

CANADIAN ASSOCIATION FOR PHYSICAL ANTHROPOLOGY/

L'ASSOCIATION CANADIENNE DE L'ANTHROPOLOGIE PHYSIQUE

8th Annual Meeting

November 6-9, 1980

El Mirador Hotel

Ottawa, Ontario

FINAL PROGRAMME AND ABSTRACTS

Programme and Local Arrangements:

Jerome S. Cybulski & Richard I. Inglis

National Museum of Man, National Museums of Canada

Ottawa, Ontario

8th ANNUAL MEETING PROGRAMME, CAPA/ACPA

THURSDAY, 6 NOVEMBER 1980

- 6 P.M. - Registration begins in El Mirador Hotel
- 7 - 10 P.M. - No-host (cash) bar, El Mirador Hotel

FRIDAY, 7 NOVEMBER 1980

Symposium: Skeletal Biology

Organizer and Chairman: William D. Wade

- 8:30 - - A critique of bivariate metric sex determination techniques. NORMAN C. SULLIVAN, University of Toronto, and RICHARD HALL, McMaster University.
- 8:50 - - Comparison entre des crânes Iroquoiens du Québec et de l'Ontario. ROBERT LAROCQUE, Université de Montréal.
- 9:10 - - Within-group relationships inferred through skeletal data. J.E. MOLTO, University of Toronto.
- 9:30 - - The morphometrics of netopism. GARY M. HEATHCOTE, University of Toronto.
- 9:50 - - The impact of adult age determination techniques on paleodemography. SUSAN PFEIFFER and P. LYNN, University of Guelph.
- 10:10 - - COFFEE BREAK
- 10:30 - - A reassessment of Gray site demography and chronology. WILLIAM D. WADE, University of Manitoba.
- 10:50 - - Gravestone data from an Ontario cemetery: applications to paleodemography. F. JEROME MELBYE and ANNE KATZENBERG, University of Toronto.
- 11:10 - - An early human skeleton from Core Creek, British Columbia. JEROME S. CYBULSKI, National Museum of Man, DONALD HOWES, B.C. Ministry of Environment, JAMES C. HAGGARTY, B.C. Provincial Museum, and MORLEY ELDRIDGE, University of Victoria.
- 11:30 - - A Blackduck infant burial from southeastern Manitoba. CHRISTOPHER HEIKLEJOHN and ANTHONY T. BUCHNER, University of Winnipeg.
- 12:00 - - LUNCH

(FRIDAY, 7 NOVEMBER 1980, CONTINUED)

Contributed Papers: Primates; People

Chairman: James D. Paterson

- 2:00 - - Mating preferences in *Macaca sylvana* of Gibraltar.
FRANCES BURTON and LAETITIA GODWIN, University of Toronto.
- 2:20 - - Fertility differentials among *Macaca sylvana* of Gibraltar.
WAYNE RHODIS, University of Toronto.
- 2:40 - - Idiosyncrasy as innovation in the development of tradition.
MARGOT WILSON, University of Toronto.
- 3:00 - - Social dominance in a group of captive mandrills (*Mandrillus sphinx*): an analysis of behavior indices. NASHA HOLT, McMaster University.
- 3:20 - - COFFEE BREAK
- 3:40 - - A critique of current sociobiological studies of *Macaca radiata*. GEORGE ELLIS, University of Montreal.
- 4:00 - - Thermoregulatory behavior and ecological factors in primates.
JAMES D. PATERSON, University of Calgary.
- 4:20 - - Dynamique bio-culturelle d'un isolat: St-Barthélemy, Antilles françaises. FRANCINE-M. MAYER, Université de Montréal.
- 4:40 - - Historical demography of western Canadian native populations: Grande Cache, Alberta, 1800 - 1975. G.C. NICKS, Provincial Museum of Alberta.
- 5:30 - 7:30 - RECEPTION, hosted by the National Museum of Man, National Museums of Canada, in the 3rd floor Salon of the Victoria Memorial Museum Building, Metcalfe and Macleod Streets.

