSHOPS**

Three workshops will be held at the conference, dealing with computers, conservation, and writing about archaeology.

### **COMPUTER WORKSHOP**

Computing facilities (IBM PC2 with both 3 1/2" and 5 1/4" disk drives and a number of MACS) will be available for participants' use at Yukon College, in the Computer Lab (Room A2702). The **COMPUTERS IN ARCHAEOLOGY WORKSHOP** will be held Saturday morning, May 12, in the same room. Participants are encouraged to bring their programmes and swap ideas.

### **CONSERVATION WORKSHOP**

A workshop on conservation techniques for archaeologists will be held on Thursday and Friday afternoon at Yukon College, in the Earth Sciences Lab (A2801). The workshop has been given two time slots to allow as many people as possible to attend. It is designed to demonstrate the importance of conservation in the field during archaeological excavations. The topics to be covered are: Planning the Excavation, Excavation Techniques, Documentation; Packing and Shipping, and Packing for Transportation. The emphasis is on the hands-on participation of archaeologists. The time spent on each topic will be determined by participant interest. Participants who are unable to attend the whole workshop are encouraged to drop in at any time with questions, or for a brief look

### **WRITING WORKSHOP**

This workshop will discuss and develop the selection, organization and presentation of archaeological information for publication in popular media. The workshop will involve informal presentations, case examples, and group discussions on:

Writing - selecting topics, article content, illustrations, general style, and

Marketing - format, submitting material, finding a publisher.

Resources will include tips from editors, reports of studies of science news writing, examples of reference books, guidelines for writers, and sample publications, as well as

from the personal experience of the workshop leader as an editor and freelance writer, and the experience of the participants.

## **BUSINESS MEETINGS**

### **CAA EXECUTIVE MEETING**

**The CAA Executive will meet on Wednesday 9 May at 0900 in the hospitality suite of the Westmark Whitehorse.**

### **CAA ANNUAL GENERAL MEETING**

The annual general meeting of the CAA will take place on Friday 11 May at 1515 in the Yukon College Gymnasium.

### **CANADIAN MARITIME HERITAGE FEDERATION**

There will be a luncheon meeting of the Canadian Maritime Heritage Federation - Federation Canadienne du Patrimoine Maritime on Thursday 10 May at 12:15 in room 1130 (the Board Conference Room) at Yukon College.

### **CANADIAN ROCK ART SOCIETY**

The first annual general meeting of the Canadian Rock Art Society will be held Thursday, May 10 at 1700, immediately after the Rock Art session, in the same room.

## SOCIAL EVENTS

### Wednesday, May 9

1900 hrs - Reception at MacBride Museum (1st Avenue and Wood Street). Hosted by the City of Whitehorse, the MacBride Museum and the Yukon Historical and Museums Association.

### Thursday, May 10

0700-0800 hrs - Breakfast buffet at Gold Rush Inn, Town Hall Banquet Room, 411 Main Street (at 5th Ave.). Hosted by Communications Canada. Address to the CAA membership by the Honorable Marcel Masse, Federal Minister of Communications.

2000 hrs - Yukon Native Cultural Evening at the Yukon Indian Centre (21 Nisutlin Drive). Featuring drumming, stick gambling, story telling and traditional snacks.

### Friday, May 11

1830 hrs - No-Host reception at Mount MacIntyre Centre.

1930 hrs - Banquet and dance at Mount McIntyre Centre. Banquet speaker, Dr. Bruce Trigger. Fifth Avenue Dance Band will entertain until 0130.

### Saturday, May 12

1700 - 1830 hrs - Guided tour of the S.S. Klondyke, a Yukon River steamer, by Parks Canada staff. Please sign up at registration desk.

1900 - 2030 hrs - Wine and Cheese Reception at the Yukon Gallery, 2nd Avenue & Lambert St. (in the basement of the Optometrist Bldg.). Special showing of Northern art (Harrison, Logan, Caldwell, Lemke, Doyle, etc.). Artists will be in attendance.

2000 - 0200 hrs - "Closing Party" at 7143 7th Avenue (7th and Jarvis St.). Hosted by Norm Easton. Bring your own beverage.

Sunday, May 13,

0900 - 1700 - Scientific Tour of SW Yukon - preregistration required (cost \$40.00). Departs from Westmark Whitehorse.

Morning to Evening - Ad hoc excursion to Skagway, Alaska. Local students are providing car-pool day-trip to Skagway, visiting historic Red Onion Saloon and Moe's Frontier Bar. Departs sometime Sunday morning, returns sometime Sunday evening. Completely unorganized. Ask someone for details.

1300 - 1600 hrs - Conference participants who missed Wednesday's registration and reception at the MacBride Museum are reminded that the museum will also be open Sunday from 1300 to 1600 hrs.

## **EXTENDED TOURS**

A tour of Skagway, Haines and Haines Junction is being offered by Rainbow Tours for May 14 and 15. Information available at the Registration Desk.

For those wishing to tour the Yukon and Alaska independently, vehicles may be rented in Whitehorse. Maps and travel information are available at the Registration Desk.

## ASSOCIATION CANADIENNE D'ARCHEOLOGIE

23ième REUNION ANNUELLE

10 AU 14 MAI, 1990

WHITEHORSE, YUKON

Soyez le bienvenu au Yukon et à la réunion annuelle de l'Association canadienne d'archéologie-1990. Ce programme contient des renseignements généraux sur la conférence, les détails des sessions, des rencontres d'affaires et des groupes de travail, ainsi que les résumés des communications prévues.

### RENSEIGNEMENTS

Le bureau d'inscription, situé au foyer principal du Yukon College, est en mesure de fournir des renseignements sur la conférence ou sur l'Association canadienne d'archéologie. Vous pouvez adhérer à l'ACA ou renouveler votre adhésion au bureau d'inscription. De plus, on peut y obtenir des renseignements sur les restaurants, les bar, le magasinage et le tourisme.

### MESSAGES

Un tableau d'affichage est installé dans le foyer principal. On y trouvera les messages destinés aux participants de la conférence ainsi que des descriptions d'emplois en archéologie. De plus, tout avis de changement au programme de la réunion y sera affiché.

### TRANSPORT

Quoiqu'ayant une population modeste, la ville de Whitehorse s'étend sur une grande superficie. Cependant, nous avons planifié de telle façon que vous ne devriez pas rencontrer d'inconvénients. Les diverses activités de la réunion ont lieu dans six centres se trouvant dans un rayon de 4 miles: le Yukon College, le Mount McIntyre Centre, le Gold Rush Inn, Westmark Whitehorse et le Yukon Indian Centre.

Un service d'autobus fera la navette entre le Yukon College et le centre-ville plusieurs fois par jour. Nous fournirons le transport au Mount McIntyre Centre pour la réception du vendredi soir. Les horaires de ces autobus sont inclus dans votre trousse d'inscription et sont aussi disponibles au bureau d'inscription.

Le service de transport en commun de la ville Whitehorse dessert presque toute la ville, incluant le Yukon College. Les horaires sont affichés au foyer principal et de plus amples renseignements peuvent être obtenus en signalant le 668-2831. Il y a aussi un bon service de taxi à Whitehorse.

Enfin, pour ceux qui recherchent une plus grande liberté de voyage, les compagnies de location de voiture Budget, Hertz, Avis et Tilden ont des bureaux à l'aéroport et au centre-ville.

#### DEPENSES DE VOYAGE

Nous disposons de fonds limités pour aider à défrayer les coûts de voyage des participants à la conférence. Des formulaires de remboursements sont disponibles au bureau d'inscription. Pour vous prévaloir de cette subvention, vous devez être membre de l'ACA. Notez bien que ces fonds sont réservés pour les frais de voyages seulement, et ne peuvent pas servir à défrayer les coûts d'hôtel.

#### GARDERIE

Un service de garderie est offert pour les enfants des participants à la conférence. Le coût est d'environ 25 \$/jour et les détails sont disponibles au bureau d'inscription.

#### SESSIONS ET COMMUNICATIONS

Les sessions auront lieu jeudi, vendredi et samedi entre 9 h 00 et 17 h 00. La durée des communications n'excèdera pas 20 minutes et les modérateurs ont été pris de respecter cette norme. S'il arrive qu'une communication ne peut être présentée, le modérateur annoncera soit une pause de 20 minutes, soit une période de question ou de discussion. De cette façon l'intégrité de l'horaire sera respectée, permettant ainsi aux participants d'assister aux conférences qu'ils auront choisies au préalable. Tout changement au programme sera annoncé au tableau d'affichage.

**Les pauses-café se tiendront à 10 h 20 et 15 h 00.**

#### RESUMES

Tous les résumés qui nous ont été soumis avant la conférence sont regroupés dans ce programme et font partie de la trousse d'inscription. Des copies supplémentaires de ces résumés sont disponibles au bureau d'inscription pour la somme de 5 \$. Pour obtenir une copie d'une communication, veuillez vous adresser à l'auteur.

#### SERVICE DE PHOTOCOPIE

Un service de photocopie est à la disposition des participants à la conférence pour la somme de 10 cents/page. Les documents à être copiés doivent être laissés au bureau d'inscription. Les copies seront faites au courant de la même journée.

### AUDIO-VISUEL

Chaque salle de conférence sera pourvue d'un volontaire qui s'occupera des projecteurs de feuilles transparentes et de diapositives 35 mm.

### EXPOSITIONS/AFFICHES

Les affiches sont exposées au foyer principal du Yukon College. Les expositions requérant une surveillance se trouvent à la bibliothèque du College, dont les heures d'ouverture sont de 8 h 30 à 17 h 00.

Des responsables de l'Unité en politique archéologique du Ministère des Communications Canada se feront un plaisir de répondre à vos questions concernant l'avant-projet législatif du gouvernement fédéral respectant le patrimoine archéologique, pendant la journée du 10 mai.

### SALLES DES LIVRES

La salle des livres (bibliothèque du Yukon College) est à votre disposition entre 8 h 30 et 17 h 00 le jeudi, vendredi et samedi. Si vous aimeriez y laisser des publications, veuillez communiquer avec un des volontaires qui se trouvera sur les lieux.

### EXCURSION ARCHEOLOGIQUE

Un nombre limité de places sont peut-être encore disponibles pour une excursion dans le sud-ouest du Yukon, prévue pour le dimanche 13 mai. Cette randonnée sera animée par les archéologues Donald W. Clark (Commission archéologique du Canada), Jeff Hunston (Yukon Heritage Branch) et Sheila Greer (Boreal Institute for Northern Studies), et les géologues Steve Morrison (Northern Affairs), et Scott Smith (Sols, Agriculture Canada). Vous visiterez une variété de sites archéologiques et paléoenvironnementaux, incluant les sites archéologiques Kusawa Bluff, Canyon et Champagne, les plages du lac néoglaciaire Alsek, la moraine Champagne et le centre de réception du parc national Kluane. Le prix de cette excursion est 40 \$. Adressez vos questions concernant ce voyage aux préposés du bureau d'inscription.

### INFORMATIQUE

Des ordinateurs (IBM, PC2 avec unités de disquettes 3.5" et 5.25", MAC) seront à la disposition des participants au Yukon College. Le groupe de travail **L'INFORMATIQUE ET L'ARCHEOLOGIE** se déroulera le matin du 12 mai. Les participants sont priés d'apporter leurs logiciels et d'échanger des idées.

## CONSERVATION

Un groupe de travail portant sur les techniques de conservation en archéologie se déroulera jeudi et vendredi après-midi au Yukon College. Nous nous proposons de souligner l'importance de la conservation sur le terrain en traitant des thèmes suivants: planification de la fouille, techniques de fouille, documentation, emballage, transport. Une attention particulière sera portée sur la participation active des archéologues. Le temps alloué à chaque thème sera déterminé par session, nous vous encourageons, néanmoins, à venir nous visiter et à nous poser vos questions.

## VULGARISATION DE L'ARCHEOLOGIE

Ce groupe de travail discutera des façons de choisir, d'organiser et de présenter des données archéologiques pour fins de publication dans la presse populaire. Nous examinerons des cas particuliers et nous traiterons des thèmes suivants:

- la rédaction; le choix du sujet, le contenu d'un article, les illustrations, le style.
- le marketing; le format, comment soumettre un article, comment trouver un éditeur.

Les ressources, qui seront mis à votre disposition, incluent des recommandations de rédacteur, un rapport sur la vulgarisation scientifique, des exemples de livres de référence, un guide aux auteurs, des exemples de publications populaires, l'expérience du chef de ce groupe de travail en tant qu'auteur et rédacteur et enfin l'expérience des participants eux-mêmes.

## ASSEMBLEE ANNUELLE GENERALE DE L'ACA

L'assemblée annuelle générale de l'Association canadienne d'archéologie aura lieu au gymnase du Yukon College, vendredi le 11 mai à 15 h 00.

## ASSEMBLEE GENERALE DE LE FEDERATION CANADIENNE DU PATRIMOINE MARITIME

Il y a aura assemblée générale-déjeuner de la Canadian Maritime Heritage Federation à la cafétéria du Yukon College, jeudi le 10 mai à 12 h 15 dans la pièce 1130.

## CANADIAN ROCK ART SOCIETY

La première réunion annuelle générale de la Canadian Rock Art Society se tiendra jeudi le 10 mai à 17 h 00, suivant la fin de la session sur l'art rupestre, dans la même salle.

## GROUPS DE TRAVAIL

Trois groupes de travail sont prévus; informatique, conservation et la vulgarisation de l'archéologie.



## EVENEMENTS SOCIAUX

Mercredi 9 mai, 19 h 00 - réception au Musée MacBride offerte par la ville de Whitehorse, le Musée MacBride et le Yukon Historical and Museums Association.

Jeudi 10 mai, 7 h 00 - 8 h 00 - petit-déjeuner à la salle de banquet Town Hall du Gold Rush Inn, 411 rue Main, offert par le Ministère des Communications-Canada. L'Honorable Marcel Masse, Ministre des Communications, s'adressera à l'assemblée.

Jeudi 10 mai, 19 h 30 - Soirée culturelle au Yukon Indian Centre offrant des amuse-gueules traditionnels, des contes, le jeu de fortune aux bâtonnets et les sons du tambour traditionnel.

Vendredi 11 mai, 19 h 30 - banquet et danse au Mount MacIntyre Centre; le conférencier sera le Dr. Bruce Trigger.

Samedi 12 mai, 17 h 00 - 19 h 00 - exposition spéciale d'art à la Yukon Gallery, au coin de la 2<sup>ème</sup> avenue et de la rue Lambert (sous-sol de l'édifice Optometrist). Les artistes seront présents.

Samedi 12 mai, 19 h 00 - Visite du SS Klondike - Parcs Canada.

## VISITES

Une visite de Skagway, Haines et Haines Junction est organisée par Rainbow Tours pour les 14 et 15 mai. Vous pouvez obtenir de plus amples renseignements au bureau d'inscription.

Tout ceux qui désire visiter le Yukon et l'Alaska à leur propre rythme peuvent le faire en se louant une voiture à Whitehorse. Des cartes routières ainsi que des renseignements de voyage sont disponibles au bureau d'inscription.

## PRESENTATION PUBLIQUE

"STONES AND BONES" (les pierres et les os) - un kiosque accueillant le publique sera ouvert l'après-midi du samedi 12 mai. Là, des volontaires de l'ACA identifieront les objets de pierres ou d'os qui leurs seront présentés et recueilleront des données sur la localisation des sites d'où proviennent les artefacts. Il manque encore des bénévoles. Si cela vous intéresse, contactez les organisateurs de la conférence les plus tôt possible.

## MUSEE MACBRIDE

Les participants qui auront manqué l'inscription et la réception au Musée MacBride sont priés de noter que le musée ouvrira ses portes le dimanche 13 mai 13 h 00 et 16 h 00.

## **PROGRAMME SCHEDULE**

### **THURSDAY 10 MAY - MORNING**

#### **[1] Symposium: ARCTIC ARCHAEOLOGY**

##### **ROOM - A2402**

Organizer and Chair - Chuck Arnold

0930: Owen Mason and James Jordan: "Beach Ridge Geoarchaeology of the Southeast Chukchi Sea, Alaska: A Proxy Late Holocene Climatic Record."

0950: Bryan Gordon: "Functional Analysis of Barrenland Pre-Dorset Burin-Related Tools."

1010: James Helmer: "Patterns of Prehistoric Land Use in A High Arctic Oasis."

1030: Coffee Break

1050: James A. Tuck and Peter Ramsden: "Continuities in Palaeoeskimo Prehistory."

1110: Raymond Le Blanc: "Prehistoric Stone Procurement in the Western Canadian Arctic: Clinker Sources in the Cape Bathurst Peninsula Region."

1130: Jean-Luc Pilon: "A Palaeo-Eskimo Site at Hyndman Lake, Anderson Plain, N.W.T.: Implications for Our Understanding of ASTt Land Use Patterns in the Western Canadian Arctic."

1150: Patricia Sutherland: "A Piece of Palaeoeskimo Mosaic: Continuity and Change on Northern Ellesmere Island."

1210: Lunch

## **THURSDAY 10 MAY - MORNING**

### **[2] Symposium: ROCK ART**

#### **ROOM - A2202**

Organizer and Chair - Maurice Lanteigne

0930: Robert G. Bednarik: "Global Developments in Prehistoric Art Studies"

0950: Joy Bell: "Writing-on-Stone Provincial Park, Alberta: A Change in Perspective"

1010: Jeffrey A. Behms: Petroforms in Wisconsin: Implications for the Agricultural Belt of the Midwest"

1030: Coffee Break

1050: Bryan M. Goods: "Pigment Analysis of the Rice River Pictograph Site, Manitoba."

1110: Shirley Ann Pager: "Rock Art Research in South Africa."

1130: Maurice P. Lanteigne: "A Temporal Classification Model of the Manitoba Rock Painting Complex."

1150: E. Breck Parkman: "If Rocks Could Talk, What We Might Learn By Listening: A Discussion from California's North Coast Ranges."

1200: Lunch Break

## **THURSDAY 10 MAY - MORNING**

### **[3] Symposium: ARCHAEOLOGY AND THE LOCAL COMMUNITY**

#### **ROOM - C1220 (Student Lounge)**

Organizer and Chair - Richard Jordan

0930: Wendy Arundale: "Innoko River Survey: Land Claims, Local Involvement and Archaeology."

0950: Ian Badgley: "Archaeology and the Inuit Communities of Nunavik."

1010: Roger Alfred: "Reclaiming our Past: Native Involvement at Fort Selkirk."

1030: Coffee Break

1050: David Denton: "Natives and Archaeology in Quebec: The Case of the James Bay Crees."

1110: Frances Woolsey: "The Importance of Community History to the Community - My Perspective as A Yukon Indian."

1130: Glenn H. Bacon: "Establishing Protocols for Cultural Resource Investigations: A Case Study."

1150: Richard Jordan: "Natives and Archaeologists: The Kodiak Experience."

## **THURSDAY 10 MAY - MORNING**

### **[4] Symposium: ARCHAEOLOGY, DATABASE MANAGEMENT AND GIS**

#### **ROOM - A2601**

Organizer and Chair - Luke Dalla Bona

0930: David Sanger: "Total Stations and New Opportunities."

0950: John Brumley and Terrance H. Gibson: "Hypertrig: An Automated Metric Analysis and Data Distribution System on the Disc."

1010: Martin P.R. Magne, Mark Fenton and Jack Ives: "A Historical Resources Geographic Information System Pilot Project in Alberta."

1030: Coffee Break

1050: Jim Finnigan: "Archaeology of a Depression."

1110: Scott Hamilton: "Heritage Resource Predictive Modelling in Northern Ontario."

1130: Luke Dalla Bona: "Beyond Visual Possibility Statements: Predictive Modeling in the Souris River Basin, Saskatchewan."

## THURSDAY 10 MAY - AFTERNOON

### [1] Symposium: ARCTIC ARCHAEOLOGY (cont'd)

#### ROOM - A2402

- 1300: Murielle Nagy: "Current Archaeological research in Inuvik (Northern Quebec)"
- 1320: Jack Brink: "Boulder Anvil Tables and Lithic Reduction at the Cadfael Site, Ekka River, Victoria Island."
- 1340: Eric Damkjar: "An Economic Model of Dorset Longhouse Development."
- 1400: Peter Whitridge: "A Faunal Analysis of 'Warm Weather' Thule Sites on Somerset Island."
- 1420: Douglas Stenton: "Caribou Population Dynamics and Thule Settlement - Subsistence Adaptations on Southern Baffin Island, N.W.T."
- 1440: James Savelle: "Information Networks and Thule Eskimo Bowhead Whaling."
- 1500: Coffee Break
- 1520: Genevieve Lemoine: "Preliminary Analysis of Thule Bone Drill Bits from the MacKenzie Delta."
- 1540: David Morrison: "The Diamond Jenness Collections From Bering Strait."
- 1600: Marc Stevenson: "Structural Dynamics of Central Inuit Socioeconomic Organization."
- 1620: Andrew Stewart: "Inland Settlement on the Tundra - Pattern or Exception? The Caribou Inuit of the Kazan River, N.W.T."
- 1640: Peter J. Priess: "Managing Cultural Resources of the Recent Past: An Example from Northern Ellesmere Island."
- 1700: Chuck Arnold: "The Status of Archaeology in the Northwest Territories: Looking Ahead in the 1990's."

## **THURSDAY 10 MAY - AFTERNOON**

### **[2] Symposium - ROCK ART cont'd**

#### **ROOM - A2202**

- 1300: Marjorie Meldrum: "The Petroglyphs of Scotland: A Distribution Analysis."
- 1320: Mario Consens: "A Theoretical Approach to Function, Use and Symbolic Production."
- 1340: Dave McLennan: "The Government of Ontario's Commitment to Native Rock Art: Petroglyphs Provincial Park."
- 1400: Jack Steinbring and Maurice Lanteigne: "Directions in Rock Art Research: into the 1990's."
- 1420: Gajendra S. Tyagi: "Shamanistic Subjects from the Source Region of Betwa River, Raisen District, M.P., India."
- 1440: Iloilo M. Jones-Delo: "Rock Art Investigations in the Midwestern United States."
- 1500: Coffee Break
- 1520: Dario Seglie: Prehistoric Art in Italy: Palaeolithic Cave Art and Postpalaeolithic Rock Art."
- 1540: Nobuhiro Yoshida: "A Summary of Rock Art Activities in Western Japan."
- 1600: Roy Querejazu: "Rock art Investigations in Bolivia."
- 1620: Maurice Lanteigne: "A Critical Appraisal of the Cation-ratio Dating Procedure."
- 1640: First Annual General Meeting of the Rock Art Association of Canada.

## **THURSDAY 10 MAY - AFTERNOON**

### **[5] Symposium: ARCHAEOLOGY AND ORAL HISTORY**

#### **ROOM - C1220 (Student Lounge)**

Chair - Ian Badgley

1300: Norman Hallendy: "Reflections, Shades and Shadows."

