PROGRAM

OF THE

12th ANNUAL MEETING

CANADIAN ASSOCIATION FOR PHYSICAL ANTHROPOLOGY

L'ASSOCIATION POUR L'ANTHROPOLOGIE PHYSIQUE DU CANADA

THE UNIVERSITY OF ALBERTA

DEPARTMENT OF ANTHROPOLOGY

NOVEMBER 15 - 18

1984

With support from:

Department of Anthropology
University of Alberta

Program Chairman:

Dr. Linda Fedigan
Department of Anthropology
University of Alberta

Local arrangements:

Dr. Owen Beattie
Department of Anthropology
University of Alberta

Schedule of Events

Thursday November 15

Lister Hall	6-10 pm	Registration and Welcome (Cash bar)

Friday November 16

Lister Hall (Map Room)	830-920 am	Continental Breakfast and Late Registration
Map Room	920-12 noon	Paper Session: **Primate Behaviour**
Ship Room	12 noon-2 pm	Riverboat Luncheon (Optional-$5.25 each)
Map Room	2-4 pm	Paper Session: **Human Biology**
St Stephen's College	730 pm	Reception hosted by Alberta Archaeological Society

Saturday November 17

Lister Hall (Map Room)	830-940 am	Continental Breakfast
Map Room	940-12 noon	Paper Session: **Skeletal Biology I**
	12-2 pm	Lunch Break
Map Room	1-2 pm	Meeting of the Editorial Board
Map Room	2-320 pm	Paper Session: **Skeletal Biology II**
Map Room	320 pm (following paper session)	Business Meeting
Faculty Club	7 pm 745 pm	Cash Bar Banquet

Sunday November 18

Optional visit to Provincial Museum in the morning - University van pick-up and return to Lister Hall.

Schedule of Presentations

All paper presentations will be held in the Map Room of Lister Hall.

Friday November 16

Primate Behaviour — Chair: J. Bullard

920 am	L. Fedigan
940 am	C. Chapman
1000 am	N. Collinge
1020 am	B. Chapais
1040 am	**Coffee**
1100 am	J. Paterson
1120 am	A. Zeller
1140 am	P. Asquith

Human Biology — Chair: E. Roth

200 pm	E. Szathmary
220 pm	M. Mahaney
240 pm	A.K. Roy and E. Roth
300 pm	**Coffee**
320 pm	K.B. Korup and E. Roth
340 pm	M. Brackley, C. Carro-Ciampi, A.K. Roy and W. Kalow

Saturday November 17

Skeletal Biology I — Chair: S. Saunders

940 am	S. Pfeiffer
1000 am	S. Saunders
1020 am	L.M. Pinch, W.D. Wade and J.S. Rhine
1040 am	**Coffee**
1100 am	M. Jackes
1120 am	O. Beattie, R. Amy and E. Damkjar

Skeletal Biology II — Chair: O. Beattie

200 pm	G.H. Sperber
220 pm	B. Averill and D. Mueller
240 pm	B. Kennedy
300 pm	L.A. Lee

ABSTRACTS FOR
THE TWELFTH ANNUAL MEETING OF

THE CANADIAN ASSOCIATION FOR PHYSICAL ANTHROPOLOGY

NOVEMBER 16 - NOVEMBER 18, 1984

Friday, November 16, 1984: 9:20 am - noon

PRIMATE BEHAVIOR

chair - J. Bullard

9:20 am "Dynamics of Howler and Cebus monkey populations in Santa Rosa National Park"

L. M. Fedigan, Dept. of Anthropology, University of Alberta

All New World monkey populations are gravely threatened by habitat destruction. Costa Rica is a leader in conservation efforts in Central and South America, and an initial stage in a longitudinal project in Costa Rica's Santa Rosa National Park has been an assessment of the population status of the three species found there. An exhaustive census of the 100 square kilometer park by a team of researchers yeilded data on 25 groups of howlers(ALOUATTA PALLIATA) and 28 groups of cebus (CEBUS CAPUCINUS). Reliable techniques presently are being developed to census the spider monkeys (ATELES GEOFFROY) in the park, who do not live in stable social units.