SATURDAY, 8 NOVEMBER 1980

Contributed Papers: Aging, Illness, Stress, Physiology, Reproduction

Chairman: Diane Berthellette

- 8:30 - - Relationship between sociocultural variables and differential physiopathological aging. DIANE BERTHELLETTE, University of Montreal.
- 8:50 - - Physiopathological aging among a French Canadian female sample. GIOPIA FRAPPIER, University of Montreal.

(SATURDAY, 8 NOVEMBER 1980, CONTINUED)

- 9:10 - - Validation de l'indice de vieillissement différentiel.
NORMAND LAPLANTE, Université de Montréal.
- 9:30 - - Testing a theoretical model about stress and health at work.
FRANCIS FOREST and URSULA FOREST-STREIT, University of
Montreal.
- 9:50 - - Principal-components analysis: its use for multiple infor-
mation reduction in a study of two repetitive simple motor
tasks. YVON DESJARDINS, University of Montreal.
- 10:10 - - COFFEE BREAK
- 10:30 - - Glucose intolerance in the Dogrib: associated characteris-
tics. E.J.E. SZATHMARY, McMaster University.
- 10:50 - - Breastfeeding and postpartum ovulation: a research design.
MELISSA KNAUER, University of Toronto.
- 11:10 - - Migration and illness: cancer epidemiology of Chinese
Canadians. JOSEPH K. SO, Trent University.
- 11:30 - - Reproductive performance of the Anglican Parish of Fogo:
the biocultural implications. MARIAN BINKLEY, University
of British Columbia.
- 11:50 - - LUNCH

Contributed Papers: Fossils; Ape Teeth

Chairman: Mark Skinner

- 2:00 - - A review of recent developments regarding Eurasian Neogene
hominoids. L. WILLIAMS, Lakehead University.
- 2:20 - - An analysis of morphological variation in *Apehool* sp.
ANDREW J. PETTO and LAURIE R. GODFREY, University of
Massachusetts.
- 2:40 - - Enamel hypoplasia in Gorilla and Chimpanzee. MARK SKINNER,
Simon Fraser University.
- 3:00 - - COFFEE BREAK
- 4:00 - - GUEST SPEAKER, Dr. David Suzuki, University of British
Columbia.
- 7:30 - - ANNUAL BANQUET, followed by BUSINESS MEETING

SUNDAY, 9 NOVEMBER 1980

Contributed Papers: Skeletal and Dental Biology Studies; More on Primates

Chairman: Sonja M. Jerkic

- 9:00 - - Thule skeletal remains from Knud Peninsula, Ellesmere Island, N.W.T.: exploring negative evidence. J. EDSON WAY, Beloit College.
- 9:20 - - Beothuck skeletal material: a description. SONJA M. JERKIC, Memorial University of Newfoundland.
- 9:40 - - Skeletal indications of health, lifestyle, and division of labor in prehistoric human populations from south coastal British Columbia. OWEN BEATTIE, University of Alberta.
- 10:00 - - 'Bone loss' as an indicator of nutritional inadequacy in a skeletal population from Sudanese Nubia (350 A.D.). DEBRA MARTIN and ALAN H. GOODMAN, University of Massachusetts.
- 10:20 - - The dental morphology of the Waorani Indians of Ecuador: comparisons with South American samples. JOHN T. MAYHALL and S.A. KARP, University of Toronto.
- 10:40 - - Selected features of the demography of Japanese monkeys. LINDA PEDIGAN, University of Alberta, HAROLD COUZOULES, University of Wisconsin, and SARAH COUZOULES, University of Chicago.