1320: Henry Stewart: "Archaeological Inferences and Ethnographical Contradictions - Ethnoarchaeological Research at Pelly Bay, N.W.T., 1988-1989."

1340: Sylvia Albright: "History of the Middle Skeena Valley, British Columbia."

1400: Madonna L. Moss: "The Role of Shellfish in the Tlingit Economy: Evidence from Archaeology, Ethnohistory and Oral History."

1420: Scott MacEachern: "We Sold Them Iron For Our Shackles: Ambiguity in Ethnic Relations in Northern Cameroon."

1440: Lionel E. Jackson Jr. and Ruth Gotthardt: "The Persistence of Native Oral History and Volcanic Activity at Volcano Mountain, Yukon."

1500: Sheila Greer: "Oral Tradition and Oral History in the Blackstone Uplands."



## **THURSDAY 10 MAY - AFTERNOON**

### **[6] Workshop: FIELD CONSERVATION FOR NORTHERN ARCHAEOLOGISTS**

#### **ROOM - A2801 (Earth Sciences Lab)**

Co-ordinator - Diana Komejan

Presenters: Judy Logan, Sue Cross, Rosalie Scott, Diana Komejan.

The emphasis of the Conservation workshop will be guided by participant interest. Generally, the structure will be as follows:

1:00 Introduction

Session 1 - Planning the Excavation.

Session 2 - Excavation

Session 3 - Documentation

Session 4 - Packing and Shipping

Those who are interested but unable to attend the entire workshop are encouraged to drop in at any time in the afternoon.

## **FRIDAY 11 MAY - MORNING**

### **[7] Symposium: BERINGIA**

#### **ROOM - A2402**

Organizer and Chair - Jacques Cinq-Mars

0920: Les Cwynar: "Late Quaternary Change in Yukon Territory."

0940: Max T. Freisen: "The Case Against Pleistocene Bone Technology from Old Crow, Yukon Territory."

1000: Jacques Cinq-Mars: "The Bluefish and Other Caves - Northern Yukon: An Overview of Ongoing Investigations."

1020: Coffee Break

1040: Nancy H. Bigelow, W. Roger Powers and James Beget: "Early Holocene Climates of the Nenana Valley, Central Alaska."

1100: Charles E. Holmes: "the Broken Mammoth Site: Its Relevance to Alaska/Yukon Prehistory."

1120: Donald W. Clark: "Interpretation of Siberia-North America Relationships Expressed in Early Archaeological Evidence from the Northwestern Subarctic."

1140: Rudy D. Walser: "Healey Lake Village Site (XBD-202, RaEc-02), Late Denali."

1200: Lunch Break

## FRIDAY 11 MAY - MORNING

### **[8] Symposium: HISTORIC ARCHAEOLOGY AND ARCHAEOLOGY IN THE FUR TRADE ERA ROOM - A2202**

Organizer and Chair - David Burley

- 0900: Philip Woodley: "You Can't Take It With You: The Harvie and Sterrup Court Cemeteries."
- 0920: Yvonne Marshall: "Native Political Organization in Nootka Sound, West Coast of Vancouver Island."
- 0940: W.G. Quackenbush: "Becoming Attractions: Construction Techniques at MacLeod's Lake Post, B.C."
- 1000: Lynda Gullason: "The Archaeological Invisibility of Culture Contact."
- 1020: Coffee Break
- 1040: Andrew J. Barton: "Dentalium and the North American Fur Trade."
- 1100: Olga Kilmko: "Francois-Finlay Site Complex: Evidence for Increased Fur Trade Activity."
- 1120: David V. Burley: "Environmental Impacts of the 19th Century Fur Trade on the Upper Peace River - What the Company Records Leave Out."
- 1140: Lunch Break

## **FRIDAY 11 MAY - MORNING**

### **[9] Symposium: CENTRAL CANADA AND EASTWARD**

#### **ROOM - A2712**

Chair - Martha Latta

- 0920: B.A. Nicholson: "Interactive Social Dynamics of Intrusive Horticultural Groups Coalescing in South-Central Manitoba During the Late Prehistoric."
- 0940: Patrick J. Julig: "Lithic Technology and Geoarchaeology at Sheguiandah Site, Manitoulin Island: A Preliminary Reassessment."
- 1000: Mima Kapches: "The Toronto Scarp: An Analysis of its Impact on Prehistoric Population Movements."
- 1020: Coffee Break
- 1040: Stephen Davis, Rudolf R. Stea, and Robert J. Mott: "Deglaciation and Palaeo-Indians in Nova Scotia."
- 1100: Martha Latta: "Huron Fishermen of the Great Lakes: A Review of the Fishing Practices of the 17th Century Auger Site, Ontario."
- 1120: Lunch Break

## **FRIDAY 11 MAY - MORNING**

### **[10] Symposium: FAUNAL ANALYSIS IN ARCHAEOLOGY**

#### **ROOM -A2601**

Organizer and Chair - Frances L. Stewart

- 0900: Frances L. Stewart: "Faunal Remains From the Keffer (AkGv-14) Midden: A Summary and Some Methodological Considerations."
- 0920: Richard Morlan and Ian Dyck: "The Sjovold (EiNs-4) Fauna From Saskatchewan: A Preliminary Report."
- 0940: Murielle Nagy - "Faunal Analysis of the Crane Site (Horton River, N.W.T.)"
- 1000: Kevin E. McAleese: "Faunal Remains From a Late 18th Century Sealing Post in South Labrador."
- 1020: Coffee Break
- 1040: Dave Johnstone: "Faunal Remains from Long Harbour."
- 1100: James B. Bandow and David W. Black - "A Clam for All Seasons: Preliminary Seasonality Analysis of Soft-Shell Clams From the Bliss Islands."
- 1120: Lunch

## **FRIDAY 11 MAY - AFTERNOON**

### **[11] Symposium: SUBARCTIC ARCHAEOLOGY**

#### **ROOM - A2402**

Organizer and Chair - Christopher Hanks

1300: Daniel Gendron: "The JgEj-3 Site: A Groswater Occupation in Northwestern Ungava Bay."

1320: Lawrence Loendorf: "Shield Bearing Warriors and Athapaskans."

1340: M. Wright: "Peace River Cache."

1400: David L. Pokotylo: "The Organization of Lithic Technology at Drum Lake, N.W.T., and the Implications for Subsistence Settlement Studies in the Western Subarctic."

1440: Christopher Hanks: "The Use of Thematic Mapper Data to Examine the Environmental Setting of Archaeological Sites on the Canadian Barrenlands."

## **FRIDAY 11 MAY - AFTERNOON**

### **[12] Symposium: FEMINIST APPROACHES TO CANADIAN ARCHAEOLOGY**

#### **ROOM - A2601**

Organizers and Co-chairs - Kathryn Bernick and Sandra Zacharias

- 1300: Jane H. Kelley and Warren Hill: "Relationships Between Graduate Training and Placement in Canadian Archaeology: Do We Have a Problem?"
- 1320: Gayel Horsfall: "What Women Say: Chinese, European, and Japanese in Cumberland B.C."
- 1340: Sandra Zacharias: "Feminist Methodologies in Archaeology: Implications for the Northern Northwest Coast."
- 1400: Mary Ann Tisdale: "Women's Work in the Central Sub-Arctic: A Reconsideration."
- 1420: Kathryn Bernick: "A Post-Androcentric View of the Fraser Delta Prehistory."
- 1440: Maxine Kleindienst: Discussant

## **FRIDAY 11 MAY - AFTERNOON**

### **[13] Symposium: SPECIALIZED TECHNIQUES IN ARCHAEOLOGICAL INVESTIGATIONS**

#### **ROOM - A2712**

Organizer and chair - Patrick J. Julig

- 1300: Brian P. Kooyman, Margaret Newman, Howard Ceri: "Verifying The Reliability of Blood Residue."
- 1320: Luke Dalla Bona and David Bedard: "Satellite-Based Remote Sensing: Is it Really Useful for Archaeologists."
- 1340: R.M. Farquhar, L.A. Pavlish, P.J. Julig, A.D. D'Andrea, and W.D. Finlayson: "Ste. Marie II, Christian Island: Remote Sensing Survey."



## **FRIDAY 11 MAY - AFTERNOON**

### **[14] Workshop: FIELD CONSERVATION FOR NORTHERN ARCHAEOLOGISTS**

#### **ROOM -A2801 (Earth Sciences Lab)**

Co-ordinator - Diana Komejan

Presenters - Judy Logan, Sue Cross, Rosalie Scott, Diana Komejan.

The emphasis of the Conservation workshop will be guided by participant interest. Generally, the structure will be as follows:

1:00 Introduction

Session 1 - Planning the Excavation.

Session 2 - Excavation

Session 3 - Documentation

Session 4 - Packing and Shipping

Those who are interested but unable to attend the entire workshop are encouraged to drop in at any time in the afternoon.

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**1515: CAA ANNUAL BUSINESS MEETING - Yukon College Gymnasium**

## **SATURDAY 12 MAY - MORNING**

### **[15] Symposium: ARCHAEOLOGY AND THE PUBLIC**

#### **ROOM - C1220 (Student Lounge)**

Organizer and Chair - Lesley Nicholls

0900: Andrew R. Mason and David L. Pokotylo: "A Survey of Public Attitudes Towards Archaeological Resources and their Management."

0920: Carolyn Thauberger: "Person's Progress: Or, How to Achieve Archaeological Ends."

0940: Tim E.H. Jones: "Archaeology as Performance."

1000: Gerald A. Oetelaar: "The Volunteer Programme at the Strathcona Site: Getting the Public into the Pits."

1020: Coffee Break

1040: Carole Stimmell: "Archaeology in Winter: Transporting the Classroom into the Past."

1100: Heather Devine: "Writing for the Schools: An Archaeology Factsheet Series."

1120: Maureen Rollans: "Archaeology in Saskatchewan Schools."

1140: Tom Beasley and Charles Moore: "The Role of Avocational Groups for Underwater Archaeology."

1200: Lesley Nicholls: Taking the Public To Archaeology: A History of Field Study Tours at The University of Calgary."

1220: Lunch Break

## **SATURDAY 12 MAY - MORNING**

### **[16] Symposium: BRITISH COLUMBIA AND THE NORTHWEST COAST**

#### **ROOM - A2402**

Chair - Roy Carlson

0900: R.G. Matson: "Potato Mountain: The Archaeology of the Alpine Root Procurement."

0920: Gary Coupland: "The Point Grey Site: A Special Activity Component of the Marpole Culture in Southwestern British Columbia."

0940: Joanne A. Curtin and Geordie Howe: "Archaeological Investigations at DgRs-2, the Coast Salish Village of Tsawwassen."

1000: N. Alexander Easton, Charles Moore and Phillip Wright: "Underwater Explorations at Montague Harbour (1989)."

1020: Coffee Break

1040: Heather Pratt: "Evidence for a Common St. Mungo Phase From Three Sites."

1100: Stephen Hackenberger: "Comparative Computer Modeling of Coastal and Riverine Subsistence in Pacific Northwest Prehistory."

1120: Donald N. Abbott: "The Birdseye Cove Rockshelter on Vancouver Island."

1140: Jennifer Hamilton, Michael Zywna, S. Biron Ebell: "Cultural Resource Management on the Chilkoot Trail: The Preservation/Presentation Conundrum."

12:00 Lunch Break

## **SATURDAY 12 MAY - MORNING**

### **[17] Workshop: WRITING ABOUT ARCHAEOLOGY FOR THE PUBLIC**

#### **ROOM - 2602**

Co-ordinator - Kathryn Bernick

0900 to 1200

A workshop designed to discuss and develop the selection, organization, and presentation of archaeological information for publication in popular media. The workshop will involve informal presentations, case examples, and group discussions on writing and marketing.

Participation through advanced registration only (maximum 15). Register at the registration desk by Friday evening.

## SATURDAY MAY 12 - AFTERNOON

### [18] Symposium: ARCHAEOLOGY, MUSEUMS, CULTURAL CENTRES AND REPATRIATION

#### ROOM - C1220 (Student Lounge)

Organizer and Chair - William E. Taylor

1330: Shelly R. Saunders and Carl L.H. Devito: "The Ethics of Human Skeletal Remains."

~~1350: Carol Geddes: "Overview of the Heritage Subagreement of the Yukon Land Claim."~~

1410: Johnny Epoo: "The Cultural Heritage of the Inuit of Nunavik: The Role of the Avataq Cultural Institute."

1430: Charles D. Arnold: "Museums in the Northwest Territories."

1450: Louise Profeit-LeBlanc: "Survey Among Yukon First Nations To Determine Opinions for Care and Protection of Traditional Sites."

1510: Coffee Break

1530: Nancy A. Hall: "National Task Force on Museums and First Peoples: A Collaborative Approach to Museums and First Peoples."

1550: Elsie Netro: "An Innovative Approach to Teaching in Yukon."

~~1610: Eldon Yellowhorn: "Archaeology and the Science of Indians."~~

1630: Robert R. Janes: "Repatriation Policy and Practice at the Glenbow Museum."

**SATURDAY MAY 12 - AFTERNOON**

**[19] Workshop: ARCHAEOLOGY AND COMPUTERS**

**ROOM - A2702 (Computer Lab at Yukon College)**

1330 to 1630 hrs

Drop-in format. Bring your disks and ideas.

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**PUBLIC PROGRAMME: "STONES AND BONES"**

**ROOM - YUKON COLLEGE LIBRARY**

**1300 TO 1600**

**"STONES AND BONES" - A public information booth staffed by volunteer members of the CAA will be open Saturday afternoon, May 12, from 13:00 to 16:30, in the College library. Members of the public will be invited to bring along their "stones and bones" for identification and information on recording sites. Volunteers to meet with the public are still being sought. If you are interested and can spare a half an hour, contact the registration desk.**

## POSTER SESSIONS

All posters will be displayed in the entrance foyer to the college through the conference.

- [20] Poster: THE AVATAQ CULTURAL INSTITUTE; Ian Badgley
- [21] Poster: UNDERWATER EXPLORATIONS AT MONTAGUE HARBOUR; N.A. Easton
- [22] Poster: THE FORT SELKIRK CULTURE HISTORY PROJECT; R.M. Gotthardt and N.A. Easton
- [23] Poster: ACTIVITIES OF THE YUKON HERITAGE BRANCH
- [24] Poster: TRADITIONAL GWICH'IN LAND USE, DEMPSTER HIGHWAY AREA; S.C. Greer
- [25] Poster: THE ADVANTAGES OF LOW FLUX REACTORS TO ARCHAEOLOGY; R.G.V. Hancock, P.J. Julig, L.A. Pavlish, P.J. Sheppard
- [26] Poster: CANADIAN PARKS SERVICE MARINE ARCHAEOLOGY UNIT
- [27] Poster: CANADIAN PARKS SERVICE ARCHAEOLOGY IN YUKON
- [28] Poster: WEMINDJI ARCHAEOLOGICAL PROJECT CREE REGIONAL AUTHORITY; David Denton
- [29] FEDERAL ARCHAEOLOGICAL HERITAGE INITIATIVE - Personnel from the Archaeology Policy Section of Communications Canada will be on hand May 10 to provide information on the federal archaeological heritage initiative.

**ABSTRACTS**  
**OF**  
**PRESENTED PAPERS**



## ABSTRACTS OF PRESENTED PAPERS

ABBOTT, Donald N., Royal British Columbia Museum, Victoria, B.C. V8V 1X4.

### THE BIRDSEYE COVE ROCKSHELTER ON VANCOUVER ISLAND.

On the Northwest Coast occupation sites are almost invariably located on shorelines and dwellings are man-made structures. The use of upland rock shelter for long-term occupation is decidedly unusual. Such, however, was the case at DeRv 15, a large boulder fall rock shelter located on the back slope of Mount Tzuhalem, 1 km from the head of Birdseye Cove in the Cowichan district of Vancouver Island. Excavation revealed massive hearth deposits and middens largely composed of salt water mollusc shells but also including both marine and upland vertebrate species. Radiocarbon dates indicate two prehistoric occupation periods around 1200-1300 and 1900-2000 years ago. Artefacts found seem consistent with these dates and with the Gulf of Georgia cultural tradition. Evidence available would support various possible reasons for the site's use including a hunting camp, centre for ceremonial activities, or refuge. Some tool manufacturing was carried out at the site and it seems likely that people lived in the shelter for more than just brief periods at a time.

ALBRIGHT, Sylvia, Sabrena Research, Box 218, Lytton, BC.

### HISTORY OF THE MIDDLE SKEENA VALLEY, BRITISH COLUMBIA.

Ethnoarchaeological research was conducted in the middle Skeena Valley in 1985-86 on behalf of the Gitksan and Wet'suwet'en hereditary chiefs. References in the oral histories of Gitksan House groups were used to direct investigation of several ancestral village locations along the Skeena River. Excavation at Moricetown Canyon on the Bulkley River revealed a 6,000 year history of occupation. Diagnostic point styles and obsidian microblades from early components in the Moricetown and Hagwilget Canyons indicate cultural affinities with the Stikine and southern Yukon prior to 3500 B.P. Inter-regional exchange networks extend both south to Anaheim area and north to the Stikine in later periods. This research indicates that cultural patterns documented in the oral histories of the Gitksan and Wet'suwet'en peoples have considerable antiquity in the middle Skeena drainage.

ARNOLD, Charles D., Prince of Wales northern Heritage Centre, Yellowknife, N.W.T. X1A 2L9.

### THE STATUS OF ARCHAEOLOGY IN THE NORTHWEST TERRITORIES: LOOKING AHEAD TO THE 1990s.

A number of events which have happened over the past decade will affect archaeology in the Northwest Territories in the 1990s. The western arctic Inuvialuit land claim has been settled, and two other claims

which are close to completion will see large quantities of land transferred to Dene and Inuit control. These claims will soon result in new cultural resource management schemes and greater Native participation in archaeology. New heritage legislation is being drafted to keep pace with these events, and to provide better protection to archaeological sites. There is also a growing interest in culture-based tourism, and already several projects have been undertaken in the north with the primary purpose of interpreting archaeological sites for tourists. This paper also examines research priorities recently identified by archaeologists working in the Northwest Territories to identify trends which may dominate archaeological studies over the next decade.

Un nombre d'événements ayant eu lieu au cours de la dernière décennie aura des retombées sur l'archéologie dans les Territoires du Nord-Ouest lors des années 1990. Les revendications territoriales d'Inuvialuit dans l'Arctique de l'ouest ont été réglées et deux autres revendications qui sont sur le point de l'être verront une superficie territoriale importante passer sous le contrôle des peuples déné et inuit. Ces revendications entraîneront bientôt de nouveaux projets de gestion des ressources culturelles et une implication plus grande des autochtones dans le domaine de l'archéologie. On prépare de nouvelles lois sur le patrimoine pour aller de pair avec ces événements et pour mieux protéger les sites archéologiques. De plus, l'intérêt pour le tourisme culturel augmente et plusieurs projets, dont le but principal est l'interprétation des sites archéologiques pour les touristes, ont déjà été entrepris dans le Nord. Cet exposé traite aussi des priorités en recherche récemment établies par des archéologues travaillant dans les Territoires du Nord-Ouest afin de déceler les tendances qui pourraient prévaloir dans le domaine des études archéologiques au cours de la prochaine décennie.

ARNOLD, Charles D., Prince of Wales Northern Heritage Centre, Yellowknife, N.W.T. X1A 2L9.

#### MUSEUMS IN THE NORTHWEST TERRITORIES.

The Prince of Wales Northern Heritage Centre is the territorial government's main instrument for museum and heritage programs in the Northwest Territories. By providing financial assistance, training and advice the Northern Heritage Centre also fosters the growth of museums in other communities. Among the major issues to be addressed over the next decade will be the emerging role of heritage institutions which will be established through land claims, and the repatriation and management of collections by those institutions.

Le Centre du patrimoine septentrional Prince de Galles est l'instrument principal du gouvernement territorial pour la mise en application des programmes sur les musées et le patrimoine. En offrant de l'aide financière, de la formation et des conseils, le Centre du patrimoine septentrional favorise également l'établissement de musées dans d'autres communautés. Parmi les questions importantes qui seront soulevées lors de la prochaine décennie figureront celles du rôle nouveau des institutions du Patrimoine qui seront mises sur pied suite aux revendications territoriales ainsi que le rapatriement et la gestion des collections par ces mêmes institutions.

ARUNDALE, Wendy H., Institute of Arctic Biology, University of Alaska, Fairbanks, Alaska 99775-0170.

#### INNOKO RIVER SURVEY: LAND CLAIMS, LOCAL INVOLVEMENT AND ARCHAEOLOGY.

The Alaska Native Claims Settlement Act has allowed regional native corporations to claim large numbers of historic and prehistoric sites. The Act's covenants offer these sites considerable protection from development. Exceptions in the law, however, exclude many important sites. As a result, Doyon, Ltd., the regional native corporation for interior Alaska, sought to survey several areas within its region to gain additional information on both eligible sites. This paper describes one such survey on the Innoko River, a tributary of the lower middle Yukon near Holy Cross. Archaeological and ethnohistorical data as well as oral history from local people were major elements in the project. The author presents results from the survey, but also discusses issues related to land claims, local involvement, survey design, and cultural resource planning.

BACON, Glenn H., Alaska Heritage Research Group, Inc., P.O. Box 70397, Fairbanks, Alaska, 99707.

#### ESTABLISHING PROTOCOLS FOR CULTURAL RESOURCES INVESTIGATIONS: A CASE STUDY.

Culturally appropriate procedures were defined in 1988 for the conduct of archaeological field research for the U.S. Air Force Alaska Radar System Over-The-Horizon Backscatter program, located near Tok and Gakona, east-central Alaska. Interviews conducted with 22 Ahtna Athapaskans in eight villages and 21 Tanana Athapaskans at Tanacross obtained views on: (a) the conduct of archaeological survey, including shovel testing, (b) treatment of human remains, (c) archaeological testing of historic sites, (d) collection of artefacts, and (e) curation of collected specimens. Results of each set of interviews were codified and formally adopted as protocols by tribal leaders.

En 1988, des procédures culturellement adéquates furent définies pour la conduite de recherches archéologiques sur le terrain organisées pour le programme Backscatter de l'U.S. Air Force Alaska Radar System Over-The-Horizon, situé près de Tok et Gakona, Alaska du centre-est. Des entretiens conduits avec 22 Athapaskans Ahtna dans 8 villages et avec 21 Athapaskans Tanana à Tanacross produisirent des opinions sur: (a) la conduite de reconnaissances archéologiques, comprenant les explorations avec pelles, (b) le traitement des restes humains, (c) l'exploration archéologique des sites historiques, (d) la collection d'objets, et (e) la conservation des spécimens recueillis. Les résultats obtenus furent codifiés et adoptés formellement comme protocoles par les chefs de tribus.

