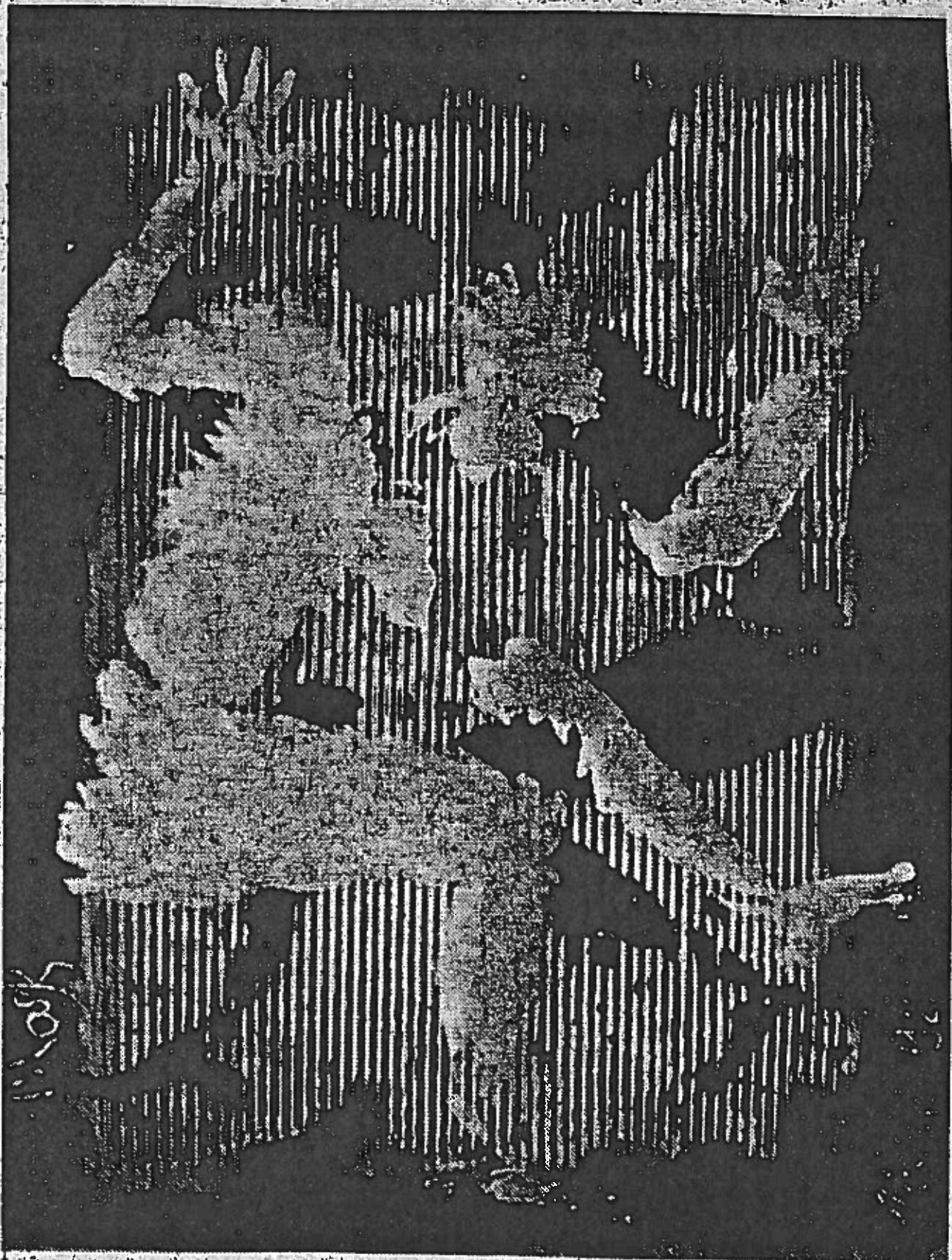


CAPA AAPC



Windsor, Ontario, October 27-29, 1994

Canadian Association for Physical Anthropology
L'Association pour l'anthropologie physique au Canada

22nd Annual Meetings
October 27-29, 1994
at the Ramada Inn, Riverside Drive
Windsor, Ontario

Coordinators: Deborah Gustavsen
& Loren Vanderlinden

CAPA/AAPC wishes to gratefully acknowledge the following
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Schedule of Events

October 26-29, 1994
Ramada Inn, Riverside Drive
Windsor, Ontario



1. Registration begins:	Wednesday	6:00-10:00 PM
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1. Registration continues:	Thursday	8:00 AM-4:30 PM
2. Session 1: Origin & Fate: The Primate Order	Thursday	8:45-11:30 AM
3. Student Luncheon: Hospitality Rm. 325	Thursday	11:30 AM-1:00 PM
4. Session 2: Human Skeletal and Dental Biology	Thursday	1:00-4:30 PM
5. Internet Workshop	Thursday	4:30-6:00 PM
6. CAPA Reception	Thursday	6:30-8:30 PM
7. Registration continues:	Thursday	8:00-9:30 PM

1. Session 3: Modern Populations and Biocultural Analyses	Friday	8:45 AM-1200 PM
2. Session 4: Special Populations: Issues of Health and Environment	Friday	2:00-4:15 PM
3. CAPA Annual General Meeting	Friday	4:30-5:15 PM
4. Banquet: Cocktails	Friday	6:30-7:15 PM
5. Dinner		7:15-8:30 PM
6. Speaker: C. Loring Brace		8:30 PM

1. Session 5: Practical Applications in Physical Anthropology	Saturday	9:00-11:30 AM
2. Session 6: Primatology	Saturday	1:30-3:45 PM
3. Closing Remarks	Saturday	3:45 PM



Origin & Fate: The Primate Order

Thursday October 27th, 1994

8:45 AM to 11:30 AM

Ramada Inn Conference Room

Facilitator:
Jennifer Thompson

Department of
Anthropology

Scarborough
College, University
of Toronto

— Paper Presentations —

- | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------|
| 1. Introduction | Jennifer Thompson | 8:45-9:00 AM |
| 2. White hats vs. Black hats: The problem of patron saints presentism in American paleoanthropology. | Gary Tait | 9:00-9:15 AM |
| 3. Mammalian palaeoecology and community succession across the Eocene/Oligocene in the Fayum of Egypt. AAAA paper yes | Mario Gagnon -
read by D. Begun | 9:15-9:30 AM |
| 4. Lemurs in the big picture: Ecological modelling and the non-human primate perspective on early hominid behavioural ecology. Dunbar touted bipedalism to avoid boa constrictors | Ian Colquhoun
reckless plunge } interpretive leaps
bungee jump
parachute jump | 9:30-9:45 AM |
| 5. Patterns of sexual dimorphism in hominoids: An exploration using thin-plate splines. | Jennifer Thompson &
L.A. Yaroeh | 9:45-10:00 AM |
| 6. The Nutcracker suite: Parallelism in gnathic morphology among Miocene and Pliocene hominids. | David Begun | 10:00-10:15 AM |
| 7. COFFEE BREAK | | 10:15-10:30 AM |
| 8. Taxonomic traits in the postcranium of <i>Homo erectus</i> . | Andrew Nelson | 10:30-10:45 AM |
| 9. Neandertals out in the cold: An investigation into cold adaptation and how it may have affected the Neandertals of Western Europe. | Jacqueline Haines | 10:45-11:00 AM |
| 10. The neurocranial evidence for Neandertal birth: a model for the recent evolution of modern human parturition. | Nancy Minugh-Purvis | 11:00-11:15 AM |
| 11. Continuity and Replacement: Evidence from Infracranial Robustness. | Susan Pfeiffer | 11:15-11:30 AM |

We will reconvene at 1:00 PM for the afternoon session. A Student Luncheon will be provided in Hospitality Rm 325. The luncheon has been sponsored by the Dean of Graduate Studies at the University of Windsor, Dr. Lois Smedick, and the Anthropology Society of the University of Windsor. CAPA extends its warmest thanks.