ABSTRACTS OF PAPERS
PRESENTED AT THE EIGHTH ANNUAL MEETING OF THE
CANADIAN ASSOCIATION FOR PHYSICAL ANTHROPOLOGY/
L'ASSOCIATION CANADIENNE DE L'ANTHROPOLOGIE PHYSIQUE
OTTAWA, ONTARIO, NOVEMBER 6-9, 1980

SKELETAL INDICATIONS OF HEALTH, LIFESTYLE, AND DIVISION OF LABOR IN
PREHISTORIC HUMAN POPULATIONS FROM SOUTH COASTAL BRITISH COLUMBIA

OWEN BEATTIE
University of Alberta

An analysis of 115 prehistoric human skeletons from the Gulf of Georgia region of British Columbia revealed a series of skeletal abnormalities suggestive of a very physically demanding lifestyle. Degenerative joint disease (DJD) is discussed, and changes in lifestyle and the division of labor are demonstrated over the 4,000 year time period spanned by the human remains. The pattern and location of DJD is used to justify these interpretations, particularly the differences observed between males of the earlier and more recent time periods. A very early case (ca. 1000 B.C.) of rheumatoid arthritis is also presented.

RELATIONSHIP BETWEEN SOCIOCULTURAL VARIABLES AND DIFFERENTIAL
PHYSIOPATHOLOGICAL AGING

DIANE BERTHELETTE
University of Montreal

Aging is a complex phenomenon involving interacting morphological and physiological alterations. Many of these modifications develop slowly. They are associated with the diminution of physiological performances and an increase of various diseases. Many studies indicate that the nature and the speed of these processes vary considerably between individuals.

differential physiopathological aging. Using physiological, morphological and diagnostic data from the Sorel-Tracy sample, this index has been computed for almost 3,000 individuals. In this way we can evaluate the impact of environmental factors on the variation of such an index.

The results suggest that of the many variables used to assess the multifaceted effect of the environment on the aging process, some were found to be more important such as:

cigarette smoking, alcohol consumption, use of medication, physical activity, some socio-economic conditions, heredity, stress at work, etc.. We wish to describe in this paper, the relationship between those environmental variables and the variation of differential physiopathological aging.

REPRODUCTIVE PERFORMANCE OF THE ANGLICAN PARISH OF FOGO: THE BIOCULTURAL IMPLICATIONS

MARIAN BINKLEY
University of British Columbia

Marital histories and reproductive performance of 1,002 couples married within the Anglican Parish of Fogo, Newfoundland, from 1850 to 1949 were investigated. An examination of the components of reproductive performance revealed that over the study period only 30% of all children born within the population actually took part in the breeding structure of the parish. Emigration of young adults, due to lack of opportunities in the fishery, was identified as the major factor promoting this situation. In view of the results obtained by Crow's Index of Total Selection, the biocultural implications of the fertility differentials seen among the Anglicans of Fogo will be discussed. The economic restraints of the fishing economy are viewed as the major cultural factor influencing the potential for microevolution within the population.

THE MATING PREFERENCES IN *MACACA SYLVANUS* OF GIBRALTAR

FRANCES BURTON and LAETITIA GODWIN
University of Toronto

The purpose of this study is to ascertain if there are stable mating preferences in the monkeys of Gibraltar, if consort pairs formed in one year perpetuate, and if females, although permitting copulation by other males during early estrus, mate preferentially with one particular male at the height of assumed fertility.

The hierarchical structure of one group has been truncated recently by the loss of the fully mature breeding males. Prior to this historical event, a degree of selection for a particular male was observed in both groups. Moreover, this selection appeared to be repetitive, the older females typically mating with the older males, even when they had passed their prime.

Known degrees of genetic relatedness were used to evaluate their function as an inhibitory mechanism against close familial matings. Since the establishment of the macaque colony on Gibraltar, there have been few incidences of birth anomalies, despite the fact that it is a small and genetically isolated community.

However, this study demonstrates the increase of genetic homogeneity in one of the two local groups, and an increase in birth anomaly is foreseen. No mechanism either enhancing or inhibiting mate selection along genetic lines was found.