BADGLEY, Ian. Avataq Cultural Institute, Montreal.

#### ARCHAEOLOGY AND THE INUIT COMMUNITIES OF NUNAVIK

The archaeological programmes conducted by the Avataq Cultural Institute over the past five years have centred on the management of cultural heritage resources in Nunavik and the training of Inuit in field techniques. These activities, combined with the original research, have been community-oriented, focusing both on local heritage priorities and the acquisition of archaeological information of local and regional interest. As well, the direct and active participation of the Inuit community or communities concerned in the planning, organization and execution of archaeological projects has been stressed in all instances. The

principal aspects of the programmes undertaken and the various levels of local involvement in these programmes are reviewed and discussed.

BANDOW, James B. and David W. BLACK, Department of Anthropology, McMaster University  
Department of Invertebrate Zoology, Royal Ontario Museum.

#### A CLAM FOR ALL SEASONS: PRELIMINARY SEASONALITY ANALYSIS OF SOFT-SHELLED CLAMS FROM THE BLISS ISLANDS.

This paper reports the results of thin-sectioning modern and archaeological soft-shell clams from the Quoddy Region, N.B. The growth records of 170 archaeological specimens from 5 shell middens on the Bliss Islands, spanning the period from ca. 2200 - 400 B.P., were compared to the growth records of 48 modern specimens collected during 1988-1989 at St. Andrews. These specimens indicate that shell fishing was predominantly a warm season activity through-out the Maritime Woodland period; however, some cold season exploitation of clams is also indicated, especially during the Middle Maritime Woodland period.

We have also found that clams ranging from 2-8 years of age are optimal for seasonality analysis and suggest that modern archaeological soft-shelled clams with chondrophore lengths of less than 1 cm be preferentially selected for such studies.

BARTON, Andrew J., Department of Archaeology, Simon Fraser University, Burnaby, BC V5A 1S6.

#### DENTALIUM AND THE NORTH AMERICAN FUR TRADE.

Dentalium pretiosum, a detritus feeding scaphopod mollusc found along the west coast of North America, was highly valued by the peoples of western North America as an item of decoration and as a symbol of wealth and status. It is reputed to have been fished exclusively by the Nuu-chan-nulth people on the west coast of Vancouver Island. From there it entered an exchange network that extended over the greater part of western North America. Archaeologists working on protohistoric and historic period native sites have assumed that the Dentalium recovered from these sites was acquired through the native exchange network. A review of the historical literature reveals a different situation. By the nineteenth century, Euroamerican traders were importing Dentalium from the east coast of North America and from as far away as Europe and introducing it to the western North American exchangenetwork. The implication of this source of Dentalium will be discussed.

BEASLEY, Tom and Charles MOORE. Underwater Archaeological Society of B.C.

#### THE ROLE OF AVOCATIONAL GROUPS IN UNDERWATER ARCHAEOLOGY

Groups of underwater avocational groups in Canada are growing in memberships and areas of activity. They are now in a position to fulfil a number of important roles serving the interest of submerged cultural resources on behalf of government agencies, academics and sport divers. Avocational groups are currently in the best position to serve as educators to the sport diving community. In doing so, they are in a position to

tap a valuable labour resource for underwater surveys and for the establishment of inventories. Their organizational structure makes them valuable as lobby groups and fund raisers, while their activities make them obvious receptacles for archival material. Avocational groups are uniquely placed to function as facilitators between the academic community and government regulators on one side, and divers and dive certification agencies on the other. This paper will examine the future roles of avocational groups in Canada's climate of underwater resource management.

BEDNARIK, Robert G., Australian Rock Art Research Association, Victoria, Australia.

#### GLOBAL DEVELOPMENTS IN PREHISTORIC ART STUDIES.

For many years, traditions and sequences of prehistoric art have been studied throughout the world as regional phenomena. Today, the diffusionist model of neo-colonialism is being replaced with one suggesting independent art origins and parallel developments in various world regions. The trend towards considering early art systems as means of access to the cognitive and intellectual development of hominids and humans certainly requires that they be viewed in a global context. In response to these trends a holistic approach is essential. The development of a global discipline will facilitate the synthesizing and correlation of these regional strands of information into a comprehensive whole. The organizational infrastructures which will service these new academic needs are now in place. In particular, the International Federation of Rock Art Organizations (IFRAO) will provide a medium facilitating new research directions.

Depuis longtemps, les traditions d'art préhistorique étaient étudiées partout comme un phénomène régional. Aujourd'hui, le paradigme diffusionniste 'neo-colonialisme' est remplacé par un qui suggère les origines et développements d'art sont indépendants et parallèles entre diverses régions du monde. La tendance à la considération des systèmes d'art comme les moyens pour comprendre les développements de cognition et d'intelligence entre les genres humains a besoin d'être envisagée dans un contexte mondial. En réponse à ces tendances une méthode holistique est essentielle. Le développement compréhensif d'une discipline mondiale facilitera la synthèse et la corrélation de ces renseignements régionaux. Les infrastructures qu'ils eussent servies de ces nouveaux dénouements académiques sont maintenant en place. En particulier, la Fédération Internationale des Organisations d'Art rupestre fournira le véhicule pour aider les recherches nouvelles.

BEHM, Jeffery A., Anthropology Program, University of Wisconsin-Oshkosh, Oshkosh, Wisconsin.

#### PETROFORMS IN WISCONSIN: IMPLICATIONS FOR THE AGRICULTURAL BELT OF THE MIDWEST.

Petroforms are well known from the northern Great Plains, to the Canadian and western portions of the Central Lowlands. Some circles, effigies, and a variety of geometric forms are frequently encountered on these sites. Similar petroforms have recently been recognized east of the Mississippi River, in east-central Wisconsin. While only a few have been verified, their scarcity in the archaeological record of this region is now attributed to their fragility and more than a century of intensive farming.

Les formes rupestres sont bien connues des Prairies du nord, jusqu'au Canada et de la Basse Centrale occidentale. Les cercles, effigies, et une diversité des formes géométriques sont rencontrés sur ces sites. Les formes rupestres semblables ont été reconnues récemment à l'est de la rivière Mississippi, en Wisconsin l'est-centrale. Pendant que seulement un peu étaient confirmés, leur pénurie dans la marque archéologique de cette région est attribuée maintenant à leur fragilité et plus d'un siècle de agriculture intensive.

BELL, Joy, Paradise, California, U.S.A.

#### WRITING-ON-STONE PROVINCIAL PARK, ALBERTA: A CHANGE IN PERSPECTIVE.

The Shaman artists of Writing-on-Stone carved precisely and decisively. Photographic techniques at night and in strong light are useful in revealing some of the differences in line in their rock art. This paper compares motifs and discusses the results of an experiment in night light photography.

Les artistes shamanique de Writing-on-Stone engraverent avec précision et d'une façon décidée. Les techniques photographique à nuit et en lumière fort sont utile pour decouvrir des différences en leur art rupestre. Cet papier met en comparaison quelque motifs et discute les resultats d'une experience en la photographie de lumière de nuit.

BERNICK, Kathryn, Vancouver, BC.

#### A POST-ANDROCENTRIC VIEW OF FRASER DELTA PREHISTORY.

Most reconstructions of recent Gulf of Georgia prehistory presume that salmon-fishing was the focus and that increases in population, wealth, cultural sophistication, and social stratification were casually linked to intensification of the fishery. In addition to inconclusive archaeological evidence, this model suffers from acute bias. The rise of a patriarchy where women's function revolved around butchering fish and producing babies (proposed for the Marpole Phase, 400 B.C. - A.D. 400) must be explainable in terms of gender relations; it is not the inevitable result of a preoccupation with stockpiling salmon, in itself an idea that needs explaining. It seems to me that fantasies of big fish, or at least many fish, have obscured the role of the estuary and its economic riches. The formation of the Fraser delta coincided with regional cultural efflorescence, which suggests an adaptive strategy of simultaneous exploitation of multiple resources.

BIGELOW, Nancy H., W. Roger POWERS, Department of Anthropology, University of Alaska, Fairbanks, Alaska 99775. James BEGET, Department of Geosciences University of Alaska, Fairbanks, Alaska 99775.

#### EARLY HOLOCENE CLIMATES IN THE NENANA VALLEY, CENTRAL ALASKA.

The Nenana valley of central Alaska contains a number of archaeological sites dating from the Pleistocene/Holocene boundary to the late Holocene. These sites are situated within the Holocene loess which mantles much of the valley. The earliest occupation (ca 11,300 BP), consisting of Nenana complex (Palaeoindian) artefacts, is present at Dry Creek, Walker Road, and Moose Creek Bluff. The next occupations (ca 10,700 to 7100 BP) are found only at Dry Creek and Fanguingue Creek; they consist of Denali complex (microblade) artefacts. The youngest cultural remains (ca 4700 to 3400 BP) are known only at Dry Creek and they are assigned to the Northern Archaic.

The loess sections record oscillations in the Holocene climate with episodic palaeosol formation (climatic amelioration) from 10,700 to 6700 BP, 4700 to 3400 BP, and 1100 to 400 BP. Sandy loess (climatic deterioration) was deposited between 11,100 and 10,700 BP, about 5000 BP, between 3400 and 1100 BP, and

after 400 BP.

Ice core, glacial and other climatic proxy data have recorded climatic oscillations beginning in the latest Pleistocene, which correlate well with the sandy loess deposition and palaeosol formation in Nenana valley.

The abrupt cooling at 11,000 BP separates two distinct components, the Nenana and Denali complexes. The cool phase may have set in motion a southward dispersal of some Alaskan Palaeoindian populations, with the return of milder climatic conditions, a new influx of North Asian microblade using populations dispersed throughout northwest North America.

BOWER, John. Iowa State University, and Michal Kobusiewicz, Polish Academy of Sciences, Pozan, Poland.

#### THE ROLE OF ENVIRONMENTAL ADAPTATION IN SHAPING CULTURE CHANGE: A COMPARATIVE STUDY OF LATE QUATERNARY HUNTER GATHERERS IN EUROPE AND NORTH AMERICA.

One of the more widely accepted assumptions about human cultures is that, in some degree, they are shaped by environmental adaptation, particularly as regards technoeconomic traits. The authors of this paper are investigating this assumption through a comparative study of cultural responses to changing environments between 12,000 and 5,000 BP in the northcentral United States and the North European Plain. Both areas experienced a broadly parallel series of ecological transformations during the period in question. Thus, one might expect broadly similar patterns of technoeconomic transformation in both areas. In the domain of lithic technology, the histories of raw material acquisition and modification differ sharply between Europe and North America, and the same can be said of patterns of change in food procurement strategies. Although some of these differences may be attributable to demographic factors and specific deviations in environmental history, the evidence so far available suggests that hunting-gathering cultures may be more loosely coupled with their environments than has generally been recognized.

BRINK, Jack, Archaeological Survey of Alberta, 8820-112 Street, Edmonton, Alberta T6G 2P8.

#### BOULDER ANVIL TABLES AND LITHIC REDUCTION AT THE CADFAEL SITE, EKKALUK RIVER, VICTORIA ISLAND.

The Cadfael Site (NiNg-17) is located on Victoria Island at the mouth of the Ekkaluk River alongside Wellington Bay. A curious feature of the Cadfael site was the presence of several large flat boulders, the tops of which were littered with intentionally fractured quartzite cobbles.

That lithic debris remained in situ on top of the boulders permits reconstruction of the manufacture processes which transpired on site. This paper attempts to interpret the events which created these lithic work stations through consideration of the nature of artefactual materials, the alterations to the boulder for the purpose of lithic reduction, and the selection of lithic materials. It is concluded that, using the bipolar technique, the boulder tops served as huge anvils for the initial reduction of quartzite cobbles into spalls and cores. Little if any secondary flaking occurred at these anvils.



The Cadfael site has been assigned an affiliation with the Dorset culture. Within the region, however, quartzite is rare at other Dorset sites but abundant in the Pre-Dorset components of two nearby sites. The ambiguous cultural affiliation of the anvil boulders is discussed. Although no similar features have been reported from other arctic sites, it is suggested that the Cadfael anvil boulders are not likely unique in arctic archaeology, and that other examples may have gone unrecognized.

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#### **"ROCHES-ENCLUMES" ET REDUCTION LITHIQUE AU SITE CADFAEL, RIVIERE EKALLUK, ILE VICTORIA.**

Le site Cadfael (NiNg-17) est situé sur l'île Victoria, à l'embouchure de la rivière Ekalluk, le long de la baie Wellington. Une caractéristique curieuse de ce site fut la présence de plusieurs grosses roches plates, jonchées de galets de quartzite ayant été intentionnellement fracturés. Le fait que ces débris lithiques avaient été laissés *in situ* sur la surface des roches, a permis la reconstruction du processus de fabrication d'objets lithiques qui eut lieu sur le site. Cette communication essaye d'interpréter les événements qui ont créé ces stations de travail lithiques, en tenant compte de la nature des artefacts, des modifications apportées aux roches afin d'y fabriquer des objets en pierre, et de la sélection du matériel lithique. On a conclu que le dessus des roches servit d'énormes enclumes lors de l'utilisation de la technique biopolaire pour la réduction initiale de galets de quartzite en nucléus et éclats. Très peu, et peut-être aucun, débitage secondaire eut lieu sur ces enclumes.

Le site Cadfael a été affilié à la culture dorsétienne de deux autres sites situés à proximité. On discutera donc de l'ambiguïté de l'affiliation culturelle des roches-enclumes. Bien que d'autres structures similaires n'aient pas été remarquées dans d'autres sites de l'Arctique, il est suggéré que les roches-enclumes du site Cadfael ne sont certainement pas uniques et que d'autres exemples ont dû passer inaperçus.

BRUMLEY, John, Ethos Consultants Ltd. and Terrance H. GIBSON, Saskatchewan Research Council

#### **HYPERTRIG: AN AUTOMATED METRIC ANALYSIS AND DATA DISTRIBUTION SYSTEM ON A DISC.**

Functional, stylistic and size differences of tools found in most New World archaeological assemblages have long been used as diagnostic indicators for distinguishing temporal or technological periods and in defining cultural complexes. As two researchers who have frequently attempted to deal with tool data, we have found that there are inherent problems with how such data are obtained during analysis and how they are subsequently described and presented in published form.

The metric analysis and data distribution system described in this paper is designed to largely overcome these and other problems in tool analysis. Using HyperCard on a Macintosh as a development platform, scanned images are placed into a computer data base. With an artefact image displayed on the computer screen, pre-defined landmark points are positioned over it at specified locations. Once the landmarks are established, a script calculates measurements and angles, placing the values into appropriate data fields. The data are more accurate than those obtained by callipers, and are far more reliable in terms of reproducibility. They can be easily exported to spreadsheet, statistic and graphing programs.

When assembled, a HyperTrig stack is entirely self-contained, needing no other data or tools to carry out the



metric analysis. We feel that it is a system which will enhance sharing of artefact data, and promote the development of theoretical studies in tool metric analysis.

**BURLEY, David V.,** Department of Archaeology, Simon Fraser University, Burnaby, BC.

**ENVIRONMENTAL IMPACTS OF THE 19TH CENTURY FUR TRADE ON THE UPPER PEACE RIVER - WHAT THE COMPANY RECORDS LEAVE OUT.**

The fur trade of the upper Peace River valley of British Columbia was established in 1794 and continued unabated until 1823 when the region was abandoned. Excavation of two Peace River posts, Rocky Mountain Fort (1794-1804) and St. Johns (1806-1823), provides comparable faunal assemblages from which the impact of this trade on local animal populations can be assessed. These assemblages illustrate that a once substantial bison population was all but wiped out by the early years of the 1800s, and moose, ignored by 18th century Peace River traders, had become a substitute. In addition, though Hudsons Bay Company records indicate the Peace River region continued to be a major exporter of beaver pelts in the 1820s, beaver populations within the range of fort hunters at St. Johns Post had become exterminated. The loss of bison and beaver at St. Johns was offset by the increased use of hare in the fort diet. In 1823 the St. Johns company clerk and four of his men were killed by local Beaver Indians. Traditionally, this "massacre" has been used to explain the regional abandonment. To the contrary, it is argued that severe resource depletion by 1823 no longer made the post of St. Johns profitable, and that the massacre was but one consequence of economic stress inflicted by the fur trade on the Beaver Indians.

**CINQ-MARS, Jacques,** Archaeological Survey of Canada, Canadian Museum of Civilization, Hull, Quebec.

**THE BLUEFISH AND OTHER CAVES - NORTHERN YUKON: AN OVERVIEW OF ONGOING INVESTIGATIONS.**

This poster serves to illustrate some of the results of interdisciplinary investigations carried out in the limestone ranges and plateaus located south of the Bell, Bluefish and Old Crow basins, upper Porcupine River basin, northern Yukon interior. Focusing on the Bluefish Caves Late Pleistocene palaeoecological and archaeological information which is known to span at least 15,000 years of depositional history, it also represents an overview of ongoing or planned work in a number of other recently discovered caves which all appear to be remnants of a complex palaeo-karstic landscape whose ongoing evolution likely goes back to the Late Tertiary.

CLARK, Donald W., Canadian Museum of Civilization, Hull, Quebec.

#### INTERPRETATION OF SIBERIA-NORTH AMERICA RELATIONSHIPS EXPRESSED IN EARLY ARCHAEOLOGICAL EVIDENCE FROM THE NORTHWESTERN SUBARCTIC.

The occurrence of fluted points in eastern Beringia can be examined in the light of either the Palaeo-Arctic tradition, best dated shortly after 10,700 BP, or the recently-validated early non-microblade occupation of more than 11,000 years ago. In either case, and whether interpretation follows the northern origins or the southern origins hypothesis, it is noteworthy that although fluted points essentially reach Bering Strait they did not cross over to Siberia. Later, beginning about 6000 years ago, sidenotched points again provide evidence of lithic tools distinctively confined to North America. In contrast to the evidence of the points, that of microblade technology indicates contact between the continents. However, models of Palaeo-Arctic migration across an emergent land bridge and of a uniform Dyuktai-type microblade technology may be obsolete. This is resulting in refining some of the scenarios of New World settlement with which we have been familiar for the past three decades. These situations lead to speculation concerning ethnic relations, diversity and contacts within the far Northwest and across Bering Strait. Furtherance of the question of Asia-North America relationships requires small steps taken with precision.

COUPLAND, Gary, Department of Anthropology, University of Toronto, Toronto, Ontario M5S 1A1.

#### THE POINT GREY SITE: A SPECIAL ACTIVITY COMPONENT OF THE MARPOLE CULTURE IN SOUTHWESTERN BRITISH COLUMBIA.

Results of excavations at the Point Grey Site (DhRt-5) in 1986 and 1988 are presented. Faunal analysis suggests that the site was a specialized camp used primarily for herring fishing by people of the Marpole culture. But other lines of evidence, including possible remains of permanent dwellings, human burials, artefacts associated with ceremonialism, and a large diversified tool assemblage, are more consistent with a village occupation. Shellfish seasonality evidence points to a late winter-early summer occupation. The implications of this evidence for Marpole settlement patterns are discussed, with comparisons to other presumed herring fishing camps in the Gulf of Georgia region.

CURTIN, Joanne A. and Geordie HOWE, Arcas Consulting Archaeologists, Vancouver, BC.

#### ARCHAEOLOGICAL INVESTIGATIONS AT DGRS 2, THE COAST SALISH VILLAGE OF TSAWWASSEN.

Archaeological investigations of the prehistoric site of Tsawwassen (DgRs-2) were conducted during the summer and fall of 1989 by Arcas Consulting Archaeologists, Ltd. The site is located on the Tsawwassen Indian Reserve at the northwest end of Roberts peninsula, near the BC Ferry terminal. The primary goal of the project was to mitigate impacts to the site resulting from the upgrading and expansion of the Highway 17 Tsawwassen causeway by the BC Ministry of Transportation and Highways. Cultural deposits at the site are thought to include Locarno Phase, Marpole Phase, protohistoric, and historic occupations. A large sample of human burials was recovered in the course of the project; the study of these remains is expected to yield valuable information on the health, demography, social organization, and cultural practices of the earlier inhabitants of the South Coast.

CWYNAR, Les. Department of Biology, University of New Brunswick.

#### LATE QUATERNARY CLIMATE CHANGE IN YUKON TERRITORY

Pollen records of vegetation are used qualitatively to draw inferences concerning past climates of Yukon Territory. The low organic content and predominance of non-arboreal taxa during the full-glacial suggest colder and likely more arid conditions than today. At Trout Lake in the tundra of the northern Yukon, full glacial sediments recovered from the centre of the lake, where the water was at a maximum of 10 m, contain a layer of gypsum crystal indicating that the basin had either completely dried out or nearly so; this provides direct evidence for the interpretation based on pollen records of greater aridity during the full-glacial. The spread of dwarf birches throughout eastern Beringia between 14,000 and 12,000 BP suggests climate warming and perhaps somewhat moister conditions. There is abundant evidence from the northern Yukon, central Yukon, and parts of adjacent Alaska and Northwest Territories that summers were significantly warmer between 11,000 and 5,000 BP as predicted by the Astronomic Theory of climate change: cattails, bog laurel, and poplar had more northerly distributions than at present and forest invaded tundra. The simultaneous increase of black spruce and green alder populations throughout most of the Yukon between 6500 and 6000 BP likely indicates the development of colder and moister conditions. In the southwest Yukon, aridity has increased during the past 4000 years, leading to more extensive grasslands.

DALLA BONA, Luke, David BEDARD, Department of Anthropology, University of Manitoba, Winnipeg, MB, R3T 2N2; Saskatchewan Research Council, 15 Innovation Blvd. Saskatoon, Saskatchewan.

#### SATELLITE-BASED REMOTE SENSING: IS IT REALLY USEFUL FOR ARCHAEOLOGISTS?

In the past, a number of archaeologists have made use of remotely-sensed data to address archaeological problems. A number of inherent limitations in these techniques stopped them from being more widely used by archaeologists. The first part of this paper presents an evaluation of advances in satellite imaging techniques and computer technology as they relate to archaeology. The different types of satellite images now available and the devices capable of displaying and transforming these data are also discussed. The authors focus on the increasing power of personal computers, the sophistication of image processing software and their combined ability to make use of satellite data at a reasonable cost. It is emphasized that the technology exists today to manipulate satellite data, such as Landsat and Spot, on relatively inexpensive equipment.

The second section of this paper places the use of satellite data in the context of archaeology in the 1990s. Previous studies utilizing remotely sensed data are reviewed. The strengths and limitations of using satellite data in the coming decade are discussed. While satellite data is not yet available in a resolution fine-grained enough to discover single sites, various applications to archaeology are presented.

DALLA BONA, Luke, Department of Anthropology, University of Manitoba, Winnipeg, Manitoba, R3T 2N2.