Human Skeletal and Dental Biology

Thursday October 27th, 1994

1:00 PM to 4:30 PM

Ramada Inn Conference Room



Facilitator: Susan School of Human Biology University of Guelph
Pfeiffer

— Paper Presentations —

- | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|------------------------|
| 1. Introduction | Susan Pfeiffer | 1:00-1:15 PM |
| 2. Osteoporosis in X-Group Nubians and $\delta^{15}\text{N}$ enrichment. | Christine White & George Armelagos | 1:15-1:30 PM |
| 3. A survey on spondylolysis in North American prehistoric populations. | Lynda Wood and Nancy Ossenberg | 1:30-1:45 PM |
| 4. Assessment of the relationship between "collagen" integrity and histological preservation in bone derived from an archaeological context. | Tamara Varney | 1:45-2:00 PM |
| 5. Masticatory parameters in prehistoric Eskimos and modern Eurasians: A comparison based on three dimensional analysis of static equilibrium from craniofacial measurements. | Nancy Ossenberg, Stephen Steele & Julie Howes | 2:00-2:15 PM |
| 6. Dental size reduction across the Portuguese Mesolithic-Neolithic Transition. | Chris Meiklejohn, Mary Jackes & J.M. Wyman | 2:15-2:30 PM |
| 7. Biology and history: Studies of a Beothuk mummy. | Sonia Jerkic, Patrick Horne & A. Aufderheide | 2:30-2:45 PM |
| 8. An analysis of recently discovered human skeletal remains of the last Franklin expedition. | Anne Keenleyside | 2:45-3:00 PM |
| 9. COFFEE BREAK LOREN - ANNOUNCE re ARRANGE. | | 3:00 - 3:15 PM |
| 10. POSTER - A comparison of $\delta^{13}\text{C}$ values in the human bone collagen and historically reconstructed diet of 19th Century Belleville. | Sylvia Abonyi | 1:00 PM to Noon Friday |
| 11. POSTER - Cranial fractures as evidence of violence towards young adult males from an Iroquoian ossuary. | Stephen Steele & Susan Pfeiffer | 1:00 PM to Noon Friday |

"Isms" in Physical Anthropology: Special Session

- | | | |
|------------------------------|------------------|----------------|
| 1. ...ISM'S Intoduction | Shelley Saunders | 3:15 - 3:30 PM |
| 2. FaithISM | Hermann Helmuth | 3:30 - 3:45 PM |
| 3. FaithISM: Open discussion | | 3:45 - 4:30 PM |

Note: The Internet workshop will be held at the University of Windsor Computing Centre. Transportation will be provided.



Modern Populations and Biocultural Analyses

Friday October 28th, 1994

8:45 AM to 12:15 PM

Ramada Inn Conference Room

Facilitator: Michelle Broderick
Faculty of Applied and Language Arts
Sheridan College

— Paper Presentations —

- | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|----------------|
| 1. Introduction | Michelle Broderick | 8:45-9:00 AM |
| 2. Multivariate statistical analyses on long bones of the upper and lower limbs from a sample of adult skeletons. | Bonnie Glencross | 9:00-9:15 AM |
| 3. What's in a face? Radiographic analysis of facial soft tissue thicknesses in a subadult population: An aid to forensic facial reproduction. | Todd Garlie | 9:15-9:30 AM |
| 4. The Two Census approach: An application to Belleville Ontario. | Larry Sawchuk, Henry Choong & Stacey Burke | 9:30-9:45 AM |
| 5. Household Composition in the Trinity Area of Trinity Bay, Newfoundland, 1921. | Michelle Broderick | 9:45-10:00 AM |
| 6. Population variation of physical characteristics in China. | Dongya Yang | 10:00-10:15 AM |
| 7. Rehabilitation or Re-Culturation? | Diane Pawlowski | 10:15-10:30 AM |
| 8. COFFEE BREAK | | 10:30-10:45 AM |
| 9. Health among contemporary female Gibraltarians. | Stacey Burke | 10:45-11:00 AM |
| 10. Alcohol-Related Mortality with and without specific mention of alcohol: Socio-economic classification and methodological concerns.. | Mark Holmes, Deborah Gustavsen, & Sandra Miller | 11:00-11:15 AM |

"Isms" in Physical Anthropology: Special Session

- | | | |
|----------------------------------------------------|-------------------------|----------------|
| 1. "Race" and "RacISM" in Biological Anthropology? | Leslie Chan & Joseph So | 11:15 AM |
| 2. "Race" and "RacISM" -- Open discussion | | 11:30-12:15 PM |

We will reconvene at 2:00 PM for the afternoon session.

Special Populations: Issues of Health and Environment



Friday October 28th, 1994

2:00 PM to 4:15 PM

Ramada Inn Conference Room

Facilitator: Loren Vanderlinden

Department of Anthropology

University of Toronto

GLIER - University of Windsor

----- Paper Presentations -----

- | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|--------------|
| 1. Introduction | Loren Vanderlinden | 2:00-2:15 PM |
| 2. Issues in Native Environmentalism. | Henry Lickers | 2:15-2:30 PM |
| 3. First Nations - Environmental knowledge and approaches to natural resources. Overview, categorization and assessment of environmental knowledge and its usefulness for Native communities. | George Haas | 2:30-2:45 PM |
| 4. A Generic Model for Environmental Monitoring in First Nation's Communities: An interdisciplinary approach. | GLIER - Deborah Gustavsen, Marcia Valiante, Loren Vanderlinden, Mike Weis & Hugh Williams | 2:45-3:00 PM |
| 5. COFFEE BREAK | | 3:00-3:15 PM |
| 6. The Chippewa of Sarnia: Perceptions of Environmental Health Risk in Chemical Valley. | Loren Vanderlinden & Deborah Gustavsen | 3:15-3:30 PM |
| 7. Self, health and the environment: Anishnabe notes. | Krystyna Sieciechowicz | 3:30-3:45 PM |
| 8. Water and Health in Mestizos of Highland Ecuador. | Peter Berti, Bill Leonard & Wilma Berti | 3:45-4:00 PM |
| 9. Population Biology and Health of Indigenous Siberians. | Bill Leonard, Peter Katzmarzyk & Michael Crawford | 4:00-4:15 PM |