AN EARLY HUMAN SKELETON FROM GORE CREEK, BRITISH COLUMBIA

JEROME S. CYBUJSKI

National Museum of Man

DONALD E. HOWES

British Columbia Ministry of Environment

JAMES C. HAGGARTY

British Columbia Provincial Museum

MORLEY ELDRIDGE

University of Victoria

Early human skeletal remains in Canada are rare and leave much to be desired in terms of their state of preservation and completeness, in the certainty of their temporal contexts, and in their potential for bioarchaeological inference. We report the well-represented postcranial skeleton, with hyoid bone, of a young adult male, discovered in southcentral British Columbia in 1975. In situ parts were recorded below a volcanic ash lens that has been identified with the Mount Mazama eruption of 6,600 BP, and the right humerus yielded a collagen date of $8,250 \pm 115$ C-14 years. The collagen date, enhanced by isotopic fractionation analysis, together with a well-defined geochronological context, makes the Gore Creek find the oldest, well-dated, most complete individual currently available for the Pacific Northwest. Preliminary morphological and metric considerations suggest that the individual was of a tall-linear body build, a form usually associated with an inland hunting adaptation. This finding might be used to support C.E. Borden's (1979) construct of a Protowestern cultural tradition populating the North Pacific region from the south during the Late Paleo-Indian Period.

Literature Cited: Borden, C.E. 1979 Peopling and early cultures of the Pacific Northwest. *Science*, 203:963-971.

PRINCIPAL-COMPONENTS ANALYSIS: ITS USE FOR MULTIPLE INFORMATION REDUCTION IN A STUDY OF TWO REPETITIVE SIMPLE MOTOR TASKS

YVON DESJARDINS

University of Montreal

Sometimes in a study of phenomena which take the form of a multiple repetitive task, it is rather difficult to synthesize the whole phenomena in a single dimension. But there is one method in particular which can help to overcome that difficulty, principal-components analysis. We applied that method to two simple repetitive tests in hopes to draw one or two dimensions from the results of the tests. We found a dimension of general ability and a dimension of bilateral asymmetry on manual performance for the two tests.

TESTING A THEORETICAL MODEL ABOUT STRESS AND HEALTH AT WORK

FRANCIS POPIERT and URSULA POPERT-STREIT

University of Montreal

situations adopt a rather empirical approach, while other teams give much more importance to theoretical aspects of the topic. Having several data banks from different origins at our disposal, the members of our team decided to investigate several theoretical models concerning the relations between stress and health at work, and to test, with the help of these data banks, one of the most complete of these models. We first met the difficulty of finding the proper indicators in our bank for the different concepts implied in the model. This step is now overcome, and we expect results very soon.

GLOPIA FRAPPIER

University of Montreal

This report provides descriptive results of the health status of a sample of 200 French Canadian women residents of Sorel-Tracy in Quebec. For different age and occupational groups, we evaluated many physiological variables characteristic of cardiovascular, respiratory, visual, auditory, genito-urinary, locomotive and endocrine systems as well as morphological and neuropsychiatric variables by considering anthropometric measurements, physiological test results, and symptomatic indices. From the results of these variables, we estimated a physiopathological aging index by means of univariate and multivariate biometric methods. This index, evaluated in terms of number of years, permits us to examine how the variation of physiopathological aging works in relation to the chronological age of individuals or groups.

We cannot deny the fact that age and health levels are highly negatively correlated whichever physiological variable we consider, and our variation study for age groups well represents this reality. For occupational groups, we expect that on the average, women working as high level office employees or professionals present a much higher general health level than homemakers or women working as non-specialized manual workers; the former might manifest a physiopathological age lower than their chronological age, as compared to the average.