#### BEYOND VISUAL POSSIBILITY STATEMENTS: PREDICTIVE MODELLING IN THE SOURIS RIVER BASIN, SASKATCHEWAN.

This paper presents results of the development of predictive models of Late Prehistoric human settlement along the Souris River Basin, Saskatchewan. This research is conducted in the larger context of understanding settlement variability in the S.E. Saskatchewan/S.W. Manitoba/N. North Dakota regions during the last 2000 years of prehistory. Archaeological data were combined with other environmental variables to generate models of human locational strategy. The models were applied to the Souris River Region and hypotheses of settlement strategies were developed. A geographic information system (GIS) was employed to manipulate the large quantities of data involved in this study. This study involves an area of approximately 100 km<sup>2</sup>, centring on the Souris River, just west of Estevan, Saskatchewan.

DAMKJAR, Eric, Department of Anthropology, University of Alberta.

#### AN ECONOMIC MODEL OF DORSET LONGHOUSE DEVELOPMENT.

Late Dorset communal structures, commonly referred to as "longhouses", are now known from numerous Arctic locations. Treating them as households consisting of economically interdependent nuclear families, this paper develops a hypothesis concerning their origin. A general economic model suggests that there are two sets of conditions which encourage the development of communal households. In the first, large households are favoured when there is intra-community economic competition for access to controllable and predictable resources. The second occurs when resources are risky and unpredictable. Here, sharing between nuclear families helps spread the risk, and under certain conditions, encourages amalgamation to form large households. In this paper I suggest that communal households developed during Middle Dorset under the latter conditions and that their economic and social role during Late Dorset times can be seen as an evolution from these earlier "roots".

DAVIS, Stephen A., Department of Anthropology, Saint Mary's University, Halifax, Nova Scotia, B3H 3C3. Rudolph R. STEA, Nova Scotia Department of Mines and Energy, Halifax, Nova Scotia, B3J 2X1. Robert J. MOTT, Geological Survey of Canada, Ottawa, Ontario, K1A 0E8.

#### DEGLACIATION AND PALAEO-INDIANS IN NOVA SCOTIA.

Two recently discovered Palaeo-Indian sites in Nova Scotia will be introduced. Although, at this time, the archaeological efforts have been minimal other disciplines have contributed data to the understanding of late Wisconsinan events in this area of Atlantic Canada. Recent palynological evidence suggests a climatic oscillation during the Palaeo-Indian Period. The primary evidence is related to a number of peat beds dated between 12,700 and 10,500 B.P. These overlie previous glacial and fluvial deposits and have overlying deposits of various origins. The pollen in the lower and middle peat beds record the migration of spruce into the region which indicates climatic warming. The upper beds have evidence of a tundra-like flora reflecting a deterioration of climate. The evidence suggests that at least some of the overlain deposits are glacial, indicating that glaciers were active in Nova Scotia until about 10,000 B.P. Dating and palynological analysis

of lake sediments throughout Nova Scotia add further support to this hypothesis. Ice advances must have impacted upon the occupants of Debert and their recognition will play a role in the future excavation of the new sites.

DENTON, David, Cree Regional Authority.

#### NATIVES AND ARCHAEOLOGY IN QUEBEC: THE CASE OF THE JAMES BAY CREES.

Initial involvement of Crees in archaeology began in the mid to late 1970s, when individuals were hired as diggers and as informants to archaeologists carrying out surveys and excavations in connection with a massive hydro-electric development project. In the last few years, the Cree Regional Authority, in conjunction with Cree Bands, has carried out its own archaeology program. The objectives of this program have been 1) to provide services to Cree communities interested in using archaeology for exploring local and regional history and 2) to develop the role of the Cree Regional Authority and the Cree Bands in the management of archaeological resources.

Research activities carried out in connection with this program include surveys, excavations, interviewing of elders and experiments in stone tool manufacture and use. These activities have resulted in a tangible increase in archaeological knowledge of certain areas (in particular, the James Bay coastal zone) and periods (the historic period) which had hitherto received little attention. Where possible, the project has used local knowledge as a starting point for archaeological exploration and interpretation. In general, the full potential of this approach remains to be developed.

Cree involvement in the management of archaeological resources has developed at both the local and at the regional level. At the local level, the Cree Naskapi Act has been interpreted as providing for the control by the Bands of archaeological resources on reserve lands. The full implications of this control remain to be explored. The Cree Regional Authority has attempted to provide archaeological support to communities affected by hydro-electric projects that are now in progress in the La Grande river drainage basin. The approach has been to strive for cooperation between the developer and the community in the interests of developing an archaeological mitigation program that reflects both community aspirations and scientific goals. A much greater challenge is represented by Hydro-Quebec's proposed Great Whale and NBR projects, both of which are strongly opposed by Crees.

DEVINE, Heather, Public Education Officer, Archaeological Survey of Alberta.

#### WRITING FOR THE SCHOOLS: AN ARCHAEOLOGY FACTSHEET SERIES.

A common complaint of educators is the lack of inexpensive, current, and instructionally-appropriate material dealing with Canadian archaeology. Recently the Archaeological Survey of Alberta launched a series of

EASTON, N. Alexander, Yukon College, Whitehorse, Charles Moore, Underwater Archaeological Society of British Columbia, Vancouver, Phil Wright, Mount McGovern Co. Ltd., Ottawa, Peter Engelbert, Marine Archaeology, Ontario Ministry of Culture, Ottawa.

#### UNDERWATER EXPLORATIONS AT MONTAGUE HARBOUR (1989)

This paper will report on the underwater investigation of sub-tidal submarine deposits immediately offshore Borden site # DfRu-13, an extensive terrestrial archaeological site located on Montague Harbour, Galiano Island, B.C. Over slightly more than two working days, two test units were established and excavated by air lift to depths up to 70 cm. While no unequivocal artefacts of material culture were recovered, several lithic and faunal samples are suggestive of submarine cultural deposits, and further exploratory excavations are recommended. Methodologically, the project satisfactorily demonstrated the logistical possibilities of conducting subtidal underwater archaeology within the Georgia Strait. As well, it initiates a rudimentary knowledge of the conditions of subtidal foreshore deposits in which we might expect to find the remains of previous shoreline occupations from the mid-Holocene and perhaps earlier.

EPOO, Johnny. President, Avataq Cultural Institute, Inukjuak, Quebec.

#### THE CULTURAL HERITAGE OF THE INUIT OF NUNAVIK: THE ROLE OF THE AVATAQ CULTURAL INSTITUTE.

The Inuit Elders of Nunavik have long recognized the importance of archaeology to the preservation of knowledge concerning traditional Inuit lifeways, practices and values. The importance of the archaeological resources for cultural and educational purposes is underlined by a wide variety of heritage concerns expressed by the local Inuit communities. Major programmes implemented by Avataq in response to these concerns and the Institute's work and aims, including the repatriation of Inuit archaeological collections, are outlined and described.

EPP, Henry T., Saskatchewan Environment and Public Safety, Regina S4S 0B1.

#### MIGRATION SIX IMPLIES EXTINCTION.

The mass extinction of late Pleistocene North American mid-continental megafauna, adapted to an open woodland habitat, has been ascribed to various environmental causes and human overkill. I suggest here a new and testable hypothesis which seeks cause in animal behaviour. The new hypothesis attributes cause to seasonal migration by non-territorial ungulates as an adaptation to the newly expanded mid-continental plains grasslands, utilizing the plains in the summers and returning to the surrounding and much reduced open woodlands for the winters. The newly migratory populations increased tenfold, which is characteristic of migratory versus sedentary ungulates. This situation, in turn, caused a sixfold cumulative series of setbacks for the sedentary ungulates, behaviourally prevented from migrating out of the open woodlands: (1) population reduction caused by habitat reduction; (2) habitat increase for potentially migrant competitors; (3) a tenfold increase in winter forage competition by the migrant herds; (4) a severe increase in spring and summer predation by territorial predators (cats, bears) faced with a tenfold decrease in prey population after the spring out-migration; (5) heavier winter predation by increasing semi-migratory predators (wolves) moving in with the migrant herds; (6) an increase in human predation by semi-migratory bands preying on both

migrant and sedentary ungulates. The pressure on the territorial, sedentary taxa was too sudden and severe for them to evolve migrant strategies. Migration six implies extinction.

FARQUHAR, R.M., Department of Physics, University of Toronto, Canada. L.A. PAVLISH, Departments of Physics and Anthropology, University of Toronto, Canada. P.J. JULIG, Department of Anthropology, University of Toronto, Canada. A.D. D'ANDREA, Department of Anthropology, University of Toronto, Canada. W.D. FINLAYSON, Museum of Indian Archaeology, London, Canada.

#### **STE. MARIE II, CHRISTIAN ISLAND: REMOTE SENSING SURVEY.**

Christian Island in Georgian Bay was the final fall-back position of the decimated Huron nation following the devastating raids of the Five Nations Iroquois Confederacy war parties in 1649. Ste. Marie II (BeHb-1) was constructed along with a large Huron village on the southern coast of Christian Island. Unlike the fort, the walls of which remain intact today, there is little evidence for the settlement. Remote sensing techniques can sometimes locate buried features of archaeological interest without preliminary excavation and can help facilitate the formulation of a more efficient excavation strategy. One aspect of the Christian Island Archaeological Master Plan was the completion of remote sensing surveys in and around Ste. Marie II. Electromagnetic and resistivity surveys were conducted to identify the location of buried features. In this study, six survey regions are identified, evaluated, prioritized and ranked for archaeological significance based on the data recovered. This kind of information may be of direct use to the native community of Christian Island in planning their economic development.

FINNIGAN, Jim, Saskatchewan Research Council, 15 Innovation Blvd., Saskatoon, Saskatchewan, S7N 2X8.

#### **ARCHAEOLOGY OF A DEPRESSION.**

The nature of Archaeology is to draw big inferences from small samples. A common approach is to model artefact distributions at the site level based on data obtained from scattered test pits and small excavation blocks. Although formal explanations of the extrapolation model are usually absent, it often appears that simple gravity models are used with no special weighting for topographic relief or cultural features.

Geographic information systems provide a useful set of tools for managing and studying the interaction of various sets of spatially-based information. This study looks at one such interaction - the effect of slope on modelling artefact distributions. The data set is derived from an excavation at a Late Prehistoric kill/processing site which is situated within a natural depression: the Bill Richards Site is located just outside the city of Saskatoon.

FRIESEN, T. Max, Department of Anthropology, McGill University, Montreal, Quebec H3A 2T7.

#### **THE CASE AGAINST PLEISTOCENE BONE TECHNOLOGY FROM OLD CROW, YUKON TERRITORY.**

The Old Crow Basin, northern Yukon Territory, has produced large accumulations of Pleistocene vertebrate



fossils. Many large mammalian bones, including those of horse, bison, and mammoth, exhibit features indicative of breakage while fresh, before mineralization or desiccation occurred. These bones have been interpreted by several scholars as evidence of a human presence in eastern Beringia at a period variously dated from 25,000 BP to 150,000 BP. Acceptance of this controversial claim would constitute proof of a human entry into the Americas at an earlier time than is accepted by many archaeologists.

Research reported here consists of analyses of a large sample of fresh-fractured proboscidean (Mammoth) bone from Old Crow Locality 11A, including many specimens which have been interpreted as representing percussion-based bone technology. Results indicate that carnivore activity is strongly associated with the fresh-fractured bone sample and with the hypothesized bone technology. Furthermore, recent bone-breakage experiments indicate that the "technological" patterning on the Old Crow bones is analogous in several important ways to patterning produced by natural agents. As a result of these analyses, it is argued that a strong case can no longer be made for a Pleistocene human presence at Old Crow.

GEDDES, Carol, Council for Yukon Indians, Whitehorse.

#### AN OVERVIEW OF THE HERITAGE SUB-AGREEMENT OF THE YUKON INDIAN LAND CLAIM.

The heritagesub-agreement of the Yukon Indian Land Claim makes provision for increased participation and control by Yukon Indian peoples of the remains of their cultural heritage, including archaeological resources. This presentation will present an overview of the main components of the agreement and discusses the rationale behind the Council for Yukon Indians' position on heritage matters.

GENDRON, Daniel. Avataq Cultural Institute, Montreal.

#### THE JgEj-3 SITE: A GROSWATER OCCUPATION IN NORTHWESTERN UNGAVA BAY.

Rescue excavations carried out between 1985 and 1987 at the JgEj-3 site, near Quaqtaq, Nunavik, provide new information on the settlement pattern and technological variability of the Early Palaeoeskimo Groswater phase. These excavations, encompassing 5 semi-subterranean dwellings, a number of tent rings and other features, yielded a total of 19,000 lithics, including 2,600 tools. Although the radiocarbon dates are lacking, preliminary analysis of the data suggests an early first millennium B.C. occupation of the site. The habitation structures and the lithic assemblage are described and the implications of the site regarding the terminal phase of the Early Palaeoeskimo cultural continuum in western Ungava and adjacent regions are discussed.

GOODS, Bryan M., Department of Anthropology, University of Winnipeg, Manitoba.

#### PIGMENT ANALYSIS OF THE RICE RIVER PICTOGRAPH SITE, MANITOBA.

Chemical analyses were conducted on a paint sample from the Rice River Pictograph site, Manitoba, to determine its micrographical, elemental, and mineralogical composition, the vehicle and binder used, and the pigment's relationship to the panel's substrate. Results indicate the presence of haematite (Fe<sub>2</sub>O<sub>3</sub>), quartz (SiO<sub>2</sub>), potassium oxide (K<sub>2</sub>O), and a luminous oxide (Al<sub>2</sub>O<sub>3</sub>). No organics, which may have been employed



in the vehicle or binder, were present in detectable quantities.

Les analyses chimiques eussent conduit sur un échantillon du peinture rupestre de la site Rice River, Manitoba, pour déterminer sa constitution micrographique, élémentaire, et minéralogique, le véhicule et agglomérant qu'ils soient employés, et le rapport de la peinture avec le résultats substrat de la panneau. Les résultats indiquent la présence de hématite (Fe<sub>2</sub>O<sub>3</sub>), quartz (SiO<sub>2</sub>), oxyde de potassium (K<sub>2</sub>O), et oxyde d'aluminium (Al<sub>2</sub>O<sub>3</sub>). Aucune quantités organique, qu'ils soient employés peut-être en le véhicule et agglomérant, étaient discernable.

GORDON, Bryan C., Archaeological Survey of Canada, Canadian Museum of Civilization, Hull, Quebec.

#### FUNCTIONAL ANALYSIS OF BARRENLAND PRE-DORSET BURIN-RELATED TOOLS.

Of 997 sites in the Barrenland Beverly caribou range of the eastern District of Mackenzie, N.W.T. and northern Saskatchewan, 166 are Pre-Dorset. Of these, 20 north of the treeline have 371 burin-related tools, 247 with striae and 124 without. Seven sites south of treeline have only 10 tools, 4 striated and 6 unstriated. The few south range tools are due to dispersed hunter land use and limited tool-making activities. As the herd fissioned in the forest, its hunters dispersed to small scattered camps. The burin-related tools of slotters, burin planes, planes and primary and secondary spalls are defined and inter-related using functional analysis of their striae.

Des 997 gisements sur le territoire de la harde de caribous Beverly dans l'est du district du Mackenzie, T.N.O., et dans le nord de la Saskatchewan, 166 sont de culture pré-dorsétienne. De ceux-ci, 20 gisements sont au nord de la ligne des arbres et contiennent seulement 10 outils, 4 stries et 6 non-striés. Cette grande diversité peut s'expliquer par le fait qu'en hiver la taille des groupes de chasseurs était réduite afin de mieux poursuivre le caribou qui se dispersait dans la forêt en plus petits groupes. Donc, les sites sont moins souvent réoccupés et témoignent d'une réduction des activités laissant beaucoup moins d'outils à caractère buriné. Ces derniers sont délimités par l'analyse fonctionnelle de leurs stries: 1) burin-propre (utilisé pour faire des rainures), 2) burin-rabot (utilisé pour rabotter une surface), 3) rabot sans chutes, 4) chutes primaires et 5) chutes secondaires.

GREER, Sheila C., Boreal Institute for Northern Studies, University of Alberta, Edmonton, Alberta T6G 2E9.

#### HISTORIC ARCHAEOLOGY IN THE OLD CROW REGION: VANTA AND TUKKUTH GWICH'IN SITES.

Some of the subarctic region's best historic period native sites are found in the Old Crow area of the northern Yukon. While archaeological research here has focused primarily on prehistoric sites, Old Crow residents have pointed out many traditional 19th and early 20th century Vanta and Tukkuth Gwich'in sites. There are huge caribou fence complexes with their associated campsites and caches, fishing camps, caribou lookout sites and caribou processing campsites, winter moss house sites as well as more recent log cabin and cache sites. Many of the historic campsites also feature prehistoric occupations. It is believed that despite the lack of research emphasis on historic sites, continuing archaeological investigations in this region have made Old Crow people aware of the material record of their past. This situation, coupled with the existence of a strong oral tradition, means that an historic sites research programme could make a significant contribution to our understanding of both prehistoric and historic period native life in this area.

GREER, Sheila, Boreal Institute for Northern Studies, University of Alberta, Edmonton, Alberta T6G 2E9.

#### ORAL TRADITION AND ORAL HISTORY IN THE BLACKSTONE UPLANDS.

A combined oral history and archaeology research project undertaken on the Dempster Highway, northern Yukon identified a major cluster of historic Gwich'in sites in the Blackstone Uplands of the upper Peel River basin. The region was a major land use area for both Tukukth and Tetlit Gwich'in during the first two decades of this century; meat hunting was the major economic activity at this time. Elders who had lived in the Blackstone country until late 1920s, when the area ceased to be occupied on a full-time basis, pointed out early twentieth century grave, cache and camp sites, as well as trails, legend settings, toponyms (place names), and important resource areas. Black City (LeVh-2), the most important campsite, was also indicated as a place where "oldtimers" used to live. Ground checking of this site showed that it features the remains of at least three types of native dwelling structures, including log based tent houses, shallow rectangular tent depressions, and semi-subterranean housepits. The project demonstrated the strength of native oral tradition and oral history for site research in this area.

GREER, Sheila C., Boreal Institute for Northern Studies, University of Alberta, Edmonton, Alberta T6G 2E9.

#### TRADITIONAL GWICH'IN LAND USE, DEMPSTER HIGHWAY AREA.

An on-site oral history research project was undertaken in the Dempster Highway corridor area of the northern Yukon in order to collect historic site data for regional planning purposes. As previous inventory work here had recorded only prehistoric sites, the project emphasis was on identifying historic sites and recording traditional Gwich'in use of the area. Elders from Dawson and Fort McPherson, who had once travelled through the study area on foot or by dog team, proved to be the ultimate tour guides; they provided toponyms (place names) and pointed out legend settings, important resource areas, trails, as well as historic grave, camp and cache site locations. These data categories as well as informant life histories proved to be important sources of information on early twentieth century Tukukth and Tetlit Gwich'in land use patterns.

GULLASON, Lynda, Department of Anthropology, University of Alberta, Edmonton, Alberta, T6G 2H4.

#### THE ARCHAEOLOGICAL INVISIBILITY OF CULTURE CONTACT.

The character of Native-European contact and its effect on Native culture has received little attention in fur trade archaeology. Native encampments associated with the trading posts, known as plantations, offer opportunities for studying culture change through contact. The plantation site selected for this research lies between Fort George and Buckingham House, two posts which operated in east-central Alberta from 1792-1800. An extensive program of judgmental and probabilistic excavation yielded little evidence for an historic Native presence in the form of features or artefacts. This archaeological invisibility may be partly explained by cultural site formation processes. The plantation is a site characterized by multiple brief visitations by various ethnic groups (including Europeans) who were all involved in activities leaving little traditional material residue. The lack of evidence for Native use of the site as a trade camp is not completely unexpected, given the short occupation period (1 to 3 days); the social nature of the activities (smoking, drinking and visiting) which would leave few traces; and the routine cleanup of the area by the Europeans.

A more complete data base exists within the forts themselves. A Native female presence is well-documented at both forts. As 'country wives' of the employees, the strongest archaeological evidence for their identity would be found in the employees' residences. Culture contact research at fort sites may best be undertaken through gender-based analyses of domestic artefact assemblages.

### **L'ABSENCE ARCHEOLOGIQUE DE CONTACTS CULTURELS**

La nature du contact entre autochtones et européens ainsi que ses effets sur la culture autochtone a reçu peu d'attention de la part des archéologues s'intéressant à la Traite des fourrures. Les campements autochtones associés aux postes de Traite étaient connus sous le nom de "plantations" et ils offrent l'opportunité d'étudier les changements culturels causés par les contacts entre autochtones et européens. Le site de la plantation choisie pour cette étude se situe entre le Fort George et la Maison Buckingham; deux postes de Traite qui furent en opération dans le centre-est de l'Alberta de 1792 à 1800.

Malgré des fouilles archéologiques. L'absence d'évidences rendant compte de la présence historique des autochtones. L'absence des vestiges archéologiques peut s'expliquer en partie par la façon dont se forme un site archéologique. Ainsi, une plantation est un site qui se caractérise par de multiples visites de courte durée par différents groupes ethniques (incluant les Européens, dont les activités laissèrent peu de vestiges archéologiques. L'absence d'évidences rendant compte de la présence autochtone dans un camp à proximité d'un poste de Traite, n'est toutefois pas complètement inattendue si on considère la courte période d'occupation 1 à 3 jours et la nature sociale des activités fumer, boire, visiter qui laissent peu de traces. De plus, les Européens devaient régulièrement nettoyer l'endroit. Un échantillonnage plus complet se trouvera à l'intérieur des postes de Traite. La présence de femmes autochtones est bien documentée dans chacun des deux forts. Ces dernières étant les épouses des employés du poste de Traite, l'évidence archéologique de leur présence devrait se trouver dans les résidences des employés. La recherche sur les contacts culturels dans les forts pourrait donc être améliorée si elle tenait compte du genre (masculin/féminin) lors de l'analyse des assemblages d'artéfacts domestiques.

**HACKENBERGER, Stephen, University of Wisconsin Centers.**

### **COMPARATIVE COMPUTER MODELLING OF COASTAL AND RIVERINE SUBSISTENCE IN PACIFIC NORTHWEST PREHISTORY.**

Computer models of economic decision making for the Pacific Northwest Coast are compared with similar models for the Columbia River Basin. Results suggest that the potential depletion of coastal shellfish and consequent winter resource shortages promoted storage economies and population growth, whereas the greater winter availability of ungulates and freshwater shellfish retard the development of storage economies and population growth, despite readily available and storable salmon and roots. Intensified resource use and storage may have been developing by 4000 years ago in many coastal settings; however, similar levels of resource use and storage may have developed as late as 2500 years ago along the Columbia River. Riverine subsistence patterns post-2500 are conditioned by region-wide fluctuations in ungulates and salmonids and the local availability of shellfish and roots.