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|----------------------------------------------|-----------------------------|--------------|
| 1. CAPA Business Meeting: Agenda Forthcoming | President: Annie Katzenberg | 4:30-5:15 PM |
| 2. Cocktails | | 6:30-7:15 PM |
| 3. Banquet Dinner | | 7:15-8:30 PM |
| 4. Keynote Speaker | Dr. Loring Brace | 8:30-9:15 PM |



Practical Applications in Physical Anthropology & Primatology

Saturday October 29th, 1994

9:00 AM to 3:45 PM

Ramada Inn Conference Room

Facilitator: Joanne Passaro

Centre for Liberal Studies

Clarkson University

— Presentations —

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|-----------------------------------------------------------------------------------------------------|-----------------------------|---------------|
| 1. Introduction: Studies in Cyberspace: Postmodern Technology, Premodern communities. | Joanne Passaro | 9:00-9:05 AM |
| 2. Creating a virtual community for the practice of Physical Anthropology: Practical Postmodernity? | Deborah Gustavsen | 9:05-9:15 AM |
| 3. The World Wide Web: An introduction and demonstration. | Leslie Chan & William Barek | 9:15-10:15 AM |
| 4. COFFEE BREAK | | |

“Isms” in Physical Anthropology: Special Session

- | | | |
|--------------------------------------------------------------|--------------------------------|------------------|
| 1. ISMS -- Postmodernism and Physical Anthropology | Roman Harrison & Gillian Crane | 10:30 - 10:45 AM |
| 2. Postmodernism and Physical Anthropology - Open discussion | | 10:45 - 11:30 AM |

- | | |
|----------|-----------------|
| 1. LUNCH | 11:30 - 1:30 AM |
|----------|-----------------|

- | | | |
|---------------------------------------------------------------------------------------------------------------------|----------------------------|----------------|
| 1. Alliance formation and homosexual behaviour in female Japanese Macaques (<i>Macaca fuscata</i>) | Paul Vasey | 1:30-1:45 AM |
| 2. The Mantled Howler of Costa Rica: Observations of behaviour and ponderings on the impact of habitat destruction. | Tracy Farmer & Carol Croke | 1:45 - 2:00 PM |
| 3. Images from the field - Introduction | Anne Zeller | 2:00 - 2:15 PM |
| 4. Video 1 - Baboons | Anne Zeller | 2:15 - 2:45 PM |
| 5. Video 2 - Five Species | Anne Zeller | 2:45 - 3:45 PM |
| 6. CAPA94 -- Closing Remarks | | |

Paper Abstracts

(Alphabetical order by first author)

Abonyi, Sylvia, University of Calgary

Title: A comparison of $\delta^{13}\text{C}$ values in the human bone collagen and historically reconstructed diet of 19th century Belleville, Ontario: Implications for paleodietary reconstruction.

The excavation of St. Thomas Anglican Church cemetery in Belleville, Ontario presented a unique opportunity to assess the impact of food processing on stable carbon isotopes in food and implications this may have for paleodietary reconstruction. The foods chosen and the methods of preparation were based on a historical reconstruction of diet dating to the period of use (1820-1870) of the church cemetery. Foods were analyzed for $\delta^{13}\text{C}$ as individual ingredients, mixed raw ingredients, and cooked end product. These data were compared with $\delta^{13}\text{C}$ analysis of collagen extracted from the human rib samples. Results suggested that the levels of heat achieved in the baking and boiling of foods does not alter $\delta^{13}\text{C}$ by more than $\pm 1.0\text{‰}$. Mixing individual ingredients was found to produce shifts of no more than $\pm 1.5\text{‰}$. Neither of these treatments produces significant enough alterations in $\delta^{13}\text{C}$ of food to cause inferential errors in paleodietary reconstruction. There has also been some debate in the literature with respect to the enrichment of dietary $\delta^{13}\text{C}$ as it is incorporated into human bone collagen. Suggested values range from $+3.9\text{‰}$ to $+5.3\text{‰}$. A value of $+5.5\text{‰}$ was calculated during the course of this study, supporting a human bone collagen enrichment factor at the top end of the range or previously published values.

Begun, David R., University of Toronto

Title: The Nutcracker suite: Parallelism in Gnathic Morphology Among Miocene and Pliocene Hominids.

The late Miocene hominids *Dryopithecus* and *Ouranopithecus* are similar in much of their cranial morphology, but differ dramatically in details of their masticatory apparatus. *Ouranopithecus* has a robust masticatory apparatus, (hyperthick enamel, low, rounded molar cusps, small canines, large premolars and molars, robust mandibular corpora, and thick, low placed and anteriorly flared zygoma), while *Dryopithecus* has a lightly built gnathic complex (thinner enamel, taller, more pointed cusps, smaller molars and premolars, relatively larger canines, more gracile mandibles and a more superiorly placed, laterally facing zygoma). Some conclude that the similarities between *Ouranopithecus* and *Australopithecus* reflect a close relationship (de Bonis and Koufos, 1993), but the more parsimonious hypothesis is that *Ouranopithecus* and *Dryopithecus* are closely related, and are together the sister clade to the African apes and humans. The robust masticatory apparatus of *Australopithecus* and *Ouranopithecus* evolved independently in both lineages, indicating that these characters are not always reliable indicators of phylogenetic relations. This suggests that parallelism in detailed aspects of gnathic morphology among robust australopithecines necessary to support the paraphyly hypothesis of Skelton and McHenry (1992) may be more likely than previously suspected.

Berti, Peter R. W.R. Leonard & W.J. Berti., University of Guelph.

Title: Water and health in Mestizos of highland Ecuador.

Water intake may affect human health in three ways, listed in decreasing order of the frequency with which they are studied: (1) drinking water quality is positively correlated with health; (2) micronutrients and toxins may be carried in and delivered via drinking water; (3) water itself may be considered a nutrient, and quantity of water intake (independent of other nutrients or toxins) may affect health. Water-health relationships were studied in a rural Andean community. Water quality was measured using the *micropore filtration* technique. Although the quality of drinking water varied day-to-day (ANOVA, $p=.000$), it did not vary house-to-house ($p=.36$) and can therefore be dismissed as a source of inter-household differences in health. Water did not contribute significant amounts of calcium (3.3 to 7.4 mg/L), but it may contribute up to 15% of iron requirements (0.3 to 0.8 mg/L). Preliminary analysis of 24-hour dietary recall data indicate that on 45% of the days adults do not meet the temperate climate recommendation of 220ml of water per day. This chronic low intake may have health effects. Individuals with low daily water intakes demonstrate greater deviation from the average response in the pattern of urine production following an 800ml oral water dose.