SOCIAL DOMINANCE IN A GROUP OF CAPTIVE MANDRILLS (*MANDRILLUS SPHINX*): AN ANALYSIS OF BEHAVIOR INDICES

NASHA HOLT

McMaster University

Social dominance has been defined and measured in various ways in studies of non-human primate social organization. In this project, dominance is defined operationally as an inter-correlated cluster of behaviors, one of which is the ability to aggress on an individual without that individual responding with aggression. Behavioral observations are conducted on a captive group of mandrills (*Mandrillus sphinx*) in order to determine whether dominance relationships are present and to examine the validity of traditional measures of dominance. A cluster of inter-correlated behaviors is identified which indicates dominance and ranks the animals into a linear hierarchy. The primary significance of the dominance hierarchy lies in conferring predictability to certain limited types of behavioral interactions, including agonistic encounters, non-agonistic approach-retreat patterns, and non-agonistic presenting. Delineation of such clear-cut dominance hierarchies is rare in non-captive situations, and possible reasons for this difference are discussed. An improved methodological approach to the study of dominance is proposed as a basis for comparative analysis utilizing the dominance concept.

BEOTHUCK SKELETAL MATERIAL: A DESCRIPTION

People have been aware of the existence of the Beothuck Indians since Europeans first touched the shores of Newfoundland. However, since the last known Beothuck died in 1829, our only source of description of these people lie in historic reports and in what can be deduced from available skeletal material.

There are only 11 known Beothuck skeletons available for study. As described in this paper, they provide indications as to the actual size and morphology of this group.

whose members were reported to be giants. The limited metric and morphological evidence points toward the possibility that they might have displayed some minor results of random genetic drift due to their island isolation.

BREASTFEEDING AND POSTPARTUM OVULATION: A RESEARCH DESIGN

MELISSA KNAUER
University of Toronto

Lactation is known to have an adverse affect on the ability to conceive. The extent to which this occurs, however, depends on the frequency, duration and intensity of nursing bouts, as well as the nutritional status of the mother and infant. The variety of lifestyles that human societies have experienced has influenced breastfeeding practices considerably. This possibly has played some role in population regulation and growth throughout human evolution.

Studies have been conducted whereby breastfeeding habits are correlated with the return of menstruation. Since the first postpartum cycles may be anovulatory, menstruation is not an accurate indication of potential fertility. In this longitudinal study, breastfeeding women are contacted, interviewed and asked to volunteer their time as suits their individual willingness to participate. By employing the symptothermal method of birth control for ovulation detection, breastfeeding patterns will be correlated with the resumption of postpartum ovulation in contemporary, urban women.

VALIDATION DE L'INDICE DE VIEILLESSEMENT DIFFERENTIEL

NORMAND LAPLANTE
Université de Montréal

Les facteurs susceptibles d'affecter la variation des niveaux de santé sont multiples. On peut supposer que le vieillissement différentiel contribue à cette variation. Aussi, l'indice de vieillissement différentiel sera utilisé comme variable indépendante dans une analyse de variance multiple. Ceci permettra d'estimer la contribution relative du vieillissement différentiel par rapport aux autres critères considérés (habitudes de vie, indices d'envi ronnement au travail, antécédents, etc...). Les indices de vieillissement considérés comme critères diffèreront selon les systèmes physiologiques analysés. Par exemple, pour estimer la contribution du vieillissement différentiel à la variation des données audionétri ques il est important de constituer un indice de vieillissement ne tenant pas compte des variables de l'audition.

'BONE LOSS' AS AN INDICATOR OF NUTRITIONAL INADEQUACY IN A SKELETAL POPULATION FROM SUDANESE NUBIA (350 A.D.)