HALL, Nancy. Canadian Museums Association, Ottawa.

#### **NATIONAL TASK FORCE ON MUSEUMS AND THE FIRST PEOPLES: A COLLABORATIVE APPROACH TO REPATRIATION**

The Task Force of Museums and First Peoples will work to develop a set of guidelines/ethics on repatriation of artefacts, improved access to museum collections by aboriginal peoples, and more involvement of aboriginal peoples in the interpretation of their culture and history by cultural institutions. The guidelines will serve as an example for the development of working policies for museums, museum associations, aboriginal cultural centres and organizations and government-run culture and heritage programs. Over the past year, representatives from national aboriginal organizations, culture centres and the museums community negotiated the mandate, structure and membership of the task force. This paper will provide an overview of the issues, a discussion of the parallel process occurring in the United States and what the potential outcome will mean for Canadian museums.

HALLENDY, Norman. Avataq Cultural Institute Inc.

#### **"REFLECTIONS, SHADES AND SHADOWS"**

Selected readings from a collection of interviews with Inuit from several localities in Arctic Canada demonstrate the variety and quality of oral information and the potential of such information to contribute to the increased archaeological visibility of past Inuit societies in the region.

HAMILTON, Jennifer F.A., Michael ZYWINA, S, Biron EBELL. Canadian Parks Service, Winnipeg.

#### **CULTURAL RESOURCE MANAGEMENT ON THE CHILKOOT TRAIL: THE PRESERVATION/PRESENTATION CONUNDRUM**

The proposed Chilkoot Trail National Historic Park in northern British Columbia is one of the largest historic parks in North America. The Canadian portion of this international park extends 26.6 km from the Canada-U.S. boundary to Bennett, a ghost town from the gold rush era. Artefacts are scattered on the surface along the entire length of the trail with increased concentrations at habitation sites such as Bennett, Lindeman City or the Summit. The Chilkoot Trail is being developed as an *in situ* heritage museum where people can hike the route taken by the stampedeers at the turn of the century and enjoy the experience of visiting historically significant sites along the way. Most artefacts and features are exposed on the surface and are readily accessible to the public. As a result, the natural deterioration is increased by the additional impact of visitors. The dilemma arising from the obligation to protect heritage resources and to inform Canadians about their heritage, as stated in the Canadian Parks Service policy, makes resource management an interesting challenge.

HAMILTON, Scott, Department of Anthropology, Lakehead University, Thunder Bay, Ontario P7B 5E1.

#### HERITAGE RESOURCE PREDICTIVE MODELLING IN NORTHERN ONTARIO.

The Centre for Northern Studies at Lakehead University is planning a feasibility study on behalf of the Ontario Ministries of Natural Resources, and Culture and Communications. This study will determine whether it is feasible to utilize large-scale predictive modelling as part of heritage resource impact assessment of Crown land that is slated for timber harvesting.

This project will first identify variables believed to be important in conditioning past land use and settlement activities. These variables include a range of ecological, topographic, hydrological, and geological factors, in addition to those not directly related to the physical character of the land. Variables of the greatest likely predictive value will be selected to determine the likelihood of encountering heritage resources. Geographic Information Systems will play an important role in data management. The second stage of the project will involve selecting a sample region, and applying specific variables to identify zones with a high and low probability of containing heritage resources. Ultimately, archaeological survey of a sample of these zones will be carried out in order to determine how well the model functioned in predicting site location.

This approach has very obvious potential for Cultural Resource Management, but may also be of great utility for academic research calculated to reconstruct prehistoric and historic settlement patterns. As much of our current archaeological knowledge of the Boreal Forest is from sites concentrated along the shores of rivers and lakes, systematic and large-scale investigation of the upland regions most frequently used for timber cutting will be of great value in correcting the biases of the current site inventory.

HANCOCK, R.G.V., Department of Engineering and Applied Chemistry, University of Toronto, Canada. P.J. JULIG, Department of Anthropology, University of Toronto, Canada. L.A. PAVLISH, Room #244, Department of Physics, University of Toronto, Canada. P.J. SHEPPARD, Department of Anthropology, University of Auckland, New Zealand.

#### THE ADVANTAGES OF LOW FLUX REACTORS TO ARCHAEOLOGY.

Instrumental Neutron Activation Analysis (INAA) with low flux nuclear reactor facilities like SLOWPOKE permits the non-destructive bulk analysis of very small specimens and whole artefacts without damage or need of excessive "cool-off" periods. This situation contrasts sharply with that of high neutron flux reactors which tend to create "hot" artefacts that are permanently lost to the analyst. Recently, some high-flux reactors have installed outer flux irradiation ports, but these do not as a rule have a 2 x 5 cm artefact carrying capacity as do SLOWPOKES. The advantages of low flux reactors, in addition to being less expensive, are briefly discussed, and these include: 1. the ability to determine major, minor and trace element concentrations with accuracy and precision of 0.5% or better; 2. the liberal limits of sample size which range between less than one milligramme and 75 grammes in one of three polyethylene capsule sizes (2/5, 2 and 7 dram); 3. the ability to analyze a wide variety of sample types including: wood; bone; horn and ivory; organic substances; stone; metals; sediments; and liquids (e.g., groundwater).

HANKS, Christopher C., Canadian Parks Service, Yellowknife, N.W.T.

#### THE USE OF THEMATIC MAPPER DATA TO EXAMINE THE ENVIRONMENTAL SETTING OF ARCHAEOLOGICAL SITES ON THE CANADIAN BARRENLANDS.

The use of digital imagery in archaeological research in the north is still extremely experimental. The successful application, however, of remotely sensed data to the study of native occupation of the barren lands has significant implications for both research and management of human heritage in the Northwest Territories. Thematic Mapper data is being used to examine biogeographic factors associated with archaeological site distribution in the eastern barren lands. The study area is located along the Kazan River between Angikuni and Yathkey Lakes, south of Baker Lake. The locality provides a diversity of topography and vegetation ideal for examining correlations between aboriginal settlement and landscape on the northern fringe of the tree line. Results from this pilot project indicate the usefulness of the Thematic Mapper in examining the environmental milieu used by native hunters, but to date it has not been shown to be an effective "stand alone" predictive device for anticipating archaeological site distribution.

HELMER, James. W., Department of Archaeology, University of Calgary, Calgary, Alberta T2N 1N4.

#### PATTERNS OF PREHISTORIC LAND USE IN A HIGH ARCTIC OASIS.

This paper summarizes the settlement pattern data obtained from 184 archaeological components located on the northeast coast of Devon Island, N.W.T. during the 1982 through 1987 field seasons. Locational, compositional and chronological observations made on these components are tabulated and evaluated quantitatively. Significant non-random patterns in site distributions through both space and time are demonstrated.

This paper also explores the relationship between the site location patterns observed in the study area and the spatial distribution of natural resources as measured by a cumulative ordinal scale of access to five spatially discrete and economically significant physical variable including open water, smooth sea ice, recurring leads, sedge meadows and fresh water (interior ponds and streams). A significant positive correlation is demonstrated between locales (spatially discrete topographic sub-sets of the study area) with high site densities and those that score highly in terms of access to marine resource variables (recurring leads and open water in particular) and lowly in terms of access to sedge meadows and to fresh water. A more detailed evaluation of this relationship reveals potentially significant differences in the correlation matrices characterizing Early Palaeo-Eskimo, Thule Summer/Winter and Historic Inuit site/resource distributions suggesting major chronological differences in land use patterns and over all adaptive strategies.

HOLMES, Charles E., Alaska Department of Natural Resources, Anchorage, Alaska 9951.

#### THE BROKEN MAMMOTH SITE: ITS RELEVANCE IN ALASKA/YUKON PREHISTORY.

Well preserved faunal remains were recently discovered in the central Tanana River valley directly associated with lithic artefacts in a buried stratigraphic context. Bone preservation has been assisted by the presence of calcium carbonate in the silt matrix. The faunal assemblage includes proboscidean tusk (cf. mammoth), ground squirrel, snowshoe hare, possible otter, swans, geese, ducks, numerous burned long bone fragments,

and antler fragments. These data support the concept that early people were adept at exploiting the broad range of resources in the region. Potentially, the site affords the most complete picture of human subsistence thus far discovered for Northern North America during Guthrie's "critical millennium" (11,500 to 10,500 B.P.). The contemporaneity of "mammoths" and humans in Eastern Beringia precipitates a reevaluation of current opinions regarding fauna compositions, extinctions, and human behaviour.

**HORSFALL, Gayel A., University of British Columbia, Vancouver, BC. V6T 1Z2.**

#### **WHAT WOMEN SAY: CHINESE, EUROPEANS AND JAPANESE IN CUMBERLAND, B.C.**

Differences in photographs of Chinese, European and Japanese women and their families in Cumberland, B.C. from 1913 to 1927 point up the symbolic content of social categories such as gender and ethnicity. That symbolic content is based in a ideology of social relations and is used to manipulate those relations. What makes this important for archaeologists is 1) symbolic content of a social category differs from social behaviour; 2) symbolic content of social categories influences the content and use of material culture; 3) symbolic content of social categories differences between ethnic groups because of differences in social ideology; and 4) differences in social ideology underlie ethnic organizational and economic responses to economic stress. In other words, material culture monitors symbolic meaning at least as much as "objective", and symbolic/cultural differences may be essential in understanding long-term adaptive strategies.

**JACKSON, Lionel E. Jr., Geological Survey of Canada (Vancouver) and Ruth M. GOTTHARDT, Heritage Branch, Government of Yukon.**

#### **THE PERSISTENCE OF NATIVE ORAL HISTORY AND VOLCANIC ACTIVITY AT VOLCANO MOUNTAIN, YUKON.**

Volcano Mountain is a relatively fresh cinder cone 17 km north of Fort Selkirk. Lava flows have been erupted from it during the geologically recent past. Native oral history describes one or more eruptions. A geological investigation of the mountain indicates that the last eruption occurred prior to 300 b.p. with the major eruptions occurring prior to mid-Holocene time. Native oral history remains the most compelling evidence for recent volcanic activity. The details of the historical account of the last eruption demonstrate the capability of oral history to faithfully record natural events for periods of at least 300 to 400 years.

**JANES, Robert R., Director, Glenbow Museum,, 130-9 Avenue S.E., Calgary, Alberta, T2G 0P3.**

#### **REPATRIATION POLICY AND PRACTICE AT THE GLENBOW MUSEUM.**

Recent initiatives have underscored the growing interest in improving relationships between museums and aboriginal peoples in North America. Two of these recent initiatives include the establishment of the National Museum of the American Indian in Washington, D.C., in 1989 and the 1988 conference in Ottawa co-sponsored by the Assembly of First Nations and the Canadian Museums Association.

These events, and numerous others like them, have clearly demonstrated that increased collaboration between



aboriginal peoples and museums is both essential and complex. Mutually acceptable solutions to long-standing issues are not necessarily obvious.

The resulting dilemmas can be explained in part by the fact that aboriginal cultures are dynamic and diverse. It is important, therefore, to be flexible and reasonable in any museum policy dealing with aboriginal concerns, so that changing conditions and perceptions may be taken into consideration.

Glenbow's repatriation policy recognizes the importance of flexibility and unique circumstances, in an effort to achieve a balance between legitimate aboriginal interests and the public trust. Specific aspects of the Glenbow's policy are described and evaluated, including repatriation to religious groups and the conditions under which the ownership of non-religious objects may be transferred. Continuous evaluation of any repatriation policy is essential to ensure that it remains sensible and productive.

JOHNSTONE, Dave, Department of Archaeology, Simon Fraser University, Burnaby, B.C.

#### FAUNAL REMAINS FROM LONG HARBOUR.

Excavations of a shell midden (DfRu-44) from Saltspring Island B.C. revealed two stratigraphically separated cultural components corresponding to the Marpole and Locarno Beach phases. Between and within component analysis of the faunal remains show that while the species utilized remained fairly constant through time, there was a change in the intensity with which herring and clams were exploited.

JONES, Tim E. H., Saskatchewan Archaeological Society, #5-816 1st Avenue North, Saskatoon, Saskatchewan S7K 1Y3.

#### ARCHAEOLOGY AS PERFORMANCE.

The Saskatchewan Archaeological Society staged an "Archaeological Games and Crafts Festival" as part of the cultural program associated with the 1989 Jeux Canada Games. Society volunteers demonstrated a number of skills and materials used by prehistoric inhabitants of the Prairies, and gave opportunity for spectators to participate.

Such direct involvement by the casual observer can serve as a unique and stimulating entrée to the subject and practice of archaeology to vastly greater numbers than archaeologists are yet reaching. The imperatives involved in fostering public archaeology can be well served by staging other "experimental archaeology" events like this one.

Arising from the success of this experiment, a national Archaeology Day (Week) is proposed.

JONES-DELO, Iloilo M., Helena, Montana, U.S.A.

#### ROCK ART INVESTIGATIONS IN THE MIDWESTERN UNITED STATES.

A resurgence of interest in Midwest rock art investigations is noted. Many of the sites recorded in the early part of this century were either lost or had suffered damage due to erosion, vandalism, or art collectors.



Research into early site reports has assisted in the relocation of some of these, as well as the discovery of heretofore unreported sites in adjacent areas. New levels of synthesis, interpretation, and technological advances has produced an inventory of unanticipated magnitude imagery, execution, and site locations for this region of North America.

Une réapparition d'intérêt est noté pour les recherches de l'art rupestre en les grands plateaux du Midwest. Un grand nombre de sites enregistrés dans la première partie de cet siècle étaient perdu ou avaient souffrir de dommage attribuable à l'érosion, la vandalisme, ou des collectionneurs de l'art. Recherche avec les premières rapports du sites aida à l'emplacement nouveau de quelques, aussi la découverte des sites nouveau. Les avancées nouveaux de la synthèse, l'interprétation, et de technologie avaient produit un inventaire d'ampleur inattendu à les images, styles, et sites pour cet region de Amérique du Nord.

JORDAN, Richard H., Department of Anthropology, University of Fairbanks, Fairbanks, Alaska.

#### NATIVES AND ARCHAEOLOGISTS: THE KODIAK EXPERIENCE.

For much of the twentieth century most archaeology has been conducted by applying scientific techniques and procedures to a corpus of data in an attempt to understand the history of cultural development on a global basis. Most of its practitioners derive from a Euro-American intellectual tradition which is most closely associated with the discipline of History in Europe and with Anthropology here in the Americas. Nevertheless, the goals of both branches have been identical, i.e., to understand, preserve and protect the record of human cultural heritage. While we, as practitioners, have much to take pride in, many challenges remain.

In the not too distant past, archaeology was conducted with little, if any, input from local native communities. This has sometimes led to misunderstandings and conflict between native people and scientists. One of the legacies of this history is still very much with us today, i.e., the current debate over reburial and repatriation, as well as strong demands for local museums.

Given the goals of the field, I find much room for optimism in terms of archaeologists and Native people working together in a constructive manner. A case example from Kodiak Island will be outlined, since it provides at least one model for demonstrating how a positive and mutually supportive relationship can emerge to the benefit of all parties concerned.

JULIG, Patrick J., Department of Anthropology, University of Toronto, Ontario M5S 1A1.

#### LITHIC TECHNOLOGY AND GEOARCHAEOLOGY AT SHEGUIANDAH SITE, MANITOULIN ISLAND: A PRELIMINARY REASSESSMENT.

The Sheguiandah site on Manitoulin Island in northern Lake Huron was excavated by T. Lee in the 1950s and reported as stratified, with artefacts in a diamicton below a Paleoindian (Eastern Plano) cultural level. The diamicton was interpreted as till and the lower cultural levels proposed as representing a pre-late Wisconsinan occupation. The full results of the Sheguiandah work were never published and controversy remains regarding the age and cultural affiliation of the artefacts from the lower levels, and the precise nature of the site geology. Technological analysis of the existing collections are in progress in order to: (1) characterize the assemblages from the four main levels, (2) determine organizational aspects of the quartzite

industry (raw material procurement, reduction and tool production), and (3) determine intra-level technological continuity and/or change. In addition to the preliminary assessment of the lithic technology, the previous interpretations of the site stratigraphy will be evaluated. Evidence from conjoinable pieces will be used to determine the extent and nature of postdepositional processes affecting artefact context. The stratigraphic context and weathering of quartzite artefacts will be evaluated in regards to site formation and postdepositional processes. Analysis of site sediments (collected in the 1950s excavations) will provide additional information on site formation processes and sediment origins. Finally, I will evaluate the potential influence of the large scale basin fluctuations in Lake Stanley (Lake Huron basin), due to the Early Mattawa Flood event that occurred at ca. 9600 B.P.

**KARPES, Mima.** Royal Ontario Museum, Toronto.

#### **THE TORONTO SCARP: AN ANALYSIS OF ITS IMPACT ON PREHISTORIC POPULATION MOVEMENT.**

The Toronto Scarp was a high bluff feature directly to the south of the Toronto islands. This feature may have extended as much as 15 km in an east-west direction, terminating in the Toronto area to the west of Hanlan's Point. In existence during post glacial, post Iroquois times, the shoreline of the lowest level of the lake in the Ontario basin, the Admiralty phase, apparently was situated at the base of this 60m bluff. In this paper this feature will be described and the implications for prehistoric animal and human population movements will be discussed.

**KELLEY, Jane H. and Warren HILL.**

#### **RELATIONSHIPS BETWEEN GRADUATE TRAINING AND PLACEMENT IN CANADIAN ARCHAEOLOGY: DO WE HAVE A PROBLEM?**

This study uses information from the AAA Guides to Anthropology, records of the Department of Archaeology (University of Calgary), data provided by the Departments of Anthropology (University of Toronto) and Archaeology (Simon Fraser University). The changing nature of graduate student bodies and staff in 20 Canadian departments offering advanced training in anthropology and archaeology is presented. For two departments, post-graduate activities of MAs and PhDs are examined. It is argued that a tension exists between the nature and content of graduate training (oriented primarily toward academic interests), and the reality of the job market. Even if graduate departments were willing to tailor their programs to the job market, it is not clear what changes should be made. The successful planning of graduate programs that mesh with employment opportunities is rendered problematic by the changes in the job market over time and the diversity of kinds of employment accepted by archaeologists. Universities must, however, maintain an awareness of the social and economic context in which archaeology is practised.

#### **RELATIONS ENTRE LES DIPLOMES DES CYCLES SUPERIEURS ET L'EMPLOI EN ARCHEOLOGIE CANADIENNE: AVONS-NOUS UN PROBLEME SUR LES BRAS?**

Les renseignements utilisés dans notre étude proviennent du dépouillement du AAA Guides to Anthropology, des archives du département d'archéologie de l'Université de Calgary; ainsi que de données fournies par les départements d'anthropologie de l'Université de Toronto et d'archéologie de l'Université

Simon Fraser. Nous débutons tout d'abord par une présentation du caractère changeant de la clientèle universitaire au niveau des deuxième et troisième cycles et du personnel enseignant de 20 départements offrant une formation en anthropologie ou en archéologie au Canada. Les activités professionnelles des diplômés de deux départements offrant la maîtrise et le doctorat sont examinées plus en détail. Nous identifions un problème au niveau de la nature et du contenu du programme de formation des diplômés (dont le but primordial est d'intérêt académique) versus la réalité du milieu du travail. De plus, dans l'éventualité où les départements seraient d'accord à modifier leur programme afin de répondre aux besoins du marché, il n'est pas clair quels devraient être ces changements. La planification de nouveaux programmes qui répondraient aux exigences du marché du travail est de plus compliquée par la constante mutation de ce marché et par le type de travail accepté par les archéologues. Enfin il est du devoir des universités de prendre conscience du contexte économique et social où s'exerce l'archéologie.

KILMKO, Olga, Saskatchewan Research Council, Saskatoon, Saskatchewan.

#### FRANCOIS-FINLAY SITE COMPLEX: EVIDENCE FOR INCREASED FUR TRADE ACTIVITIES.

In the early 1960s the Kehoes of the Saskatchewan Museum of Natural History excavated a fur trade post complex in east central Saskatchewan near the present town of Nipawin. The two structures were attributed to the independent traders, Francois Le Blanc and James Finlay, who operated here between 1768-1772. More recent excavations by the Saskatchewan Research Council in 1984 and 1985 exposed additional structures at the site, including a large warehouse, indicating increased utilization of the area. Archival sources, which are scarce, and the artefacts suggest both Hudson's Bay Company and North West Company activities here in the 1790s and early 1800s. This paper summarizes the evidence and resultant interpretations regarding events during an extremely competitive era of the fur trade on the Saskatchewan River.

KOOYMAN, Brian P., Margaret NEWMAN, Department of Archaeology, Howard CERI, Department of Biological Sciences, University of Calgary, Calgary, Alberta. T2N 1N4.

#### VERIFYING THE RELIABILITY OF BLOOD RESIDUE.

The analysis uses the projectile points from Head-Smashed-In Buffalo Jump (DkPj-1) in southern Alberta as a control sample to assess the preservation of blood residue on stone tools and the reliability of crossover electrophoresis as a technique for detection of these residues. Communal bison kills such as Head-Smashed-In provide a control case where all, or virtually all, projectile points would have been used on, and only on, a single species (Bison). The Head-Smashed-In sequence points are used to assess preservation of known species blood residue over a 5500 year period, from Mummy Cave through to Late Prehistoric Old Women's phase. The sample examined includes curated museum collections augmented by uncontaminated and unwashed Old Women's and Avonlea points specially collected from the kill deposits for residue analysis during the 1989 field season. The results are discussed in regards to residue preservation, the usefulness of the crossover electrophoresis technique, and the effects of museum curation on tool residues.

LANTEIGNE, Maurice P., Department of Anthropology, University of Winnipeg, Winnipeg, Manitoba.

#### A CRITICAL APPRAISAL OF THE CATION-RATIO DATING PROCEDURE.

An appraisal is presented of the cation-ratio dating method as applied to rock varnish and its potential application to rock art. The difficulties in detecting and controlling error vectors during the preparational process for Accelerator mass Spectrometry Carbon-14 dating, and Proton-induced X-ray Emission Cation-ratio calibration, indicate general inadequacies in statistical sampling methodologies. Although the CR method holds great potential for chronometric rock art analysis, in its present form all archaeological conclusions generated by the procedure during the past seven years are called into question.

Une évaluation est présentée sur le method Cation-ratio pour assigner dates l'art rupestre. Les difficultés de apercevoir et contrôler erreurs au cours d'Accelerator Mass Spectrometry Carbon-14, et leur étalonnage avec le Proton-induced X-ray Emission Cationratio, sont indicatif des insuffisances entre la technique d'échantillonnage. Quoique le method Cation-ratio promet beaucoup pour l'analyse chronométrique d'art rupestre, à présent tous les conclusions archéologique produit par la procedure pendant les sept années passés ont mis en doute.