Broderick, Michelle A., Sheridan College

Title: Household Composition in the Trinity Area of Trinity Bay, Newfoundland, 1921.

Household structure and complexity are described in the Trinity area of Trinity Bay Newfoundland, using 639 households listed in the 1921 Census. The effect of economic factors is examined by comparing households characterized as either fishing or non-fishing. MHS did not differ significantly between the two occupational groups. Simple or nuclear households predominated, regardless of occupation. Solitary and no family households were more common among non-fishermen. The majority of extended households were due to the presence of a widowed parent, of which 75% were women. Multiple households tended to involve a young couple living with the husband's parents. However, this was viewed as a temporary arrangement, since almost 50% of these cases involved a couple who was recently married.

Burke, Stacey D.A., University of Toronto

Title: Health Among Contemporary Female Gibraltarians.

Using published health reports over a 30-year period, cause-specific mortality estimates were computed for contemporary female Gibraltarians (1950-79). Elevated rates of mortality due to cancer of the breast, cancer of the cervix, hypertension and late-onset diabetes were evaluated in light of aspects of life style, employment and ethnicity.

Chan, Leslie* and Joseph So**, * University of Toronto, ** Trent University.

Title: "Race" and "Racism" in Biological Anthropology?

The "race" concept has been a central idea in biological anthropology since its inception. While it has been largely discarded in recent years, in reality its usage has continued in our field and the other biological sciences. We want to raise a series of questions regarding the utility of the race concept and the implications of its application in research on human biological diversity. Since biological anthropologists come in many guises, do some of us more readily accept the race concept because of the nature and constraint of our data? Why has there been disproportionate emphasis on human biological differences rather than on uniformity? If we discard the concept of race as a valid construct, what are the alternative frameworks with which we can conceptualize human variation? What are the implications of such conceptual changes for the practice and teaching of our discipline?

Colquhoun, Ian C., University of Western Ontario

Title: Lemurs in the Big Picture: Ecological modelling and the Non-human Primate Perspective on Early Hominid Behavioural Ecology.

In the relatively brief history of paleoanthropology, major discussions relating to the rise of the hominids have revolved around two prime topics. These ongoing debates have been on those matters of a taxonomic nature (i.e. "what is it?"), and those relating to morphology (e.g., "how did it move?"). That is, much attention has been paid to the early fossil hominids at two levels: the species, and the individual organism. Much less effort has been directed toward a detailed understanding of the interface of these two levels - how did individuals within prehistoric populations behave? What was their social ecology? Recent research developments have put a synthetic understanding of primate biology within reach. This now means that we are in a position to accurately reconstruct the socioecology of fossil members of the Hominoidea. This paper has three sections. First, it outlines the rise of the "ecological" (or, "strategic") modelling paradigm; second, it considers a case study of black lemur socioecology where hypotheses derived from the ecological modelling paradigm were tested; and third, it makes a conceptually-based prediction of the socioecology of the early hominids of the Plio-Pleistocene. The future development of the ecological modelling approach is also considered.

Farmer, Tracey, & Carol Croke, University of Toronto/Simon Fraser University

Title: The Mantled Howler of Costa Rica: Observations on behaviour and ponderings on the impact of habitat destruction.

The free-ranging *Alouatta palliata* at Cano Palma Biological station, located on the Northeastern Atlantic coast of Costa Rica, were studied for a period of 8 weeks. This is the first time that the mantled howlers of this Costa Rican wet tropical forest have been extensively researched. Four groups were positively identified within the general vicinity of Cano Palma. Observations were conducted on one particular group, whose home range encompassed a large segment of the 32 ha station property. Although group size was found to be comparable with published data on *Alouatta palliata*, group composition revealed a shortage of adult females such that the sociogenic sex ratio was 1:0.79. General observations were also collected on activity patterns, group interactions and polyspecific associations. The impact of habitat destruction and eco-tourism on the future existence of these monkeys was also considered.

Gagnon, Mario, University of Toronto

Title: Mammalian palaeoecology and community succession across the Eocene/Oligocene in the Fayum of Egypt.

The Fayum sediments of Egypt have yielded the most significant Paleogene mammalian fauna in Africa, including the earliest primates, rodents, hyracoids, and proboscideans. The mammalian fauna is sampled from localities clustered around four distinct stratigraphic levels, ranging in age from 36 to 33 million years. This study compares the structure of the mammalian communities sampled at the four stratigraphic levels, using a sample of over 1300 mandibular specimens. Each stratigraphic level samples between 29 and 37 mammal species. The goal of this study is to address the question of evolution and diversification of early anthropoid primates from a palaeoecological perspective. For that purpose, the palaeoecological conditions for each of the four successive levels are evaluated using analyses of community structure. The methods used include indices of species richness, species diversity, models of relative abundance, cenograms, and species diversity spectra. The results suggest major ecological changes through time from the lowest levels being characterized by an abundant and diverse fauna of medium and large herbivores, especially hyracoids, and very few primates; and the upper levels being characterized by an abundance and a diversity of arboreal primates and a reduced diversity of large herbivores. Also, the cenogram analysis suggests open and dry conditions in the lower levels, and more densely forested and more humid conditions in the upper levels. This apparent change in ecology, from relatively dry and open conditions to more forested and humid conditions, could explain the explosive radiation of arboreal primates witnessed in the upper section of the Fayum sediments at the beginning of the Oligocene. This research was funded by NSF and LSB Leakey Doctoral Dissertation Grants.

Garlie, Todd N., McMaster University

Title: What's in a face? Radiographic Analysis of Facial Soft Tissue Thickness in a Subadult Population: An Aid to Forensic Facial Reproduction.

Facial reproduction has been attempted during the last century with the intent to recreate the features of famous historical people and archaeological specimens, or more recently to identify victims in forensic cases. There are, however, doubts surrounding the accuracy and feasibility of such attempts. The analysis of a subadult radiographic sample, from the Burlington Growth Study, examines correlations between facial soft tissue thickness and variables such as age and sex. The results of this ongoing research will better aid forensic experts to reproduce a likeness of an individual from a subadult skeleton.

Glencross, Bonnie, University of Toronto.

Title: Multivariate statistical analyses on long bones of the upper and lower limbs from a sample of adult skeletons.

Conventional metric data and statistical methods are used extensively to describe structural relationships within bone or amongst bones from the same limb. Few studies have explored the probability of associations across the upper and lower extremities. This study was designed to investigate the possibility of multiple relationships amongst the bones of an individual's upper and lower limbs.

The data for this study was drawn from the National Forensic Data Base, Forensic Anthropology Center, University of Tennessee. Each case was required to meet the following criteria: age at death of eighteen years or older, and positive identification for sex and ethnicity. The samples used are: male, female, left side and right side, each of which varies in size from twenty-one to fifty cases. Using canonical correlation, statistical relationships are established between the humerus and femur along the dimensions of maximum length, shaft size and width of the distal end. Similarly, canonical variate pairs are established between the radius and the tibia for maximum length and shaft size. The canonical variate pairs are used in an example of multivariate linear regression where the ability to describe the size of a bone using the dimensions of a bone from a different limb is assessed.