DEBRA L. MARTIN and ALAN H. GOODMAN
University of Massachusetts

Skeletal methods for the determination of the nutritional status of archaeological populations have been overlooked because pathologies related to specific deficiencies are rare. However, the skeletal system provides general indicators of stress that can aid in the analysis of nutritional adequacy. In this paper we report on the premature loss of bone, rates of mineralization, and porosity and density of long bone cortices in femora from 86 adults (44 males and 42 females) from an X-Group cemetery from Sudanese Nubia. Taken together, these measures provide an index of skeletal health and maintenance. Analysis of the relationship between these measures indicates that the rate of bone loss and mineralization are related to age and sex. Females exhibit both bone loss and slower mineralization during peak reproductive years (20-35).

while males and older females do not show these trends. It is hypothesized that stress related to childbearing becomes critical in terms of mortality and morbidity when combined with an underlying nutritional inadequacy.

DYNAMIQUE BIO-CULTURELLE D'UN ISOLAT: ST-BARTHELEMY, ANTILLES FRANCAISES:

FRANCINE-M. MAYER
Université de Montréal

L'étude de la dynamique bio-culturelle de l'isolat de St-Barthélemy comprend une analyse approfondie de l'histoire socio-démographique de la population de l'île, une enquête d'ethno-médecine et une analyse des changements sociaux récemment survenus dans l'île. Cette recherche est faite parallèlement à une enquête médicale menée par le groupe de recherches en épidémiologie génétique de l'INSERM¹ dans le but d'évaluer la pathologie héréditaire de la population. La combinaison des approches socio-démographique, ethnologique et biologique permettra de dégager les processus sociaux qui modulent la micro-évolution biologique de la population et de contribuer à l'explication et éventuellement à la prévention des phénomènes pathologiques qui s'y déroulent et qui sont liés à son isolement et à sa structure.

(1) INSERM: Institut national de la santé et de la recherche médicale, Paris.

THE DENTAL MORPHOLOGY OF THE WAORANI INDIANS OF ECUADOR: COMPARISONS WITH SOUTH AMERICAN SAMPLES

JOHN T. MAYHALL and S.A. KARP
University of Toronto

The dental stone models of 91 Waorani Indians from the Napo river valley of eastern Ecuador were studied to provide an initial description of the dental morphology of their permanent teeth. These Indians were first contacted in the late 1950s and have continued as hunters and agriculturists with only occasional visits by missionaries and nurses. Eight morphological traits as well as the mesiodistal and buccolingual diameters of the permanent teeth were examined, and these were compared with previously described Indians from Chile, Peru, Guatemala, Mexico, and Brazil as well as Mongoloids in general.

Most trait frequencies were approximately the same as those for the other Indian groups with the exception of Carabelli's trait which was consistently lower in the Waorani. Tooth size was generally larger than in the comparison populations. The results indicated that the Waorani displayed the normal Mongoloid dental characteristics but appeared to be more homogeneous in their trait expressions, possibly suggesting a very low admixture rate and a high degree of isolation.

A BLACKDUCK INFANT BURIAL FROM SOUTHEASTERN MANITOBA

CHRISTOPHER MEIKLEJOHN and ANTHONY T. BUCHNER
University of Winnipeg

We report a fragmentary child's burial excavated in 1975 from the Bjorklund site in southeastern Manitoba. The burial is associated with cord-marked ceramics of the Blackduck Phase and has an estimated date of AD 1200 - 1400. The burial is believed to be secondary and is associated with potsherds, lithic materials, and bone, some of it altered. This form of burial is so far unique for the Manitoba Blackduck Phase. Its implications are discussed.

GRAVESTONE DATA FROM AN ONTARIO CEMETERY: APPLICATIONS TO PALEODEMOGRAPHY

F. JEROME MELBYE and ANNE FATZENBERG
University of Toronto

Gravestone data have been used to study stylistic changes by archaeologists and, more recently, to study demographic change by physical anthropologists. Several studies have confirmed the validity of using gravestone data to reflect demographic reality by comparing the data to census records.

The authors have collected data from a moderately large church cemetery from southern Ontario which includes individuals who died between 1791 and 1979. The data are compared with church records and Ontario census records to determine how well the cemetery was represented by gravestone information and how closely it resembles the living population. Problems encountered in gathering the data are reviewed and analogies are drawn to paleodemographic studies based on prehistoric cemeteries.