LANTEIGNE, Maurice P., Department of Anthropology, University of Winnipeg, Winnipeg, Manitoba.

#### A TEMPORAL CLASSIFICATION MODEL OF THE MANITOBA ROCK PAINTING COMPLEX.

A temporal classification model is presented of the Manitoba rock painting complex, within the framework of standard statistical and theoretical methodologies. The premises and biases underpinning these methodologies are discussed in detail.

Une classification temporel est présenté sur l'art rupestre du Manitoba, a l'interieur des methodologies norme de statistique et théorique. Les préjugés contre ce paradigme sont discutées.

LANTEIGNE, Maurice P., Research Associate, University of Winnipeg.

#### ROCK ART RESEARCH: INTO THE 1990S

Recent international advances in the analysis and interpretation of rock art phenomena are demonstrating the enormous potential for this aspect of our human heritage in contributing to a holistic perspective in archaeological theory. Traditionally shunned by the archaeological community, due to its subjective non-linear context, a serious re-assessment of rock art research directions in Canada (and abroad) is warranted. An evaluation of past contributions, as well as an articulation of the needs and challenges for continued disciplinary developments into the 1990s, is identified in the areas of archaeological theory, prehistoric reconstruction, ethnography, archaeopsychology, recording, conservation, and site management. The symposium will be followed by the First Annual General Meeting of the Rock Art Association of Canada /Association Art Rupestre du Canada. All interested individuals are invited to attend this meeting.

**LATTA, Martha A., Scarborough College, University of Toronto.**

**HURON FISHERMAN OF THE GREAT LAKES: A REVIEW OF FISHING PRACTICES AT THE 17th CENTURY AUGER SITE, ONTARIO.**

This paper will examine the faunal data for fishing practices at the Auger Site, contrasting it with ethnohistoric evidence for fish procurement and with modern studies of fish species distribution and behaviour in the lower Great Lakes. We will examine the relative contributions of agriculture and fishing to the growth of social complexity in the Great Lakes.

**LE BLANC, Raymond J., Department of Anthropology, University of Alberta, Edmonton, Alberta.**

**PREHISTORIC STONE PROCUREMENT IN THE WESTERN CANADIAN ARCTIC: CLINKER SOURCES IN THE CAPE BATHURST PENINSULA REGION.**

Field work conducted on the Cape Bathurst Peninsula (CBP), N.W.T. in 1987 and 1989 has resulted in the discovery of 75 sites, most of them along the Old Horton River channel. These sites are mainly lithic surface scatters although some have also yielded buried cultural horizons, including Palaeoeskimo assemblages. Of particular interest is the fact that virtually all sites are characterized by the predominant use (average of 70.9% by count, 74.5% by weight) of a distinctive type of rock called a clinker. This material resembles a volcanic rock which varies from a grainy basalt-like to glassy obsidian-like material. However, it is formed as a byproduct of the spontaneous combustion of local sedimentary, organic-rich mudstones of the Smoking Hills Formation on the CBP. These are most spectacularly represented by the well-known burning cliffs (called bocannes) known as the Smoking Hills along the eastern shore of the Peninsula. Examination of active as well as extinct bocannes in various locations on the CBP revealed a few potential sources, but no evidence of actual prehistoric use. This is attributed to the dynamic nature of the formation and erosion of the bocannes over the course of the last several thousand years.

**LEMOINE, Genevieve, Department of Archaeology, University of Calgary, Alberta T2N 1N4.**

**PRELIMINARY ANALYSIS OF THULE BONE DRILL BITS FROM THE MACKENZIE DELTA.**

Bone drill bits, known as gauged drills, have been found in great numbers at Gupuk (NiTs-1), a Mackenzie Inuit Site on Richards Island, NWT. Although often called gauged drills, these tools have been identified as a variety of tool types, including harpoon foreshafts (McGee 1974), tools for removing snow from harpoon head sockets (Geist and Rainey 1936), marlin spikes (Holtved 1944) and stoppers (Giddings 1964), as well as drill bits (Giddings 1964, Hall 1971, Stanford 1976). Recent experiments, and use wear analysis of the Gupuk drill bits, have shed some light on the identification of these tools, indicating that drilling was their primary use.

**LEWIS, Roy Querejazu, Sociedad de Investigacion del Arte Rupestre de Bolivia, Casilla, Cochabamba, Bolivia.**

#### **ROCK ART INVESTIGATION IN BOLIVIA.**

The current status of rock art research in Bolivia indicates great potential. International recognition and cooperation are viewed as key factors in its continued advancement. The history of Bolivian research, and the temporal and cultural context of the rock art are summarized.

La situation actuel de recherche d'art repestre en Bolivie promet beaucoup. La reconnaissance et le concours international sont envisages comme les facteurs decisif pour leur progres continu. L'histoire des recherches en Bolivie, et le contexte chronologique et culturel d'art rupestre sont resumes.

**LOENDORF, Lawrence, University of North Dakota, Department of Anthropology, Box 8254, Grand Forks, ND 58202.**

#### **SHIELD BEARING WARRIORS AND ATHAPASKANS?**

Most authors believe the proto Apache and Navajo travelled through the northwestern plains in their movements to the American Southwest. Unfortunately, it is extremely difficult to associate archaeologically recovered artefacts with tribal groups on the northwestern plains. Recent studies indicate that rock art may offer a good opportunity for identifying tribal affiliation. In particular, the shield bearing warrior motif may be linked to the southern movements of the Athapaskans. Although this is not a new idea, the recovery of two sandstone abraders used to make a panel of shield bearing warriors in Montana, offers a new insight into the hypothesis. The abraders had remnants of the paint pigment that was used to make the pictographs adhering to them. They were found in deposits that date to A.D. 1100. This date fits well with the suggested southward movements of Athapaskans, and it does not fit former ideas about the initial occupation of the area by Shoshonean speakers.

**MACEACHERN, Scott, Department of Archaeology, University of Calgary, Calgary, Alberta, T2N 1N4.**

#### **WE SOLD THEM THE IRON FOR OUR SHACKLES: AMBIGUITY IN ETHNIC RELATIONS IN NORTHERN CAMEROON.**

Sociopolitical relationships in and around the northern Mandara Mountains of Cameroon were traditionally characterized by great complexity, often involving both conflict and cooperation between groups. This has been true for relationships between groups living within the mountains themselves and also for those between montagnards and the surrounding Muslim plains-dwellers. Political relationships in this area are usually cast in terms of dominance by Muslim states over acephalus mountain groups, most vividly expressed in the slave-raids which were common until the early years of this century. However, control of vital resources by montagnard groups seems to have done much to reduce the power asymmetries brought on by Muslim military technology and political organization, allowing both montagnards and plainsmen to use political and economic resources not available in their own territories. It is probable that shared linguistic and ethnic origins facilitated cooperation between these peoples. The intense ambiguity of relations between these groups is well represented by the processes for the trade of iron and slaves in and around the Mandara

## **Mountains.**

**MAGNE, Martin P.R.**, Archaeological Survey of Alberta, Edmonton, Alberta, **Mark FENTON**, Alberta Research Council, Edmonton, Alberta, **Jack IVES**, Archaeological Survey of Alberta, Edmonton, Alberta.

### **A HISTORICAL RESOURCES GEOGRAPHIC INFORMATION SYSTEM PILOT PROJECT IN ALBERTA**

The Archaeological Survey of Alberta and the Alberta Research Council are engaged in a cooperative venture to explore the feasibility and advantages of geographic information system technology with respect to historical resources management in Alberta. Focusing on a small geographic area of the province, the ARC-INFO based project is employing data from archaeological, palaeontological, transportation, industrial, and existing geographic data. A GIS is possible because the Alberta Government is preparing digital maps of various scales for the entire province. Employing the 1:20,000 maps (which are currently available for over 1/3 of Alberta), a full scale historical resources GIS would require considerable investment in fiscal and personnel resources. The pilot is necessary to allow key decisions to be made concerning data input methods, modelling capacity, system shell, hardware, download capabilities, and so forth. This paper describes the process of developing a working pilot project with both resource management and research modelling goals. Among other matters, we discuss difficulties with the existing CHIN system as well as advantages of combining the efforts of systems and historical resources professionals.

**MASON, Andrew R.** and **David L. POKOTYLO**, Department of Anthropology and Sociology, University of British Columbia, 6303 N.W. Marine Drive, Vancouver, BC, Canada V6T 2B2.

### **A SURVEY OF PUBLIC ATTITUDES TOWARDS ARCHAEOLOGICAL RESOURCES AND THEIR MANAGEMENT.**

Public interest is the basis of heritage conservation acts and programming in Canada. Little effort, however, has been made to monitor this public interest level. As archaeological research funding and effective heritage resource conservation legislation increasingly depend on public understanding and support of archaeology, a thorough knowledge of public perceptions is important to the survival of the discipline. This paper presents the results of an initial survey of public attitudes of Vancouver area residents towards pre-historic archaeology and heritage preservation in British Columbia. The study reveals that although the public is very interested in prehistoric archaeology and is willing to support conservation programs, there is considerable misunderstanding of current heritage conservation legislation and British Columbia archaeology. The results raise questions about the effectiveness of present means of disseminating information about archaeology to the public.

MASON, Owen K, Department of Anthropology, University of Alaska, Fairbanks, Alaska 99775; James W. JORDAN, Alaska Quaternary Centre, University of Alaska, Fairbanks, Alaska 99775.

**BEACH RIDGE GEOARCHAEOLOGY OF THE SOUTHEAST CHUKCHI SEA, ALASKA: A PROXY LATE HOLOCENE CLIMATIC RECORD.**

An oscillating pattern of progradation and erosion is revealed in the late Holocene accretionary sand ridge and barrier island complexes of Seward Peninsula, northwest Alaska. Archaeological and geological radiocarbon dates constrain our chronology for the Cape Espenberg beach ridge plain and the Shishmaref barrier islands, 50 km to the southwest. Cape Espenberg, the depositional sink for the northeastward longshore transport system, contains the oldest deposits, about  $3700 \pm 90$  BP (Beta-23170). The oldest dates on the Shishmaref barriers are  $1550 \pm 70$  BP (Beta-23183). In summary, Late Holocene sedimentation varies between discrete intervals of dune construction atop beach ridges from 3000-2000 BP and from 1200 BP to the present. At other times, rapid progradation predominated, generating wide swales and low beach ridges without dunes. Tentatively, dune ridge construction is correlated with glacial advances throughout northern Alaska while progradational periods are contemporaneous with warmer intervals of soil and peat formation atop alluvial terraces.

MATSON, R.G., University of British Columbia, Vancouver, BC. V6T 2B2. Diana ALEXANDER, Simon Fraser University, Burnaby, BC. V5A 1S6.

**POTATO MOUNTAIN: THE ARCHAEOLOGY OF ALPINE ROOT PROCUREMENT.**

The Potato Mountains are in B.C.'s Chilcotin Region, now within the Athapaskan Chilcotin territory. The "potato" refers to Spring Beauty, *Claytonia Lanceolata*, an important summer root resource. In 1984 and 1985 work on Potato Mountain revealed the extent and patterning of archaeological remains focused on root procurement. These included a large number of pit features dating up to 2200 B.P., indicating that the use has occurred for some time. The patterning found will be described and compared with other settlement pattern results and placed in a seasonal round.

MARSHALL, Yvonne. Archaeology Department, Simon Fraser University.

**NATIVE POLITICAL ORGANIZATION IN NOOTKA SOUND, WEST COAST OF VANCOUVER ISLAND, CIRCA AD 1750-1900.**

By the closing decades of the 18th century a complex native polity with a federal structure was operating in Nootka Sound. This polity became known as the Mowachaht confederacy. Its central role in the early maritime fur trade is well documented in the historic literature of this period. The emergence of the Mowachaht confederacy has commonly been attributed to the stimulus of European trade and the introduction of firearms. Archaeological settlement pattern data currently being compiled for Nootka Sound suggest that this was not, in fact, the case, and that a complex polity with a federal structure was operating in Nootka Sound well before the arrival of Europeans. This paper discusses the methods being used to investigate changing political organization in Nootka Sound during the late prehistoric and early historic periods, and presents some preliminary results from the first season of fieldwork.



MELDRUM, Marjorie H., Department of Anthropology, University of Winnipeg, Winnipeg, Manitoba.

#### THE PETROGLYPHS OF SCOTLAND: A DISTRIBUTION ANALYSIS.

Previous analyses of Scotland's rock art have been traditionally confined to historic-political parameters, such as parish and county boundaries. A new taxonomic system is proposed within an ethno-geographic construct, utilizing topographic and natural enclave features. From the morphological analysis of 292 petroglyph sites, of standing stones and rock outcrops, a greater regionalization is evident in the distribution of the rock art than has heretofore been acknowledged.

Les analyses précédentes d'art rupestre en l'Ecosse étant limitées traditionnellement par les conditions historiques et politiques, comme les démarcations du municipal et du comté. Une nouvelle méthode taxonomique est proposée dans une interprétation ethnographique et géographique, avec l'utilisation des particularités topographiques et naturalistes. D'après l'analyse morphologique de 292 sites pétroglyphiques, du dolmens et du gisements visible, un régionalisme est évident de la distribution d'art rupestre plus grand qu'ayant.

MCALLEESE, Kevin E., Memorial University of Newfoundland, St. John's, Newfoundland A1C 5S7.

#### FAUNAL REMAINS FROM A LATE 18TH CENTURY SEALING POST IN SOUTHERN LABRADOR.

Exploratory excavations within and around structural remains at Stage Cove, a British sealing post, recovered a small faunal sample. Bone from a merchant's house was largely from 'country food' fauna while domesticated animal bone made up a large proportion of the fauna from a servant household. Seal was also present in this latter feature, though relatively little seal bone was recovered at the site, nor large mammal or fish. This faunal sample is discussed in terms of dietary preferences and refuse disposal practices in comparison with the site's documentary record.

McLENNAN, Dave, Petroglyphs Provincial Park, Bancroft District, Ontario.

#### THE GOVERNMENT OF ONTARIO'S COMMITMENT TO NATIVE ROCK ART: PETROGLYPHS PROVINCIAL PARK.

The Government of Ontario has made a long-term commitment to the preservation, protection, and interpretation of a native rock art site known as the Peterborough Petroglyphs. This paper is a chronological analysis of the planning and development of projects at the site now designated as Petroglyphs Provincial Park, and managed by the Ontario Ministry of Natural Resources.

Le gouvernement de l'Ontario avait fait une responsabilité à long terme pour la préservation et l'interprétation d'un site de l'art rupestre connu comme le "Peterborough Petroglyphs". Cet papier est une analyse chronologique de la planification et développement des projets à ce site désigné maintenant comme "Petroglyphs Provincial park" et administré par le Ministère des Ressources naturelles de l'Ontario.

MORLAN, Richard E. and Ian DYCK, Canadian Museum of Civilization, Hull, Quebec J8X 4H2.

#### THE SJOVOLD(EINs-4) FAUNA FROM SASKATCHEWAN: A PRELIMINARY REPORT.

The Sjovold site consists of stratified eolian, colluvial and fluvial sediments overlying coarse gravel on the north bank of Suicide Creek Coulee just above the latter's confluence with the South Saskatchewan River near Outlook, Saskatchewan. Cultural remains are mainly associated with palaeosols and include representatives of the Hanna (Layer 21), Pelican Lake (Layers 10-11, 19-20), un-named (Layer 14), Avonlea (Layer 6), and later sidenotched complexes (Layers 1-5). Other layers have not yet been identified.

This report will provide preliminary results of the faunal analysis. As of this writing (January 1990), all faunal remains from Layers 1-8 have been examined (7540 bones and fragments). Only 405 of these are identifiable, but they represent at least 15 mammalian species, including five ungulates, five carnivores, four rodents and a lagomorph. Bison was clearly the mainstay of the subsistence economy, but many of the bison were adult males that may represent solitary kills. In view of the diversity of other resources exploited at Sjovold, we have the impression that the procurement of game was opportunistic and not as highly specialized as the communal bison kills that are more commonly reported for the northern Plains. Its position at the southern edge of the aspen parkland overlooking a wooded coulee may have made Sjovold an ideal location for such a subsistence strategy.

MORRISON, David, Canadian Museum of Civilization.

#### THE DIAMOND JENNESS COLLECTIONS FROM BERING STRAIT.

It is not widely appreciated that the first systematic archaeological work in Alaska was undertaken by an officer of the National Museum of Canada, Diamond Jenness. In 1926 Jenness worked at two locations on Bering Strait; Cape Prince of Wales and Little Diomedes Island. This work resulted in the first identification of Old Bering Sea culture and determined the stratigraphic position of Thule culture in Alaska, laying the groundwork for later investigations by Collins, Giddings and others. Jenness accomplished all this in the space of a few published pages; his collections have never been described. This paper examines the Bering Strait collections in the light of nearly 65 years of archaeological research in Alaska. Spanning nearly 2000 years of Eskimo prehistory, these collections are aesthetically magnificent, and document the intensive cultural interaction across Bering Strait and between Yupik and Inupiat speaking people.

Il est peu connu que les premières études archéologiques entreprises en Alaska furent dirigées par le Canadien Diamond Jenness. En 1926, Jenness évalua le potentiel archéologique de deux petites régions sur le détroit de Béring; celle du cap Prince of Wales et celle de l'île de Little Diomedes. C'est ici qu'il découvrit les premiers indices de la culture dite "Old Bering Sea". Ses analyses lui ont aussi permis d'établir la chronologie de la culture thuléenne en Alaska, facilitant ainsi la tâche de chercheurs ultérieurs tels Collins, Giddings et les autres. Malgré l'importance de ce travail, Jenness ne publia qu'un bref article paru dans une publication du Musée national du Canada. De plus, on n'a jamais fait la description de la belle et riche collection d'objets recueillis par Jenness. Cette communication a pour but de la décrire et de l'analyser en tenant compte des 65 années de recherches qui se sont écoulées depuis, de 200 ans de préhistoire esquimaude et témoigne d'une interaction culturelle soutenue entre les Yupik et les Inupiat, habitants des deux rives du détroit.

MOSS, Madonna L., University of Alaska, Fairbanks.

#### THE ROLE OF SHELLFISH IN THE TLINGIT ECONOMY: EVIDENCE FROM ARCHAEOLOGY, ETHNOHISTORY, AND ORAL HISTORY.

Shellfish remains make up a conspicuous portion of the archaeological record of the Northwest Coast. Despite the abundance of shellfish in archaeological deposits, we still do not know the relative dietary importance of shellfish or their larger role in native economies. This is partly due to sampling problems and the inadequacies of current methods of reconstructing subsistence. Ethnohistory and oral history provide another approach to the problem of assessing the economic role of shellfish. In this paper, results of an archaeological study of late prehistoric Tlingit subsistence are placed in a broader ethnohistoric context. Although review of ethnohistoric data leaves an ambiguous picture of the economic importance of shellfish, it also suggests some of the reasons for the discrepancy between archaeological and ethnohistoric records.

NAGY, Murielle, Anthropology, University of Alberta, Edmonton, Alberta T6G 2H4.

#### CURRENT ARCHAEOLOGICAL RESEARCH IN INUVIK (NORTHERN QUEBEC).

This paper presents preliminary results of two seasons of excavation in the Inuvik area (Northern Québec). In 1988, the author was hired by the Avataq Cultural Institute to direct the salvage excavation of the Ohituk site (KcFr-3), near Inuvik. The project, which was funded by the Ministère des Transports du Québec, was mostly concentrated on area A, which contained two levels of Dorset occupation. The faunal assemblages of these two levels show quite a contrast in their composition; the older level contains mostly caribou bones while the younger level contains mostly ringed seal bones.

In 1989, excavation of two other sites in the Inuvik area was made possible with the financial help of the Ministère des Affaires culturelles du Québec, the Boreal Institute of Alberta and the Northern Research Training Grant (administered by DINA). The KcFr-8 site contains a Dorset and a Pre-Dorset occupation, while the Mangiok site (KcFr-7) seems to contain only a Pre-Dorset occupation. Preliminary results of the sites excavated in 1988 and 1989, will be given with regard to habitation structures, lithic and faunal material.

Cette communication présente les résultats préliminaires de deux saisons de fouilles archéologiques dans la région d'Inuvik au Nouveau-Québec. En 1988, l'auteur dirigea, pour l'Institut culturel Avataq, la fouille de sauvetage du site Ohituk (KcFr-3), situé près d'Inuvik. Ce projet, qui était subventionné par le Ministère des Transports du Québec, se concentra principalement sur l'aire A, qui contenait deux niveaux d'occupation dorsétienne. Les assemblages des vestiges fauniques de ces deux niveaux contrastent par leur composition; le niveau le plus ancien contenant surtout des ossements de caribou alors que le niveau le plus récent contient surtout des ossements de phoque annelé.

En 1989, la fouille archéologique de deux autres sites fut rendue possible grâce à l'aide financière du Ministère des Affaires culturelles du Québec, le Boreal Institute of Alberta et le Northern Research Training Grant (administré par DINA). Le site KcFr-8 contient des occupations dorsétiennes et pré-dorsétiennes, alors que le site Mangiok (KcFr-7) semble ne contenir que des occupations pré-dorsétiennes. Les résultats préliminaires concernant les structures d'habitation, le matériel lithique et les vestiges fauniques des sites fouillés en 1988 et 1989 seront discutés.

NAGY, Murielle, Anthropology, University of Alberta, Edmonton, Alberta T6G 2H4.

#### FAUNAL ANALYSIS OF THE CRANE SITE (HORTON RIVER, N.W.T.).

During the 1987 field season of the NOGAP program, an archaeological team from the Archaeological Survey of Canada, under the direction of Dr. Raymond Le Blanc, excavated the Crane site (ObRv-1). This site is located south of Cape Bathurst (N.W.T.), along the north-west shore of the Horton River. The Crane site, which has been dated to 1,000 B.C. - 500 B.C., contained abundant faunal material, extremely well preserved due to permafrost.

This paper presents the results of the initial Crane site faunal analysis which was undertaken at the University of Alberta. The faunal assemblage was mostly composed of caribou bones, although ringed seal and snow goose were also well represented. Other species found at the Crane site included mallard, ptarmigan, tundra swan, Canada goose, musk-ox, showshoe hare, muskrat, Arctic ground squirrel, bearded seal and harp seal. Season of occupation, hunting strategies and butchering techniques of the Crane site inhabitants will also be discussed.

Durant le terrain de 1987 du programme NOGAP, une équipe de la Commission archéologique du Canada, sous la direction de Dr. Raymond Le Blanc, fouilla le site Crane ("de la Grue"; ObRv-1). Ce site est localisé au sud du cap Bathurst, le long de la rive nord-ouest de la rivière Horton (T.N.O.). Le site Crane, qui a été daté de 1,000 B.C. - 500 B.C., contenait d'abondants vestiges fauniques, extrêmement bien conservés en raison du pergélisol.