*Gustavsen, D.E., *M. Valiante, **L. Vanderlinden, *M. Weis and ***H. Williams, *University of Windsor, * & **Great Lakes Institute for Environmental Research, **University of Toronto, ***Chippewas of Samia.

Title: A Generic Model for Environmental Monitoring in First Nation's communities: An Interdisciplinary Approach.

Environmental monitoring is an ongoing process of recording changes in local environmental conditions and the impact these changes may have on human health and well-being. An environmental monitoring program is one of a number of activities which First Nations communities can undertake in response to increasing environmental degradation. Ongoing assessment of the environment and the health of Native peoples, is an essential step in maintaining local autonomy and identifying appropriate measures to counter environmental health risks. The model presented here has been developed in the form of a structure and process that can be initiated and implemented by First Nations communities regardless of their specific environmental conditions or geographic location. The sections in the model, introduced briefly here, identify the key features in any environmental monitoring program: 1. Ecological monitoring, 2. Human health and well-being, and 3. Rights and responsibilities. At the centre of the model is the greater endeavour - achieving community well-being through effective community and industrial relations. This model has been prepared by an interdisciplinary team of environmental health researchers at the Great Lakes Institute for Environmental Research (GLIER) at the University of Windsor. GLIER is a multidisciplinary, collaborative research organization specializing in water resource management, toxicology, human health and the development of environmental policy.

Haas, George, Mohawk Council of Akwesasne; University of Ottawa.

Title: Overview, Categorization and Assessment of Environmental Knowledge and its Usefulness for Native Communities.

The study and understanding of large environmental systems is inherently difficult - these systems are unique, change slowly and knowledge about these systems is scarce. Indigenous communities often know more about the behaviour of these systems and their changes because of their lifestyle and because of the direct impact of change on their livelihood, culture and very existence. For example, relatively small Indigenous communities often experience direct socio-economic consequences of changes in environmental systems. Mohawk Council of Akwesasne and University of Ottawa are in the second year of the pilot project, which attempts to deal with some of these problems and which involves five Indigenous communities across Canada. An important factor in this project is the principle of "community". Involved members of Indigenous communities will participate directly in the design of the study, identifying environmental and natural resources criteria (perception and evaluation of "quality" of land, water and air; abundance or depletion of natural resources such as fish and fur-bearing animals through time). The communities will define their specific problems within the general framework of the project. This form of participatory research can be directly useful to the communities since the analysis and formalization of the environmental changes (state-of-the-environment reporting), and of the changes in natural resources, is critical for the understanding and eventual modification of economic and social development. The project will help evaluate the potential for further community-based research, will bring communities together and will help members of the individual communities to understand and compare the problems between communities. The project can assist in the fulfillment of several main goals of the green Plan as well as in the realization of commitments accepted at UNCED. Substantial parts of the developed methodology and of results of the project can be directly applicable in other countries which Canada is cooperating with (i.e., Indigenous nations in Latin America, etc.).

Haines, Jacqueline, Simon Fraser University

Title: Neanderthals out in the Cold: An investigation into cold-adaptation and how it may have affected the Neanderthals of Western Europe.

The Neanderthals of Western Europe evolved over a very long period in an increasingly colder and drier climate. Material evidence indicates that they had developed only rudimentary cultural defenses against the cold. It is likely, therefore, that they were physiologically highly adapted to the cold. Whereas Early Moderns, who were physiologically warm adapted, would have perished in the cold of Western Europe without significant cultural buffering. Drawing from cold adaptation studies of modern human populations and animals, Neanderthals may have developed a seasonal reproductive cycle, a greatly reduced level of activity in the cold months and, in the males, a heavily insulated scrotum. Assuming some interbreeding between these two populations, the slower growth rate of the Neanderthals combined with the possibility of male hybrid infertility for several generations could have made a significant contribution to the disappearance of the Neanderthals in a relatively short period of time.

Hamison, Roman and Gillian Crane, University of Calgary

Title: Postmodernism and Physical Anthropology.

This discussion will involve the investigation of postmodernist theory and its possible relationship to physical anthropology. Postmodernism is a reaction to universal modernism's vision of the world. Modernism is generally conceived as rationalistic, positivistic, technocentric, and identified with the belief in linear progress, the rational planning of ideal social orders, absolute truths, and the standardization of production and knowledge. In contrast, postmodernism rejects the use of 'metanarratives' and emphasizes heterogeneity and difference as liberative forces in the redefinition of cultural discourse. Indeterminacy, fragmentation, and distrust of all universal or 'totalizing' discourses are the characterizing features of postmodernist thought. Disciplines within anthropology have addressed postmodernist principles through the postprocessual paradigm. This discussion is designed to address the relevance of postmodernist principle in relation to research in physical anthropology.

Helmuth, Hermann, Trent University

Title: Faithism.

A new prejudice, 'Faithism', has been added to the long list of other "-isms", such as racism and sexism. Victims of prejudice on religious grounds claim that scientists, including evolutionists, are the main perpetrators of this illegal discrimination. Are we justified in rejecting "alternative theories" based on fundamentalist creationist Christianity? It is argued that as an a-religious, non-dogmatic and empirical paradigm within the Natural Sciences, Evolutionary Theory must fight against an oxymoronic, non-heuristic and non-applicable movement in our scientific-technological society. Religion, however, should not be trivialized, it still has important tasks and problems to solve.

Holmes, Mark D., Deborah Gustavsen and Sandra Miller, University of Windsor

Title: Alcohol-Related Mortality with and without specific mention of alcohol: Socio-economic classification and methodological concerns.

The following study was drawn from a data-base consisting of all alcohol-related deaths in Ontario, 1960-1989 where there existed any mention of alcohol or primary liver disease. Only those records where the cause of death was found to be natural were considered for further analysis, allowing only for differentiation in hepatic damage associated with prolonged excessive drinking. The data was further separated according to the mention of alcohol, whether specifically mentioned or implied, in order to evaluate whether extraneous factors are influencing how alcohol-related deaths are being reported. A socio-economic score, based on Bernard Blishen's revised 1987 index was applied to each occupation. Blishen's index provides a rough estimate of socio-economic status. Analysis was carried out to examine the relationship between a socio-economic classification and the specific mention of alcohol. Concerns regarding the validity of current methodology in alcohol mortality studies are discussed.