WITHIN-GROUP RELATIONSHIPS INFERRED THROUGH SKELETAL DATA

J. E. MOLTO
University of Toronto

Generally, morphogenetic skeletal data are used to determine relationships between excavated population samples. This paper represents a departure from this trend, in that it considers the possibility of such data being used to infer relationships among skeletons interred in a given burial area. More specifically, it outlines a model, based on discontinuous cranial traits, that is used to infer familial relationships. Case studies from southern Ontario's Woodland period are used to demonstrate the potential importance of this approach to interpreting prehistory.

THERMOREGULATORY BEHAVIOR AND ECOLOGICAL FACTORS IN PRIMATES

JAMES D. PATERSON
University of Calgary

Postures and positional behavior of primates have most often been considered purely from a "behavioral" standpoint and remarkably little attention has been directed towards understanding the ecological significance of these patterns. This paper presents a theoretical consideration of the significance of postural and positional behaviors of arboreal primates in ecological contexts. It is shown that in many, if not most, instances that postures and positions are not dictated by social or behavioral prerequisites but are significantly influenced by physiological regulatory activities. Such physiological activity, in the case of thermoregulation, dictates changes in body posture to aid or inhibit heat loss, as does the choice of position within the environment. The final choice of a body posture and a position for any individual animal is the result of social, behavioral, physiological and environmental forces.

AN ANALYSIS OF MORPHOLOGICAL VARIATION IN ARCHAEOLEMUR SPP.

ANDREW J. PETTO and LAURIE R. GODFREY
University of Massachusetts

Two species of Archaeolemur have been identified from two highly fossiliferous regions in the north-central and southwest coastal areas of Madagascar. Earlier studies of the functional morphology of a variety of subfossil species from Madagascar revealed

a poor fit with current diagnostic criteria for animals from a group of sites in the central coastal and south central inland regions of the island. The relationship among the three regions is best described by a directional and graded size factor running from the smallest in the southwest coastal to the largest in the north-central inland sites. Nine statistical tests of six possible alternative hypotheses to explain the variation fail to reject only two: (1) that the variation is clinal, or (2) that animals at intermediate sites are hybrids with roughly equivalent contributions from both parent populations. Trend surface mapping shows the direction and strength of the size variation, and indicates environmental variables which may be good indicators of biogeographical factors related to the development and maintenance of size variation.

THE IMPACT OF ADULT AGE DETERMINATION TECHNIQUES ON PALEODEMOGRAPHY

SUSAN PFEIFFER and P. LYNN
University of Guelph

Using skeletal material from the Kleinburg Ossuary (AlGv-1), estimates of adult age at death were derived from examination of femoral cortical remodelling. The resulting adult age distribution is compared with the ages derived from pubic symphysis examination by Saunders (1974). There are statistically significant differences in the 30-35 year and 40-55 year age categories. Cortical remodelling appears to yield consistently higher ages. This pattern is similar to that obtained by Ubelaker (1974). The impact of such differences in adult age distributions is discussed. It is concluded that such uncertainty about "true" age seriously limits the accuracy that can be claimed for paleodemographic research. Further, there is evidence accumulating for a systematic over-ageing error in cortical remodelling estimates (as compared to pubic symphysis age estimates.) A number of causes for such a pattern are discussed, as is the need for further research.