Cette communication présente les résultats de l'analyse initiale des vestiges fauniques du site Crane, qui fut effectuée à l'Université de l'Alberta. L'assemblage des vestiges fauniques se compose principalement d'ossements de caribou, bien que ceux du phoque anelé et de l'oie des neiges soient aussi bien représentés. Les autres espèces trouvées au site Crane sont les suivantes: canard colvert, lagopède, cygne siffleur, bernache du Canada, boeuf-musqué, lièvre d'Amérique, rat-musqué, spermophile arctique, phoque barbu et phoque du Groenland. On présentera également une discussion sur la saison d'occupation du site, les stratégies de chasse et les techniques de dépeçage des habitants du site Crane.

NETRO, Elsie. Government of Yukon, Department of Education.

#### REPATRIATION: AN INNOVATIVE APPROACH TO TEACHING IN YUKON

The purpose of this paper is to discuss the importance of repatriation of archaeological research, data and artefacts for use in educational programs in public schools. The need for repatriation of artefacts and archaeological research is important to education in Yukon for many reasons. This paper will deal with one significant aspect: teaching Yukon Indian history. There is a growing interest among Yukon teachers to include archaeology in their teaching programs. Greater demands are also being placed on the education system by the Indian community to make archaeological materials accessible, and make the curriculum relevant to our culture, lifestyle and environment. Yukon archaeology is part of a process required to generate an awareness and appreciation among the general public of technology and lifestyle in pre-contact times and its relationship to modern technology. It is the basis for teaching Yukon Indian history.

**NICHOLLS, Lesley, Department of Archaeology, University of Calgary.**

**TAKING THE PUBLIC TO ARCHAEOLOGY: A HISTORY OF FIELD STUDY TOURS AT THE UNIVERSITY OF CALGARY.**

The Faculty of Continuing Education have for some years run a successful series of field study tours to many areas of the world. The greater percentage of these tours have been to areas of archaeological interest. This paper gives a brief history of the programme, possible pitfalls associated with such programmes, and possible future developments. If time and data permit, information will be included on programmes run by other universities in Canada.

**NICHOLSON, B.A., Department Sociology/Anthropology, Brandon University, Brandon, Manitoba R7A 6A9.**

**INTERACTIVE SOCIAL DYNAMICS OF INTRUSIVE HORTICULTURAL GROUPS COALESCING IN SOUTH-CENTRAL MANITOBA DURING THE LATE PREHISTORIC PERIOD.**

Until very recently, it was believed that the climate in southern Manitoba was too severe for prehistoric horticulture and it had been assumed that prehistoric horticulture was absent in central North America north of the Knife River villages. However, an examination of actual soil and climatic parameters in the area indicates that the growing of prehistoric native cultigens would have been feasible. A review of early archaeological investigations in the area, coupled with recent excavations, clearly demonstrates several intrusive horticultural complexes to have been present during Late Prehistoric times. An examination of the ceramics from these sites indicates that no single migration theory or simple diffusion of technology can account for these assemblages. The diversity of the wares, coupled with identifiable antecedents elsewhere, indicate a complex mingling and syncretism of cultural elements drawn from widely separated sources resulting in some form of hybrid ethnicity. These groups probably first began entering the area circa 1000 B.P. and disappeared from the archaeological record some 600 years later - about 150 years prior to the entry of Europeans.

**OETELAAR, Gerald A., Department of Archaeology, University of Calgary, Calgary, Alberta T2N 1N4.**

**THE VOLUNTEER PROGRAMME AT THE STRATHCONA SITE: GETTING THE PUBLIC INTO THE PITS.**

For the past ten years, the Archaeological Survey of Alberta and the University of Calgary have jointly funded a programme of public archaeology at the Strathcona site in Edmonton, Alberta. As part of this programme, adult volunteers join archaeologists and field school students in the excavation of a prehistoric campsite and lithic workshop. These volunteers, whose ages range from 16 to 70, spend four days learning the techniques of excavation and then assist archaeologists in the excavation of the site. The steadily rising number of participants and the positive responses to questionnaires attest to the growing popularity of the programme. This paper outlines the history of the programme, discusses some of the problems encountered, and provides some suggestions for future improvements.

Pendant les dix dernières années, la Commission Archéologique de l'Alberta et l'Université de Calgary ont

conjointement financé un programme d'archéologie publique au site Strathcona situé à Edmonton en Alberta. Une partie de ce programme inclut la participation de volontaires qui se joignent aux archéologues et aux étudiants de l'école de fouille afin de fouiller une station de taille préhistorique. Ces volontaires, dont les âges varient entre 16 et 70 ans, consacrent quatre jours pendant lesquels ils apprennent les méthodes de fouille, et aident les archéologues à mettre à jour le gisement. L'accroissement de la participation et les réponses positives à nos questionnaires démontrent la popularité grandissante du programme. Cette communication présente un bref compte rendu de l'histoire de ce programme, passe en revue certaines des difficultés rencontrées et offre des suggestions afin d'améliorer ce programme dans les années à venir.

PAGER, Shirley-Anne, Southern African Rock Art Research Association, Parkhurst, South Africa.

#### ROCK ART RESEARCH IN SOUTH AFRICA.

The Republic of South Africa has one of the world's richest collections of rock art sites, currently numbering in the thousands. It is well noted for its artistic sophistication, complexity, and variety of style. Since rock art recording began in the early 1800s, a steady stream of dedicated researchers have contributed their own unique set of techniques. An historical perspective is applied to some of the better-known of these scientists, and their methodologies.

La République d'Afrique du Sud a une de la plus gros collections du sites de l'art rupestre, en ce moment compte dans les milliers. Cet art est bien noté pour sa sophistication, sa complexité, et sa diversité du style. Depuis que l'enregistrement de l'art rupestre commença dans la première partie de le 19e siècle, plusieurs chercheurs ont contribué leur techniques exceptionnelles. Une perspective historique est appliqué à quelque de ces plus grands savants, et leur méthodologies.

PARKMAN, E. Breck, Department of Parks and Recreation, Santa Rosa, California.

#### IF ROCKS COULD TALK, WHAT WE MIGHT LEARN BY LISTENING: A DISCUSSION FROM CALIFORNIA'S NORTH COAST RANGES.

An anthropological approach is presented of the rock art found in the northern coastal ranges of California, U.S.A., an area known to have been occupied for at least 12,000 years. The archaeological and ethnographic data is examined to shed light on the chronology and interpretation of the local rock art. Current threats to the rock art, suggestions for better management, and ideas about its potential for public education are also discussed.

Une approche anthropologique est présentée sur l'art rupestre qu'ils trouvent en les chaînes littoral dans le nord de Californie, États Unis, une région bien connu d'était occupée pour le moins de 12,000 années. L'information archéologique et l'ethnographique sont examinées pour expliquer la chronologie et l'interprétation de ces arts rupestre. Menaces courantes, propositions pour meilleur d'administration, et les idées vers leur potentiel pour l'éducation publique sont discutées aussi.



**PILON, Jean-Luc, NOGAP Archaeologist, Archaeological Survey of Canada, Canadian Museum of Civilization, Hull, Quebec.**

**A PALAEO-ESKIMO SITE AT HYNDMAN LAKE, ANDERSON PLAIN, N.W.T.: IMPLICATIONS FOR OUR UNDERSTANDING OF ASTt LAND USE PATTERNS IN THE WESTERN CANADIAN ARCTIC.**

An early Palaeo-Eskimo component, dating to  $3390 \pm 255$  was discovered while investigating a late prehistoric Athapaskan semi-subterranean house feature at Hyndman Lake. 110 km east of Inuvik, N.W.T. The ASTt assemblage consists of implements with a marked Alaskan character. The presence of a small quantity of vesicular clinker, a raw material found in profusion on palaeo-eskimo sites of the Cape Bathurst peninsula, suggests that the ASTt occupants of Hyndman Lake also utilized the resources of the coastal region. Taking into account the coastal subsidence and fluctuations in the position of the tree-line, the site was likely in a forested environment at the time of the ASTt occupation. This site, therefore, seems to document the inland component of the local STt annual cycle, rather than a hitherto undocumented band-herd association.

Une composante paléo-esquimaude, datée au radio-carbone à  $3390 \pm 255$  fut découverte lors de la fouille d'une structure de creusement athapascane de la période préhistorique tardive au lac Hyndman, situé à 110 km d'Inuvik, T.N.O. L'outillage lithique témoigne d'une influence venant de l'Alaska. Compte tenu de l'érosion côtière et des fluctuations des limites de la forêt, il est probable que le site paléo-esquimaud du lac Hyndman se trouvait en milieu forestier à l'époque de son occupation. La présence de "vesicular clinker" indique que les paléo-esquimauds exploitaient aussi la côte de la mer de Beaufort. Il semble probable que ces gens incluèrent le lac Hyndman dans leur cycle annuel. Il n'y a aucune raison de croire que nous avons affaire avec une relation étroite de bande et de harde.

**POKOTYLO, David L., Department of Anthropology and Sociology, University of British Columbia, Vancouver, BC V6T 2B2.**

**THE ORGANIZATION OF LITHIC TECHNOLOGY AT DRUM LAKE, N.W.T., AND IMPLICATIONS FOR SUBSISTENCE SETTLEMENT STUDIES IN THE WESTERN SUBARCTIC.**

This paper discusses salient aspects of the organization of prehistoric lithic technology at Drum Lake, Mackenzie Mountains, NWT, and assesses the utility of employing lithic assemblage data to identify settlement types. High settlement mobility, tool curation and restricted access to raw material, rather than subsistence activities per se, are considered to be the most important factors affecting lithic assemblage variability at Drum Lake. The archaeological correlates of such technological organization are outlined by an analysis of intersite variability in bifacial tool production. Temporal separation of assemblages above and below White River tephra. The Drum Lake study suggests that construction of subsistence-settlement types from lithic assemblages in the subarctic can be misleading if the organizational roles of tools are not considered.

PRATT, Heather, University of British Columbia, Vancouver, B.C.

#### EVIDENCE FOR A COMMON ST. MUNGO PHASE FROM THREE SITES.

This paper tests the hypothesis that the Crescent Beach, St. Mungo, and Glenrose sites contain evidence in their artefact assemblages of the St. Mungo phase. By comparing and contrasting these three sites, questions concerning cultural variability during the St. Mungo phase can be addressed. Furthermore, a brief discussion of the St. Mungo phase's relationship with the following Locarno Beach phase will help to focus attention on in situ cultural continuity from the St. Mungo phase until European contact. The methodology used in this paper includes Exploratory Data Analysis (E.D.A.) as well as other statistical techniques.

PRIESS, Peter J., Archaeological Services, Canadian Parks Service, Winnipeg, Manitoba.

#### MANAGING CULTURAL RESOURCES OF THE RECENT PAST: AN EXAMPLE FROM NORTHERN ELLESMERE ISLAND.

Although the significance of cultural remains is generally recognized, there may be greater difficulty in subscribing to this perspective when the remains are from the recent past. The creation of a national park in northern Ellesmere Island provides an opportunity to address the question of significance and role of recent remains in park development and interpretation. In addition to important evidence of the earliest human occupation of the high Arctic, the park area contains remains of research and exploration activities from the last half century. Although such remains may constitute an eyesore for appreciation of the park's natural beauty, they also represent the latest human presence in a harsh environment and, thus, must be recognized in order to provide complete interpretation.

Bien qu'il l'importance des vestiges culturels soit généralement reconnue, on peut avoir plus de difficulté à adhérer à ce point de vue lorsque les vestiges sont ceux d'un passé récent. La création d'un parc national dans le nord de l'île d'Ellesmere offre l'occasion d'aborder le problème de la signification et du rôle des vestiges récents dans l'interprétation et le développement des parcs. Outre des preuves importantes de l'occupation humaine la plus ancienne dans l'Arctique, la région du parc contient des vestiges d'activités de recherche et d'exploration datant des cinquante dernières années. Bien que de tels vestiges puissent constituer un obstacle à l'appréciation de la beauté naturelle du parc, ils n'en témoignent pas moins de la présence humaine la plus récente dans un environnement cruel, qui doit donc être reconnue afin d'offrir une interprétation complète.

PROFEIT-LEBLANC, Louise. Government of Yukon, Heritage Branch.

#### SURVEY AMONG YUKON FIRST NATIONS TO DETERMINE OPINIONS FOR CARE AND PROTECTION OF TRADITIONAL SITES.

This paper presents the results of a survey conducted among Yukon First Nation's people concerning the care and protection of traditional sites. The primary focus of the survey was to determine the wishes of First Nation's people about matters such as gravesites, archaeological findings, and ways to improve working relationships between professionals and themselves.



QUACKENBUSH, W.G., Department of Archaeology, Simon Fraser University, Burnaby, B.C.

#### BECOMING ATTRACTIONS: CONSTRUCTION TECHNIQUES AT MCLEOD'S LAKE POST, B.C.

Construction techniques reflect the changing world view of the Hudson's Bay Company at McLeod's Lake Post, British Columbia, between 1805 and 1953. Change in techniques used at the site are seen as a response to the move to competition in the fur trade after 1870. With competition, there was a growing concern towards attracting customers. Three distinct techniques, post-on-sill, log and frame, and their variations are illustrated and placed into historical and archaeological context.

ROLLANS, Maureen, Saskatchewan Research Council, 15 Innovation Blvd., Saskatoon, SK, S7N 2X8

#### ARCHAEOLOGY IN SASKATCHEWAN SCHOOLS.

Saskatchewan Education has included a unit on archaeology in the pilot version of its Grade 9 social studies curriculum. Plans are also underway to make provisions in the curriculum that will ensure that every student will visit the archaeological resources at Wanuskewin Heritage Park at least twice, once at an elementary and once at a secondary level. Unfortunately, quality local resources - texts written for students and the general public, videos, teacher workshops, and archaeological sites open to public visitation - are not presently in place to support these developments. Saskatchewan's archaeologists must become involved in pre-university education, now more than ever before, to ensure that elementary and secondary students receive the quality of archaeological education that will ensure an accurate understanding and a lasting interest in the subject. Recent advancements by the archaeological community of Saskatchewan, notably at the Saskatchewan Research Council and the University of Saskatchewan, will be highlighted. Specific suggestions for further action will also be outlined.

The Saskatchewan Archaeological Society staged an "Archaeological Games and Crafts Festival" as part of the cultural program associated with the 1989 Jeux Canada Games. Society volunteers demonstrated a number of skills and materials used by prehistoric inhabitants of the Prairies, and gave opportunity for spectators to participate.

Such direct involvement by the casual observer can serve as a unique and stimulating entrée to the subject and practise of archaeology to vastly greater numbers than archaeologists are yet reaching. The imperatives involved in fostering public archaeology can be well served by staging other "experimental archaeology" events like this one.

SANGER, David, Raymond HINTZ, Paul BLOOD, University of Maine, Orono, Maine 04469

#### TOTAL STATIONS AND NEW OPPORTUNITIES.

New developments in data collectors and software have opened up opportunities for enhanced use of total station technology in the field. We discuss the use of Topcon GTS 3C digital theodolite, an MC-II programmable data collector, and custom software to control excavation of a complex site. A single instrument pointing enables calculation and digital storage of X, Y, Z, coordinates converted to the site grid system. The created DOS file is suitable for entry into AutoCad, a dBase or Lotus 123 artefact file.

Although computers have already proved of great value in analysis tasks, there are data gathering operations in the field that may profit greatly from on-site computer operations. In 1989, the University of Maine began a multi-year excavation program on a complex, stratified site where traditional excavation methods proved unsatisfactory. The total station and on-site computer/data collector approach permitted the excavation of a large block of deposit with precision and speed unobtainable with traditional measurement and recording techniques. In addition, the total station and block methodology helped to demonstrate that previous interpretations at the site were flawed, an artefact of the traditional excavation technique.

SAUNDERS, Shelly R. and Carl L. H. DEVITO, McMaster University.

#### THE ETHICS OF HUMAN SKELETAL ANALYSIS.

All skeletal studies conducted in Ontario in the last 10 years have been the result of private or public land development. No skeletal excavation projects have been conducted specifically for research purposes. Under the process of mitigation of archaeological sites skeletal remains have often been analyzed and then reburied. This, despite the fact that in Ontario, human skeletal remains from unmarked burial sites are dealt with by the Ministry of Consumer and Commercial Relations administering the Cemeteries Act without direct reference to their heritage value.

Permission for excavation and/or funding has provided for limited-term analyses and has required analysis reports, but the negotiators of such reports usually only request cursory information such as estimated sex, age, cultural variation or ethnicity. One has to question the ultimate value of such reports and whether the skeletal analyses are even necessary if people will accept such deficiencies in scientific reporting. At the very least, skeletal studies must provide summaries of baseline data and the methodologies utilized in their collection so that they will be open to future scrutiny. There is a great need for interpretive syntheses of the biological changes in earlier populations that can be integrated with archaeological findings.

We are also well aware of the misuses of scientific data for non-scientific ends. It behooves skeletal biologists then, to be particularly rigorous with their data and their interpretations of it. But the other heritage-related professions and the legislators have to recognize ethical concerns at their own level, not the least of which is the right of all citizens to have access to the past.

Toutes les recherches skelettiques conduites en Ontario dans les dix années dernières ont résulté de l'aménagement de la terre privée ou publique. Les excavations skelletiques n'ont pas été conduites à fin de la recherche propre. Au cours de la mitigation des sites archéologiques, les restes humains skelettiques ont été souvent analysés et renterrés. Ceci, malgré le fait qu'en Ontario, les restes humains skelettiques des sites d'enterrement anonymes, sont la responsabilité du Ministère de la Consommation et Commerce qui administre l'Acte des Cimetieres sans référence aux valeurs d'héritages des restes.

L'autorisation pour les fouilles et/ou pour les fonds a produite des analyses avec une courte limite de temps et a ne cessité des r apports d'analyses, mais les né gociateurs de ces superficielle, comme le sexe estimé, l'âge, la variation culturelle ou l'ethnicité. On peut questionner l'ultime valeur de tels rapports et en fait, la nécessité de ces analyses dan les rapports scientifiques. Au minimum, les études skelettiques doivent inclures de l'information fondamentale et les methodologies utilisées dans son rassemblement dans les résumés pour être ouvertes a l'examen rigoureux à l'avenir. Il y a un grand besion des synthèses interprétatives des changements biologiques des populations anciennes qui peuvent être intégré avec les conclusions archéologiques.

Nous sommes aussi conscients des abus de l'information scientifique à fin de buts non-scientifiques. A cette

égard, les biologistes skelettiques doivent être rigoureux avec leurs données et leurs interprétations de leurs informations. Mais les autres professions liées à notre héritage et les législateurs doivent reconnaître les responsabilités éthiques à leur propre niveau, entre autres le droit de tous les citoyens d'avoir l'accès au passé.

SAVELLE, James M., Department of Anthropology, McGill University.

#### INFORMATION NETWORKS AND THULE ESKIMO BOWHEAD WHALING.

Settlement patterns associated with Thule Eskimo whaling societies in the eastern Canadian Arctic display considerable regional variation in the nature and distribution of residential and logistical sites. Interpretation of this variation in the context of information networks suggests three 'categories' (albeit on a continuum) of such networks can be recognized: fully coordinated, semi-coordinated, and uncoordinated. Whaling success rates are generally positively correlated with increasing degree of network coordination. Several uncoordinated networks, however, exhibit anomalously high success rates; in these instances, decreased information flow is apparently compensated for through advantageous site placement.

Les schèmes d'établissement associés aux sociétés Esquimaudes de Thulé pratiquant la chasse à la baleine dans l'arctique oriental canadien, offrent une grande diversité régionale, tant par la nature, que par la distribution des sites logistiques et résidentiels. L'interprétation de cette variation sous l'angle des réseaux d'information suggère (sur un continuum) l'existence de trois types de réseaux: totalement coordonnés, partiellement coordonnés et non coordonnés. Les taux de succès dans la chasse à la baleine sont habituellement associés au degré de coordination des réseaux. Cependant on remarque que plusieurs réseaux élevés: dans ces cas là, le peu d'information est généralement compensé par un choix judicieux du site.

SEGLIE, Darlo, Piero RICCHIARDI, Mauro CINQUETTI, Centro Studi e Museo d'Arte Preistorica, Pinerolo, Italy.

#### PREHISTORIC ART IN ITALY: PALAEOLITHIC CAVE ART AND POSTPALAEOLITHIC ROCK ART.

The development and current state of research in Italian prehistoric art is presented in a European context. The study focuses upon Palaeolithic cave art and Postpalaeolithic rock art in the mountain environment of the European Alps. Included is a summary of past research efforts in the Western Alps rock art census, regional fieldwork, new developments in laboratory methodologies and techniques, present research directions, and a new perspective in international cooperation.

Le développement et la situation actuelle de recherche en l'art préhistorique Italien est présenté dans un contexte Européen. L'étude est concentrée sur l'art paléolithique et postpaléolithique dans les Alpes Européennes. Une récapitulation est présentée sur les recherches passées d'un recensement d'art rupestre aux Alpes de l'ouest, recherches sur le terrain régional, nouveaux développements aux méthodes et techniques de laboratoire, les directions de recherche actuelles, et une perspective nouvelle avec le concours international.

**SOUTHERN, Becky A.,** Department of Anthropology, McMaster University, Hamilton, Ontario.

**CORTICAL BONE QUALITY AMONG PRE-IROQUOIAN AND IROQUOIAN POPULATIONS OF THE LOWER GREAT LAKES REGION.**

This research project was designed to differentiate genetic from environmental influence on cortical bone quality among pre-Iroquoian and Iroquoian populations of the lower Great Lakes region. Excavated human bone from a number of archaeological sites in southern Ontario and upper New York State was utilized. These skeletal samples span approximately 1500 years of prehistory in this region. Single photon absorptiometry of the radius and radiography of the radius and second left metacarpal were used to obtain values for the bone mineral index (BMI) and percent cortical area (PCA) respectively. The data were compared by age and by sex both within and between skeletal samples. Comparisons were also made to published data on modern populations.

The data suggest that a combination of environmental and genetic factors influenced cortical bone quality among these populations. Significant differences were found between the skeletal samples as well as between the skeletal samples and modern populations. The mean values for BMI and PCA obtained from the skeletal samples consistently fell below modern population means. These findings may have implications for our understanding of the etiology of cortical bone loss among extant Indian populations.

**STEINBRING, Jack, Maurice P. LANTEIGNE,** Department of Anthropology, University of Winnipeg, Winnipeg, Manitoba.

**DIRECTIONS IN ROCK ART RESEARCH: INTO THE 90s**

Every scientific discipline requires a regular critical appraisal of past contributions and a projection of future needs. The recent surge of interest in rock art research activities on an international scale prompts great optimism. But it also prompts some concern for the wholesale application of cross-disciplinary theories and methodologies. Understanding and working within the limitations of the rock art data-base represents one of the greatest challenges to the discipline's future. A review is presented of rock art research during the 1960s, 70s and 80s, its strengths and weaknesses, and potentiality for the 1990s.