Jerkic, Sonia*, Patrick Home** and A. Aufderheide***

*Memorial University, **Department of Pathology, York County Hospital, *** University of Minnesota

Title: Biology and History: Studies of a Beothuck Mummy

Naturally mummified remains from non desert maritime environments are rare. However, the remains of a mummified Beothuck child, 5-6 years of age, were recovered at the turn of the century from a rock shelter burial on the east coast of Newfoundland. The body, lying in a flexed position, was originally wrapped in a leather shroud and associated with the skeletonized remains of an adult female as well as with grave goods. The earliest written documentation of contact between Beothucks, the group indigenous to the Island of Newfoundland when Europeans first explored and settled the area, and Europeans is that of Jacques Cartier in A.D. 1534. Through the succeeding 300 years, Beothuck population numbers declined. Cut off from coastal resources by European settlements, relegated to living almost exclusively inland where resources were not uniformly abundant, and plagued by European-introduced disease and killing by settlers, the last known Beothuck died in A.D. 1829. If the mummy were historic, these remains might be expected to show some evidence for these conditions. Assessment was done through metrical analysis, full body x-rays, routine histology, carbon and nitrogen isotope analysis, C-14 dating, and DNA studies. Evidence from the investigations suggest that the historic and archaeological indications for trauma, infectious disease, and periods of starvation among the later post-Contact Beothuck groups may not apply in this case.

Keenleyside, Anne, McMaster University.

Title: An analysis of recently discovered human skeletal remains of the last Franklin expedition.

In 1992, a site of the last expedition of Sir John Franklin was discovered on King William Island in the central Canadian Arctic. Cultural material recovered from the site included the remains of a probable lifeboat, fragments of leather, glass, copper, buttons and fabric. Nearly 400 human bones and bone fragments were recovered, most of them surface finds. The remains represent a minimum of eight individuals, all of them Caucasian males. One individual was aged 12-15 years at the time of his death, younger than the youngest crew-member listed in the Admiralty records. An analysis of a number of skeletal elements by x-ray fluorescence and mass spectrometry revealed elevated lead levels consistent with lead poisoning. Skeletal pathology included periostitis, osteoarthritis, and dental pathology. Most noteworthy was the discovery of cut marks on approximately 24% of the total number of bones. The number and distribution of these cut marks are strongly suggestive of cannibalism.

Leonard, W.R*. P.T. Katzmarzyk**, & M.H. Crawford***, *University of Guelph; **University of Texas; ***University of Kansas.

Title: Population biology and health of indigenous Siberians.

The origin of chronic health problems among populations continues to be the focus of considerable research within anthropology. Yet, studying this question among indigenous North American populations is difficult since there are relatively few largely unacculturated groups. Indigenous populations of Siberia, on the other hand, span a much wider range of acculturation. Consequently, these populations may provide unique insights into the impact of social and cultural change on human health in northern ecosystems.

This paper presents data on growth, nutrition, and general health status (e.g., serum lipids, cardiorespiratory fitness) for Evenki herders of Central Siberia. These traditionally-living Evenki appear far less acculturated than most indigenous North American populations. Consequently, the Evenki grow more slowly, display smaller adult body size and have much lower serum cholesterol levels than the Inuit. The Evenki do, however, show some biological change due to the influence of acculturation. This transition is most evident among women, and appears to be associated with changes in subsistence activities and reproductive patterns.

Meiklejohn, Chris*, M.K. Jackes**, & J.M. Wyman, *University of Winnipeg; **University of Alberta.

Title: Dental Size Reduction across the Portuguese Mesolithic-Neolithic Transition.

Previous work has demonstrated that a reduction in dental size occurs within the Mesolithic of Portugal. As such, it was argued that dental reductions could therefore not be viewed as being the result of the transition of agriculture in this region, an approach taken to explain reduction in some other regions. In this paper we extend the analysis to show that there is continuous reduction from the Mesolithic into the Neolithic. We examine the results within the perspective of ongoing debates about the nature of the agricultural transition in the Western Mediterranean and about the causative agents of generalized dental reduction recorded for a number of Holocene population. Aspects of this work have been supported by grants from the Social Sciences and Humanities Research Council of Canada.

Minugh-Purvis, Nancy, University of Pennsylvania

Title: The Neurocranial Evidence for Neandertal Birth: A Model for the Recent Evolution of Modern Human Parturition.

Understanding the evolution of the birth process as hominid cranial capacity increased over the millennia requires two data sets from the fossil record: adult pelvic remains, particularly those of females; and the remains of neonatal crania. Both are available for the European archaic *Homo sapiens* known as Neandertals, yet while obstetric implications of Neandertal pelvic morphology have been investigated in detail, little attention has focused on understanding Neandertal birth from available Neandertal infant neurocrania.

Neurocranial thickness was measured at 15 locations on Neandertal, Upper Paleolithic associated, and recent human infants. These, and data from 16 other neurocranial dimensions were compared in reconstructing probable proportions of neonatal calvarial segments and flexibility of the braincase overall in these groups. Results indicate it unlikely that the thick Neandertal neonatal calvarium was capable of molding in the same way as modern *Homo sapiens sapiens* during passage through the maternal pelvis. However, proportions of neurocranial segments in Neandertal infants suggest that a modern pattern of head molding was not necessary for successful parturition to occur. The modern human pattern of birth is probably a relatively recent phenomenon.

Nelson, Andrew, University of Western Ontario

Title: Taxonomic Traits in the Postcranium of *Homo erectus*.

The recent reconsideration of the antiquity of Indonesian representatives of *Homo erectus* has stimulated new discussions regarding the origin and fate of that Pleistocene hominid species. However, any such discussion must first consider the issue of identification of members of that taxon so that the points of origin and extinction can be accurately determined. This paper will report on work undertaken to test the discriminatory power of postcranial traits, in particular cortical bone thickness, that have traditionally been used to distinguish members of the species *Homo erectus* from other hominid populations. The results demonstrate that these traits are not consistently expressed in individuals traditionally assigned to "*Homo erectus*", and occur frequently in other non-*erectus* hominids. When taken in concert with other work on cranial characters, this result questions our ability to accurately delimit this hominid species. This issue must be resolved before we can move on to meaningful discussions of the origin and fate of *Homo erectus*.

Ossenberg, Nancy S. S., S. Steeles, & J. Howes, Queen's University.

Title: Masticatory parameters in prehistoric Eskimos and Modern Eurasians: A comparison based on three dimensional analysis of static equilibrium from craniofacial measurements.

The purpose of this study was to compare biomechanical attributes related to mastication and chewing efficiency in two distinct populations adapted to very different subsistence economies. Twenty intact skulls of 18th - 19th century Sadlermiut (an extinct population from Southampton Island in Hudson's Bay) were compared with 22 East Indian skulls. The t(transverse), v(vertical) and y(antero-posterior) coordinates of 22 skeletal landmarks locating the axis of rotation through the right condyle, reaction forces at both condyles (RCL, RCR), load at the right first molar (RM) and centroids of attachment of the chewing muscles were recorded using Metrecom electronic digitizer. The biomechanical model used was unique, in that it assumed wholly asymmetrical activity in seven muscle components in order to maximize the moment around the v axis, which in turn maximized the t molar reaction (RMt). The force of each muscle was assumed to be constant from one individual to another. Using the six equations for static equilibrium, six unknown reaction forces (RMt, RMv, RMy, RCLv, RCLt, RCRv) were then calculated. A two-way ANOVA (sex/group) showed differences significant as $p < 0.05$ only for RMt. The apparently greater efficiency of the females of both populations in generating RMt, but not RMv, was difficult to interpret. However, the larger Eskimo RMt may reflect adaptation, in a high attrition environment, for greater efficiency in horizontal shearing between flat occlusal surfaces. Since RMv did not differ between Eskimos and East Indians it is possible that the morphological adaptation for the generation of massive vertical occlusal forces in the Arctic people (Hylander) relates more to muscle size, than to craniofacial proportions affecting the power arm/load arm ratio.