FERTILITY DIFFERENTIALS AMONG MACACA SYLVANUS OF GIBRALTAR

WAYNE RHODES
University of Toronto

Records on Macaca sylvanus of Gibraltar of births, deaths, importations, culling, maternity, and paternity have been kept by the British Army since 1935. This rich resource of information lends itself particularly to a longitudinal, familial study of demographic parameters. This kind of nominal approach to demographic analysis allows a more processual, dynamic method of investigation that opens the way to understanding how demographic processes, such as fertility differentials, may affect evolutionary changes. Reproductive success as defined by Jacquard (1971), Gomila (1975), and Sawchuk (1978) will be examined for all lineages existing between 1948 and 1978. This information will also be presented as a pack analysis similar to the analysis carried out by Roberts (1968) on the inhabitants of Tristan de Cunha. The resulting contributions of offspring to the gene pool by particular lineages will be presented. Potential genetic contributions will be proposed using the less accurate, but useful, data on paternity, by including male contributions as well. The implications of disproportionate contributions by certain lineages will be discussed with respect to potential evolutionary change.

ENAMEL HYPOPLASIA IN GORILLA AND CHIMPANZEE

MARK SKINNER
Simon Fraser University

Enamel hypoplasia has been well studied in recent and prehistoric populations as an

interpretive guide to the incidence and timing of environmental stress during childhood. Recently similar observations of a preliminary nature have been made on South African australopithecines. Interpretation of these results has been hampered by a lack of comparative data from recent non-human primates.

This study reports the results of research on enamel hypoplasia in two sympatric species, 119 lowland gorillas and 110 chimpanzees wild shot in the late 1920s and early 1930s in the Cameroons of West Africa. Observations were made on sex and species differences of the incidence of enamel hypoplasia from the permanent lower left mandibular dentition.

Preliminary results indicate (a) considerable tooth differences with the canine being most affected, (b) that gorillas are significantly more affected than chimpanzees, and (c) that both sexes in each species are equally affected.

The significance of these results is discussed in terms of the timing of environmental stress considering possible nutritional, infective or social mechanisms for their etiology.

MIGRATION AND ILLNESS: CANCER EPIDEMIOLOGY OF CHINESE CANADIANS

JOSEPH K. SO
Trent University

Cancer mortality data of Canadians of Chinese ethnic origin in Ontario were examined for the years 1968 to 1977. Compared with the general Ontario population, the Chinese figures are significantly higher for cancers of the nasopharynx, liver, and esophagus, but lower for cancers of the breast, uterus, prostate, pancreas, skin and brain, among others. Compared with data on Chinese in Hong Kong, several sites show an increase in mortality, especially for large intestine and rectum, showing a migrant effect. A number of possible explanations, both environmental and genetic, are discussed.

A REASSESSMENT OF GRAY SITE DEMOGRAPHY AND CHRONOLOGY

WILLIAM D. WADE
University of Manitoba

Previous accounts of the population of the Gray burial site in southeastern Saskatchewan have provided independent analyses of its demographic composition and the temporal span of its existence based on radiocarbon dates. This paper presents a minor revision of the age and sex estimates of the population, a reassessment of its biological heterogeneity in the light of new data, and a reexamination of its radiocarbon-based chronology with the addition of new fluorine dates. In conclusion, a tentative resolution is offered of the seeming discrepancy between the size of the cemetery population and its extended distribution through time.

SELECTED FEATURES OF THE DEMOGRAPHY OF JAPANESE MONKEYS

LINDA FEDIGAN
University of Alberta
HAROLD GOUZOULES
University of Wisconsin
SARAH GOUZOULES
University of Chicago

The demographic data from the Arashiyama West group of Japanese macaques, 1972-1979, are used to explore several problematic areas in the study of primate life-histories.

These include sex ratios at birth; different male and female mortality and migration patterns; effects of provisioning on population growth; and the relation of age, rank and kinship to reproductive success in females.

One of the unique features of the Arashiyama West group is that prior to their arrival at LaMoca, Texas, in 1972, they were studied by primatologists in Japan for 18 years. Koyama et al. (1975) have published and communicated to us their findings on the population dynamics of these monkeys from 1954-1972. Thus we are able to make some comparisons between past and present demographic patterns. There have been some changes in the natality, mortality and migration patterns, which will be delineated in the presentation. However, after an initial period of adjustment, many demographic trends returned to patterns similar to those observed in Japan.