Chaque discipline a besoin d'une evaluation regulier. Une mouvement puissant dans l'art rupestre international provoque optimisme. Mais, alors, il provoque des inquietudes pour l'application des techniques generalisees. Entendement pour les limitations d'art rupestre c'est un defi qui s'adresse à nous tous. Un examen est présenté sur la discipline d'art rupestre pendant les 1960s, 70s, et 80s, sa robustessees et faiblesses, et sa puissance pour les 1990s.

**STENTON, Douglas,** Department of Anthropology, University of Alberta.

**CARIBOU POPULATION DYNAMICS AND THULE SETTLEMENT - SUBSISTENCE ADAPTATIONS ON SOUTHERN BAFFIN ISLAND, N.W.T.**

A central theme of North American Arctic archaeological research is the interplay between hunter-gatherer settlement and subsistence systems and changing availability of wildlife resources upon which they rely. For

the Late Prehistoric (Thule) period, the nature and complexity of the interaction between hunter-gatherers and marine ecosystems has been the focal point of research for decades, and directed largely toward understanding the means through which Thule populations adjusted to environmental changes affecting the productivity of this ecosystem through time.

Although historical and ethnographic accounts dealing with traditional Inuit land use patterns emphasize the contribution made by certain terrestrial wildlife resources, Arctic archaeologists have generally undervalued the role played by terrestrial ecosystems in the functioning and development of Thule adaptive strategies. Drawing upon archaeological work conducted in the Nettilling Lake region of southern Baffin Island, the organization of Thule subsistence and settlement is considered in terms of the population dynamics of a key terrestrial wildlife resource, the Barren Ground caribou. A model is presented which links oscillations in the size of caribou herds with the organization of summer/fall procurement strategies. Two contrasting patterns of settlement, each having specific mobility requirements associated with the status of caribou populations are derived from ethnographic and oral historical sources. It is hypothesized that during periods of high caribou numbers a coastal-oriented strategy, with low residential and high logistical mobility will be favoured. In response to episodes of significant decline in caribou population size, an inland-oriented strategy incorporating both low residential and low logistical mobility will be adopted. The implications of fluctuations in the abundance of caribou for winter settlement and subsistence strategies, and for existing models of Thule land use strategies are also considered.

STEVENSON, Marc.

#### STRUCTURAL DYNAMICS OF CENTRAL INUIT SOCIOECONOMIC ORGANIZATION.

Variability of Inuit socioeconomic formations continues to challenge many students of Eskimo culture. Are Inuit social forms as flexible or formless as many anthropologists implicitly assume? And is Inuit socioeconomic organization determined solely by environmental factors as most archaeologists believe?

This paper provides evidence that Central Inuit socioeconomic organization is based on a structural dynamic that oscillates between two systemic tendencies. These structural tendencies are specified by behavioral directives embedded in the kinship system. The implications of this dynamic are explored with reference to the archaeology of Thule Inuit socioeconomic organization.

STEWART, Andrew, Department of New World Archaeology, Royal Ontario Museum.

#### INLAND SETTLEMENT ON THE TUNDRA - PATTERN OR EXCEPTION? THE CARIBOU INUIT OF THE KAZAN RIVER, N.W.T.

The Caribou Inuit, who lived in the interior Keewatin during the 19th and 20th centuries, were among the only Inuit in the circumpolar world to turn away from the coast towards the resources of the barrenlands on a year-round basis. The fur trade has been cited as the main reason for this change in way of life. Recent ethnohistoric research suggests that exploration and settlement of the interior by the Caribou Inuit began before the main fur trade period as a result of population growth and a shrinking resource base on the Hudson Bay coast. This possibility raises several questions. What were the limitations on settlement in this part of the barrenlands? To what extent did Inuit-European trade encourage and sustain year-round

settlement and subsistence in this region? Would this pattern be recognized in the pre-contact archaeological record of the barrenlands?

Here, archaeological data from the interior, collected during a survey of the lower Kazan River, are used to examine: 1) the role of the fur trade within the Caribou Inuit economy through time; and 2) the reliability and importance of traditional resources of the land in relation to Caribou Inuit life.

Les Inuit caribou, qui ont occupé l'intérieur du Keewatin (T.N-O) pendant les 19<sup>ième</sup> et 20<sup>ième</sup> siècles, sont parmi les seuls Inuit du monde polaire à utiliser les ressources du toundra l'année ronde plutôt que les ressources littorales. On a cité l'échange de fourrure comme explication pour ce changement de voie de vie. Les recherches éthnohistoriques récentes suggèrent que l'augmentation de la population indigène et le déclin de les ressources près de la côte de la Baie d'Hudson ont occasionnés l'exploration et la colonisation de l'intérieur par les Inuit caribou avant la période principale de l'échange de fourrure. Cette possibilité pose quelques questions. Quelles étaient les restrictions de colonisation dans cet endroit? A quel point l'échange Inuit-Européen a-t-il encouragé et supporté cette mode de vie? Est-ce que ce patron pourrait être reconnaître dans le record archéologique due temps avant le contact?

Ici, on utilisé les informations archéologiques de l'intérieur, recueillies pendant l'étude de la partie basse de la rivière Kazan, pour examiner: 1) Le rôle de l'échange de fourrure dans l'économie de l'intérieur des Inuit caribou à travers le temps; 2) la sûreté et l'importance de les ressources terrains traditionnelles en relation avec le mode de vie des Inuit caribou.

STEWART, Frances L. Department of Anthropology, University of New Brunswick.

#### FAUNAL REMAINS FROM THE KEFFER SITE (AkGv-14) MIDDEN: A SUMMARY AND SOME METHODOLOGICAL CONSIDERATIONS.

The faunal remains from the Keffer site, a Southern Division Huron village located just north of Toronto, are described in this paper. This site was occupied during the early 16th century and possibly the very late 15th century. All five vertebrate classes were represented in the 9243 faunal remains but fish elements were by far the most frequent.

This material is significant for methodological studies. A comparison of the flotation sample remains with those from the screened-only samples showed great differences. This has important implications for future excavations and for comparisons using existing faunal reports.

STEWART, Henry, Mejiro Women's College, Tokyo.

#### ARCHAEOLOGICAL INFERENCES AND ETHNOGRAPHICAL CONTRADICTIONS - ETHNOARCHAEOLOGICAL RESEARCH AT PELLY BAY, N.W.T., 1988-1989.

Two methodological problems, one concerning archaeological inference, and the other research methods in ethnohistory, have been noted in the course of ethnoarchaeological research being carried out at Pelly Bay. Archaeological inferences regarding the contemporaneity of tent rings and a fishing wier based upon mutual proximity and faunal remains, were negated by informant data concerning taboos and heretofore unreported methods of fish bone preservation and consumption. Also, a cluster of 75 inukshuk and several hunting blinds, seemingly distributed randomly, is in reality the accumulation of 4 distinct periods of construction and

use over a period of 100 years. In both cases, the problem of archaeological contemporaneity, as well as the understanding of hunter/prey relationships are focused upon.

It was demonstrated that the quantity and quality of ethnographical (ethnohistorical) data is appreciably improved upon by long term, on-the-site cooperative research with informants, as opposed to data from off-site (village) interviews.

STIMMELL, Carole, Archaeological Resource Centre, Toronto Board of Education, c/o Danforth Technical School, 840 Greenwood Ave., Toronto, Ontario M4J 4B7.

#### ARCHAEOLOGY IN THE WINTER: TRANSPORTING THE CLASSROOM INTO THE PAST.

Recently, a number of archaeological groups in North America and abroad have been experimenting with training children, ages 10 and up, to participate in well-supervised archaeological digs. It should be emphasized that many of these groups also offer programs for younger students in the winter as well.

This paper will focus on the different approaches to teaching non-university archaeology and prehistory in the classroom. Examples of programs developed by groups in Toronto (Toronto Board of Education's Archaeological Resource Centre), Ohio (Licking County Archaeology and Landmarks Society) and Great Britain (Charlotte Mason College, Ambleside, Cumbria) will be discussed. While the subject matter taught varies from reconstructing British Iron Age villages to making Huron pottery, all of these groups share a philosophy. Children understand archaeology best when they have a 'hands-on' experience of the past.

SUTHERLAND, Patricia D., Research Associate, Canadian Museum of Civilization.

#### A PIECE OF THE PALAEOESKIMO MOSAIC: CONTINUITY AND CHANGE ON NORTHERN ELLESMERE ISLAND.

Arctic archaeologists tend to think of prehistoric cultural units, such as "Independence I" or "Predorsët", in terms of widespread populations with relatively uniform technologies and adaptations. It is suggested that the Palaeoeskimos, like the historic Inuit, can be more usefully considered as a mosaic of local populations, each adapted to local resources and local environments over varying periods of time. The Palaeoeskimo occupations of northern Ellesmere Island are examined in this light. The archaeology of the region is explained in terms of population continuity and local development, with variability considered the result of gradual temporal change. It is argued that Palaeoeskimo occupations of this unique and marginal area can best be understood in terms of cultural continuity within a socially and culturally isolated group, the closest affinities of which were with groups occupying northern Greenland.

Les archéologues de l'Arctique ont tendance à penser aux entités culturelles préhistoriques, tels que "Indépendance I" ou au "Prédorsétien", en termes de populations dispersées avant une adaption et des technologies uniformes. Il est suggéré qu'on y gagnerait à son environnement et aux ressources locales et ce, sur des périodes de temps variant d'un groupe à l'autre. C'est sous cet angle que l'on a examiné les occupations des Paléoeskimos du Nord de l'Île d'Ellesmere. L'archéologie de la région est expliquée en termes de continuité des populations et de développement local, tout en considérant les variables comme le résultat de changements graduels et temporels. On prétend que les occupations des Paléoeskimos dans cette région unique et marginale peuvent être mieux comprises en terme de continuité culturelle à l'intérieur



d'un groupe isolé tant au plan social que culturel et dont les affinités les plus grandes sont avec des groupes occupant le nord du Groenland.

THAUBERGER, Carolyn, #5-816 1st Avenue North, Saskatoon, Saskatchewan, S7K 1Y3.

#### PERSON'S PROGRESS: OR, HOW TO BETTER ACHIEVE ARCHAEOLOGICAL ENDS.

The continued well-being of archaeology depends, more than ever, on the active work of an informed and supportive citizenry. The example of the progress of an hypothetical amateur who first becomes interested in archaeology when he/she finds his first "arrowhead" is used. This person's increasing awareness of the significance of such remnants and concern for their protection leads to the development of a powerful ally for both archaeology and professional archaeologists. Such individuals already do play an important role in the "care and feeding" of Canadian archaeology, and can play a much greater role. There is a need for both amateurs and professionals to understand the need to develop this human resource, understand the variety of roles knowledgeable and dedicated amateurs can fulfill, and to explore comfortable and effective ways the respective roles of amateurs and professionals can interlock. Reference will be made to the relationship of cooperation and mutual support which has developed in Saskatchewan.

TISDALE, Mary A., Archaeological Services, Canadian Parks Service, Prairie & Northern Region, Winnipeg, MB, R3N 0E7.

#### WOMEN'S WORK IN THE CENTRAL SUBARCTIC: A RECONSIDERATION.

This paper arose from the attempt to combine two notions. One, arising from the recent Chacmool conference (Calgary 1989), is that anthropology (hence archaeology) must respond to and incorporate feminist theory in order to gain a more balanced perspective from which to theorize about culture (in both specific and general senses). The other is a nagging conviction that theories about hunter-gatherer adaptations in the North American boreal forest are labouring under the weight of some internal contradictions that might be solvable if we unpack some of the basic assumptions underlying them. Issues such as the importance of big game hunting in shaping social and political organization, or the impact of the European fur trade on traditional culture can both benefit from a more feminized look at subsistence economy and social life.

TUCK, James A. and Peter G. RAMSDEN, Memorial University and McMaster University.

#### CONTINUITIES IN PALAEOESKIMO PREHISTORY.

This paper re-examines the simple and by now traditional postulate that Pre-Dorset is the cultural ancestor of Dorset across the Canadian Arctic. Our re-examination is prompted by the realization that the postulate in this simple form fails to account for a number of archaeological facts. We conclude that the fault lies in a basic flaw of Palaeoeskimo cultural taxonomy: namely the insistence that all of Dorset constitutes a cultural whole, as does all of Pre-Dorset, and that any connection between parts of these entities thus necessarily implies a connection between the two wholes. We propose instead that the only clear culture-historical truth in Palaeoeskimo studies is that what we think of as late Pre-Dorset is closely ancestral to what we call early



Dorset in the eastern Arctic, as Taylor demonstrated. We suggest that the relationship of either of these to other Dorset, or other pre-Dorset (as distinct from \*Pre-Dorset\*) manifestations is still open to question.

TYAGUI, Gajendra S., Amla, Betul District, M.P., India.

#### SHAMANISTIC SUBJECTS FROM THE SOURCE REGION OF BETWA RIVER, RAISEN DISTRICT, M.P., INDIA.

To date, rock art research in India has considered historic pictographs primarily in the context of dwelling place decorations. In the absence of ethnographic documentation, subjects of prehistoric rock paintings have not been approached from any other perspective. This study presents evidence which indicates shamanistic experiences, with trance dance themes, from the richest belt of rock paintings in India - the source region of the Betwa River.

En ce moment, recherche d'art rupestre en Inde considera les peintures rupestre historique essentiellement dans le contexte du decoration intérieure. En l'absence de la documentation ethnographique, sujets d'art rupestre préhistorique sont n'approches pas d'autre façon. Cet recherche offre l'évidence que s'indique les expériences shamanique, avec les sujets du dance en transe, de la region plus riche du peintures rupestre en Inde - la ligne de partage des eaux de la rivière Betwa.

WALSER, Rudy D., Department of Anthropology, University of Alaska, Fairbanks.

#### HEALEY LAKE VILLAGE SITE (XBD-020, RaEc-02), LATE DENALI.

The Healey Lake Village Site (XBD-202, RaEc-02) is a stratified site in east-central Alaska on the upper reaches of the Tanana River. It was first tested in 1962 by Robert A. McKennan and excavations were conducted in 1966 by Robert A. McKennan and Cook, and from 1967 through 1972 by John P. Cook funded by the National Museum of Canada and later with aid from the National Science Foundation (Cook 1969:7-9; 1989:109). The site consists of cultural materials throughout the upper 24 inches of sediments. The artefacts, collected by 2 inch arbitrary levels, indicate an occupational sequence starting with the Chindadn complex (ca. 10,500 - 8000 B.P.), Northern Archaic Tradition/Tuktu phase assemblage (ca. 6000-4000 B.P.), Late Denali (ca. 4000 - 1500 B.P.), and Athapaskan (ca. 1500 B.P. - present) (Cook 1969, 1975, 1989). Although some geomorphic processes (solifluction, frost cracking, and frost jacking) have slightly disturbed the original depositional context of the sediments and artefacts, the major agencies of disturbance in restricted areas are rodent burrows and late prehistoric/historic human activities. The culture bearing sediments, although relatively shallow at the site and indicating a great time depth, have been stable enough to allow a Subarctic Brown Forest Soil to develop in the strata associated with the Late Denali complex materials from the site, which required stable conditions for about the past 5000 years (Cook 1969:40), and supports the position that the assemblage accrued in place with the gradual accumulation of sediments. The Late Denali complex assemblage recovered from Healey Lake indicates that it is probably a transition phase between the Northern Archaic Tradition/Tuktu assemblage and the Athapaskan Tradition. However, the Late Denali complex from the site, in my analysis, may exclude notched points from the assemblage. The culture bearing strata indicate a coherent delineation of cultural assemblages from Chindadn to historic Athapaskan. Apparent in these strata is the continuity of artefact types between Chindadn/Denali (ca. 10,500 - 8000 B.P.) and Late Denali (ca. 4000 - 1500 B.P.) which includes wedge-shaped cores, scrapers, burins, and lanceolate points, suggesting a continuation of at least the knowledge of a basic tool kit from the earlier time period.

through late prehistoric times.

WHITRIDGE, Peter, McGill University, December 13, 1989.

#### A FAUNAL ANALYSIS OF "WARM WEATHER" THULE SITES ON SOMERSET ISLAND.

Studies of Thule subsistence have commonly focused on the analysis of faunal remains recovered from substantial dwelling features interpreted as winter houses. Our understanding of the seasonal round of subsistence activities has thus remained grounded in a biased sample, supplemented by a somewhat tenuous application of the direct historical approach. By examining the relatively ephemeral "warm weather" site types which complement winter houses in the annual settlement system, direct evidence of resource procurement in these seasons can be incorporated into a fuller analysis of the Thule whaling economy. An analysis of faunal remains recovered in 1989 from spring/fall "garmats" and summer tent rings at Thule sites on Somerset Island is presented towards this end.

WOODLEY, Philip J., RR #2 Dundas, Ontario L9H 5E2

#### YOU CAN'T TAKE IT WITH YOU: THE HARVIE AND STERRUP COURT CEMETERIES.

This paper examines and compares two 19th century, southern Ontario Euro-Canadian cemeteries. Coffin shape, location, hardware and materials are used in conjunction with skeletal information (age, sex, health) and historical reconstruction to determine within-cemetery temporal distinctions, and to infer social and status differences. Between-cemetery comparisons will be used to determine economic differences within 19th century southern Ontario.

WRIGHT, M., Boreal Archaeologist, Archaeological Survey of Alberta, Edmonton.

#### PEACE RIVER CACHE.

The Peace River region of Alberta has long been known to contain an impressive, but largely undocumented inventory of privately owned surface collected artefacts. Particularly tantalizing are stories of mass artefact discoveries made during the course of early land clearing activities during the 1930s. None of these presumed artefact caches remains intact, and available descriptions are woefully lacking in detail. The relatively recent discovery of an artefact cache southwest of Peace River, Alberta provided an opportunity to examine a largely intact cache of lithic materials. This cache is compared with the surviving evidence of the caches discovered 40 years earlier. Although caching implies limited access to specific resources, the situation in the Peace region appears anomalous. The raw material present in the Peace River Cache is thought to be widely available, and is often termed Peace River Chert. This apparent anomaly may be explained by reviewing what criteria have been used in the identification of local dark siliceous material as Peace River 'chert'.

YELLOWHORN, Eldon, Department of Archaeology, Simon Fraser University, Burnaby, BC.

#### ARCHAEOLOGISTS AND THE SCIENCE OF INDIANS.

Archaeologists have often been vilified by native people due to the perception that they represent one more facet of an oppressive society. In part, this attitude stems from activities involved in recovering material from the archaeological record. It is not rare for the profession to be classified in the same context as grave robbing or pot-hunting. The historical basis for this attitude was lack of communication between the academic community and the native people - who were accustomed to being excluded from any decision-making process even when they were directly involved.

Recently archaeology has been viewed in a different light as the information recovered is included in land claim negotiations and as a means of instituting Native nationalism. As the native people mature politically, their need to identify themselves with archaeological cultures becomes relevant for assessing aboriginal title to a particular region. The archaeologists' data is now becoming politicized, whether that is their intention or not, so that a closer dialogue must be developed between the two groups.

One area where the native people feel especially undermined by the archaeologist is the controversy surrounding human colonization of America. The opposing views are certainly at odds with each other, but it is only one of several issues (including reburial, repatriation of material, etc.) still outstanding in the minds of Native People. The profession of archaeology and the native community must develop a greater degree of acceptance of each others' opinions and now is the time to start.

YOSHIDA, Nobuhiro, Japan Petrograph Society, Kitakyusyu City, Japan.

#### A SUMMARY OF ROCK ART ACTIVITIES IN WEST JAPAN.

The petroglyphs at Shimonoseki City, West Japan were first noted in 1923. Archaeologically surveyed in 1952, their decipherment remained elusive. In 1982, linguistic research revealed correlation with an ancient Japanese "Sanka-letter-cord". This discovery created an impetus for public support in more extensive research. Since then, more than 150 similar rock art panels have been discovered in West Japan. All can be deciphered using Oriental codes of a pre-Sumerian or Sinaian origin. The recent discovery of a wood-seal carved in Sumerian-like characters, at an imperial shrine in West Japan, raises questions as to the non-indigenous origins of writing in Japan.

Les gravures rupestre à Shimonseki-city, Japon Occidental étaient notés en 1923. Examiné par les archéologues en 1952, leur compréhension restaient insaisissable. En 1982, les recherches linguistique découvrent une corrélation avec un "Sanka-letter-cord" de Japon ancien. Cette découverte a produit l'impulsion pour l'appui publique d'autres recherches approfondi. Lors plus que 150 panneau de l'art rupestre semblable eurent découverté en Japon Occidental. Tous peut déchiffrer avec les chiffre oriental d'une origine Sumer antérieur ou Sinai. La découverte récent d'un sceau de bois tailla avec les caracteres Sumer, a une chasse imperial en Japon Occidental, provoque des questions à les origines d'écriture en Japon.

**ZACHARIAS, Sandra K., Heritage Consultant, Vancouver, BC.**

**FEMINIST METHODOLOGIES IN ARCHAEOLOGY: IMPLICATIONS FOR THE NORTHERN NORTHWEST COAST.**

Feminist approaches and critiques in anthropology over the past decade have led to a new, enriched understanding of non-Western cultures, and of the ethnocentric/androcentric biases of anthropologists themselves. Archaeology, however, has been slow to take advantage of this new perspective. Application of feminist methodologies to northern Northwest Coast ethnohistory and archaeology can open a door -- to a critical re-examination of the data and of assumptions about the past. A feminist re-examination of early historic sources on the Haida of the Queen Charlotte Islands suggests that, within the constraints of the traditional social class structure, non-hierarchical relations between men and women prevailed in both the domestic and public spheres. In this paper, the material correlates of gender relations are examined in terms of task differentiation, power structures, and trade systems.



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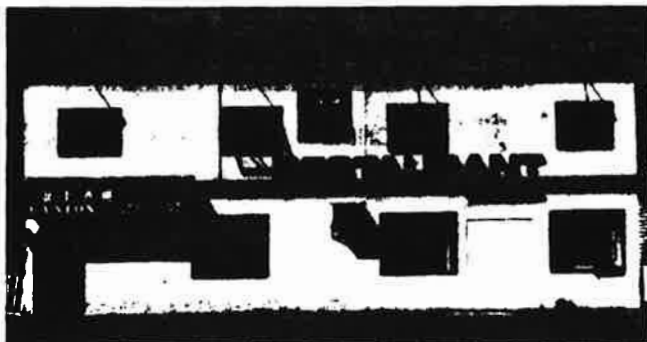
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