Pawlowski, Diane R., Wayne State University

Title: Rehabilitation or Re-Culturation?

Participation in a residential physical medicine and rehabilitation program is a pivotal part of the process of recovery and adaptation following severe, disabling, traumatic injury or illness that forever alters the course of a person's life. For those who enter an in-patient rehabilitation facility, this experience includes tasks such as acquiring self-care techniques and patterns, and relearning life skills that prepare the individual to re-enter family and community activities. During the six to eight weeks when a patient resides in a rehabilitation facility, observable cultural factors that are part of the institution and the individuals who work, reside, or visit, play an important role in a patient's adaptation to his or her new life. This paper examines some of these cultural issues through an analysis of cultural categories gleaned from ethnographic observations conducted during field work with the nursing staff on the Spinal Cord Injury (SCI) unit of a major, 110-bed regional in-patient rehabilitation institute located in the downtown of a large midwestern U.S. city. These observations were made during the course of a five-day period in early summer of 1994. The observations and fieldwork reports are part of a two-year medical anthropological ethnographic study of life in a rehabilitation facility. The overall project will identify operative cultural factors at play in an urban rehabilitation facility that assist or impede the rehabilitation process, focusing on differences between life during the institute's work day versus evening and weekend life.

Pfeiffer, Susan, University of Guelph

Title: Continuity or Replacement: Evidence from Infracranial Robustness.

The early *H. sapiens* skeletal material from Southern Africa has been variously proposed as evidence of either a population from which "Out of Africa" migration could have occurred, or a population derived from an East African migration. This research was designed to delineate the infracranial robustness within this sample, and between these specimens and *H. sapiens* comparators. Samples studied directly include the Tuinplass individual, the Border Cave humerus and the Klasies River Mouth clavicle. Research methods include cross-sectional analyses of long bones and histological assessment of cortical bone. Results indicate a highly variable sample, with marked heterogeneity between individuals and a unique morphological pattern within one relatively intact individual. Such diversity should be interpreted as a cautionary indication when a Southern African "population" is being postulated.

Sawchuk, Larry A., H. Choong & S.D.A. Burke, University of Toronto

Title: The Two Census Approach: An Application to Belleville, Ontario.

The two census approach was applied to the intercensal period 1861-71 in Belleville, Ontario to obtain an estimate of mortality. A reasonably good fit to theoretical expectation was yielded for the town proper and for Anglican males. In the case of Anglican females, marked disturbances were noted. It is most likely that migration is the factor responsible for our inability to provide a reasonable approximation of mortality among Anglican females.

Steele, Stephen S. and Susan K. Pfeiffer, Queen's University; University of Guelph.

Title: Cranial fractures as evidence of violence towards young adult males from an Iroquoian Ossuary.

Skeletal cranial material from the Uxbridge Ossuary (1490 \pm 80 A.D., N = 76) is analyzed for evidence of cranial fractures. Cranial fractures are found to be quite common (21.05%, N = 16) in the sample, but, especially frequent in the young male adult individuals (43.75%, N = 7). Some of the fractures associated with this group show hatchet, arrow and club-like cranial injuries. These types of cranial injuries, frequently prevalent in this young adult male group, are indicative of interpersonal violence, possibly as a result of primitive warfare with neighboring tribes.

Tait, Gary S., University of Toronto

Title: White Hats versus Black Hats: the Problem of Patron-Saint Presentism in American Paleoanthropology.

Presentism is a mode of historiography in which the past is studied for the purposes of the present. In some cases, historical figures (patron saints) are used by a particular research school to legitimize its views and help defend them against the attacks of a rival faction. Several examples from the history of geology and biology will be given to illustrate the general nature of patron-saint presentism, but the focus of this paper will be on the historical writings of Brace, Spencer and Wolpoff. These workers have adopted Hrdlicka, Schwalbe and Weidenreich as the patron saints of the unilinear (single species) model, while contemporaries who expressed contrary opinions, in particular, Boule, Hooton and Keith, have been cast as devil's advocates in the narratives of the Brace-Wolpoff school. An analysis will be given of the profound differences among various patron saints, especially in regard to their contrasting ideas on the mode and mechanism of human evolution, and these older theories will be compared to modern versions of the single-species hypothesis.

Thompson*, Jennifer L. and L.A. Yaroeh**, *University of Toronto; **University of Michigan

Title: Patterns of sexual dimorphism in hominoids: An exploration using thin-plate splines.

In this study, we use the method of thin-plate splines (Bookstein, 1991), to investigate patterns of cranial sexual dimorphism in three species of apes. This new geometric approach allows one to illustrate each shape contrast with a D'Arcy Thompson-style deformed grid, and to distinguish large-scale shape difference, involving change coordinated across the entire form, from shape differences localized to particular regions. We compare mean female to mean male craniofacial form within small samples of three species, the orangutan, chimpanzee and gorilla. Cranial shape is represented by 18 landmarks digitized from lateral cranial photographs. Using the program TPSpline, we deform the female to the male mean form for each species. Each mean is also compared to a common reference form, and the shape difference in each comparison is broken down into components based on scale. This preliminary analysis explores the power of this geometric approach for describing and quantifying patterns of cranial dimorphism, and its potential for distinguishing sexual dimorphism from interspecific variation in the hominid fossil record.

Vanderlinden, Loren D.*, D.E. Gustavsen** and H. Williams***, *University of Toronto, ** University of Windsor, * & **Great Lakes Institute for Environmental Research, ***Chippewas of Samia.

Title: The Chippewas of Sarnia: Perceptions of Environmental Health Risk in Chemical Valley.

In December of 1993, the Chippewa Samia Reserve underwent emergency evacuation due to a toxic chemical spill and threat of a major explosion in one of the many chemical manufacturing plants surrounding the reserve. A community survey conducted in the months following the evacuation, by members of the GLIER interdisciplinary research team surveyed reserve residents. The survey examined the responses of band members under three main headings: 1) emergency evacuation procedures; 2) immediate health symptoms; and 3) perceptions of long-term environmental health risk. The results of the survey point clearly to the need for community health assessment tools that are both culturally appropriate and yet provide the community with objective and subjective evidence for presentation to regulatory agencies, industry and government. This evidence is important for giving First Nations communities the ammunition to influence implementation of environmental policy.

Varney, Tamara L., University of Guelph

Title: Assessment of the relationship between "collagen" integrity and historical preservation in bone derived from an archaeological context.

Studies of diagenesis have suggested that the histological preservation of archaeological bone may mirror the preservation of its organic framework, comprised primarily of collagen. Such a relationship may provide the criterion for sample selection for chemical analysis. The hypothesis that histological preservation is highly correlated with "collagen" integrity was tested. The sample was comprised of nine femoral cross-sections from the Snake Hill military cemetery (A. D. 1814) at Fort Erie, Ontario, Canada. These sections exhibited three distinct layers of cross-sectional histological preservation that ranged from good to extremely poor. The "collagen" component of the bone was extracted from each of the three layers of preservation and analyzed with respect to its integrity. Histological preservation did not show a reliable correlation with "collagen" integrity as measured by "collagen" yield, carbon and nitrogen concentration, carbon to nitrogen atomic ratio, or amino acid profile. These commonly employed criteria also showed poor agreement in their assessment of "collagen" integrity, and suggest a non-homogeneous composition for the extracted "collagen". Histological preservation is not a reliable indicator of "collagen" integrity, and should not be used as a means of sample selection for chemical analysis.

Vasey, Paul L., University of Montreal

Title: Alliances, Formation and Homosexual Behavior in Female Japanese Macaques (*Macaca fuscata*)

The proximate causes of affiliative behavior among primates are the objective of much debate, but remain only partially understood. In general, affiliative behavior appears to be a fundamental means by which individuals manipulate others in order to gain access to physical and social resources. The purpose of this study was to assess whether one type of affiliation homosexual behavior promotes alliance formation among sexual partners, as a number of researchers have suggested (e.g. Fedigan 1982; Chapais & Mignault 1991). Female Japanese macaques are well known for their frequent homosexual interactions involving consort bonding, both in captivity and in the wild (e.g. Wolfe 1984; Vasey 1995). Approximately 129 hours of focal animal data was collected throughout the 1993-94 mating season on female Japanese macaques engaged in homosexual consortships at the Laboratoire de Primatologie Comportementale of the Université de Montreal. Non-kin sexually mature female intervened in conflicts in support of each other significantly more often when consorting, than outside of consortships. The majority of such interventions involved sexual partners forming conservative alliances (*sensu* Chapais 1991). However, destabilizing alliances (bridging and revolutionary alliances *sensu* Chapais 1992) were commonly observed increased alliance support among females consort partners modified their relationships with other group members. For example, while engaged in homosexual consortships, females initiated more aggression with others and were the targets of less aggression than outside of these consortships. Furthermore, both sexual partners frequently rose in rank relative to individuals with whom they were previously subordinate or with whom they shared ambiguous relations. By comparison, females rarely fell in rank while consorting together. This study indicates that there is a close temporal and thus, causal relationship between homosexual affiliation and subsequent alliance support among female Japanese macaques. Consequently, the hypothesis that some primate homosexual behavior Affiliations alliance formation among sexual partners is supported. Patterns of affiliation between consort partners are discussed in order to assess whether, in addition to sexual attraction, females actually choose same-sex consort partners based on their potential utility as allies.

This research was supported by the Sigma-XI Scientific Research Foundation and the Université de Montreal.

White, Christine D.* & George J. Armelagos**, *University of Western Ontario; **Emory University.

Title: Osteoporosis in X-Group Nubians and $\delta^{15}\text{N}$ Enrichment.

Stable carbon and nitrogen isotopes were analyzed on 43 Sudanese Nubians from the X-Group period to test dietary hypotheses for the high frequency of osteoporosis in this population. There are no significant differences in proportions of plant foods in the diet. Both normal and osteoporotic individuals consumed a dominantly C3 diet, which is assumed to be comprised mainly of a wheat and barley grain staple. Females with osteoporosis do, however, have significantly enriched $\delta^{15}\text{N}$ values. The enrichment effect is the greatest in the third and fifth decades of life, and is consistently patterned with microstructural and frequency differences previously reported. It is suggested that $\delta^{15}\text{N}$ is reflecting differences in the renal processing and clearance of calcium and phosphorus created by factors that make these subgroups most vulnerable to osteoporosis i.e. an early peak in bone mass, early pregnancy, multiparity, and extended lactation. The study not only alerts us to the susceptibility of stable nitrogen isotopes to non-dietary (i.e. physiological) factors, but also identifies nitrogen ratios as a possible new marker for osteoporosis.

Wood, Lynda S. & N.S. Ossenberg, Queen's University.

Title: A Survey of Spondylolysis in North American prehistoric populations.

Spondylolysis is a skeletal anomaly characterized by a separation of the inferior articular facets and neural arch from the vertebral body, pedicle and superior facets. It occurs most commonly in the lower lumbar vertebrae. Spondylolysis is of interest to both clinicians and anthropologists; the former because, although often asymptomatic, it can develop into spondylolisthesis and thus require clinical intervention, and the latter because it is thought to result from both a genetically based predisposition in addition to functional/mechanical stress. It is now generally accepted to occur in high frequencies in Eskimo populations; published reports indicate anywhere from 20 % to 60 %. In addition to presenting further data on Eskimos groups the authors present spondylolysis frequency data for North American indigenous groups, that, to our knowledge, have not yet been studied for this trait. Preliminary calculations reveal the following frequencies: Aleuts 14/71 (19.7%); Eskimos 55/62 (21.0%); Athabascan 7/38 (18.4%); Northeastern Plains Periphery 15/77 (19.5%); Northwest Coast B.C. 7/34 (20.6%). Recent hypothesizing by Merbs (1989, International Journal of Anthropology, 4:163-9) that interpretation of this anomaly might be more successful within a positive (adaptive) context rather than negative (pathological) context is explored.

Yang, Dongya, McMaster University.

Title: Population variation of physical characteristics in China.

Anthropometric data of 31 human populations in China were analyzed using the principal component analysis (PCA) and the cluster analysis for understanding human population variations patterns in China. Among the PCA results, major variation patterns are the gradual changes in the south-north direction. For example, human body sizes increase and the relative length of leg and arm decrease from the south to the north in China. These gradual variations can be explained in terms of adaptation to natural environments in a broad sense. However, compared to other organisms, natural environmental factors have less influences on humans. China can be biogeographically divided into two different areas, the north and the south area. Human population variations in China do not show any obvious abrupt changes on the boundary of the above division.

Zeller, Anne, University of Waterloo

Title: Images from the Field

In the winter of 1993 I spent 4 months of my sabbatical leave in Africa videotaping primates in their natural habitat and in contact with humans. The purpose was to assess the viability of habitats and the types of human-primate interaction occurring under modern conditions of increased population, drought conditions and increased tourism. The two videos I made address these questions as well as providing students a comparative perspective on the habitat and behaviour of 4 monkey and 2 ape species. The first video - Baboons - focuses on a wide range of savanna populations, while the second video - Five Species - allows a comparison of two cercopithecus forms, a colobine, chimpanzees and the rarely filmed Eastern Lowland Gorilla.

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