Several population parameters for howlers in Santa Rosa are compared to demographic data for this species at other sites and to survey data collected in the park one decade earlier. These comparisons, and application of a theoretical model for population dynamics in this species, suggest that the Santa Rosa howler population is stable, and either stationary or only slowly increasing in size.

The cebus population at our study site is compared to the only other published demographic data for this species. It can be inferred that the Santa Rosa cebus population is an expanding one. Finally, the cebus and howler populations are compared to each other and the likelihood that juvenile howler monkeys suffer substantially greater mortality then do juvenile cebus monkeys is discussed, along with the possible reasons for such differential

mortality.

9:40 am "Seasonal Shifts in Resource Use and the Interspecific Interactions of Three Species of Neotropical Primates"

Colin A. Chapman, University of Alberta, Edmonton

Seasonal changes in behaviour were examined in three primate species (CEBUS CAPUCINUS, ATELES GEOFFROYI, ALOUATTA PALLIATA) living in the Santa Rosa National Park, Costa Rica, an area with strikingly contrasting wet and dry seasons. All three species tended to rest more in the dry season than in the wet season. Increased activity in the wet season was reflected by longer duration of foraging and locomoting in both cebus and spider monkeys. Changes in the dispersion and density of food trees were dismissed as factors contributing to the seasonal differences in behaviors, as they showed no significant variation on a seasonal basis. Differences in the direction of behavioral changes from dry to wet seasons between this study and that of Terborgh(1983); the attachment shown to standing water while it existed within the area; and the use of dry fruits only when water was readily available; suggest that the ecological condition most likely to relate to seasonal changes in behavior is access to water.

Dietary overlap indices calculated for each species pair demonstrated that cebus and spiders share a large percentage of their food items in common. For all three primate species the degree of dietary overlap was related to the frequency of interspecific interactions.

10:00 am "Weaning Related Behaviors of Mothers and Infants in Free-ranging Japanese Macaques (MACACA FUSCATA)"

Nancy Collinge, University of Alberta, Edmonton

The purpose of this research was to investigate the degree of variability in weaning-related behaviors of mothers and their current infants, and to attempt to define factors contributing to this variability, should it be significant. The study was conducted on Japanese macaques (MACACA FUSCATA) at Arashiyama West Primate Centre, near Dilley, South Texas during the breeding season, the analysis being based on 344 hours of focal animal data gathered from October to December, 1983, on 18 mother-infant dyads.

Although the preliminary results show that the weaning of 4 to 8 month old infants was not intense, the analysis revealed a significant level of variation in all weaning-related behaviors of both mothers and infants. The variation did not appear to be related to traditional explanatory factors such as sex of the infant, rank, parity, or age of the mother.

Frequency of maternal rejections did not escalate over the duration of the study with the increasing age of the infant, however there was a significant increase in the frequency of rejections during estrous sessions. Infants also exhibited significant differences in behaviors during the sessions when the mother was in.estrus than when she was not. They approached their mothers more, reacted more, and left their mothers less during estrous sessions.

These findings appear to support R. Trivers' sociobiological theory that the mother-infant conflict during weaning is a function of the differing requirements of the mothers and their infants in terms of their "individual fitness". The mother is selected to provide less maternal care than the infant is selected to seek, especially when the mother is attempting to mate and produce future offspring. This conflict of interest should be more intense during estrous periods, resulting in heightened levels of rejections on the part of the mother and an increase in attachment behaviors of the infant.

The infants were responsible for 83% ot the total "leaves" and 97% of the approach behaviors between mother-infant pairs, which indicated that they were actively regulating the degree of proximity to their mothers. Whether this initiative on the part of the infant is actually a function of the mother's rejection and reduced tendencies to apprach her infant or a function of the infant's increased social and physical mobility has been the subject of a great deal of discussion and remains to be resolved.

Since weaning is closely associated with the acquisition of independence, which is a major milestone in the life of a young primate, it would appear to be a subject well worthy of study. This research was designed to provide some insights into the dynamics of the mother-infant bond.

10:20 am "The Social Transmission of Rank in Japanese Macaques: Experiments on the Role of the Dominant Family"

B. Chapais, Dept. D'Anthropologie, Universite de Montreal

Female Japanese monkeys (MACACA FUSCATA) generally rank below

their mother and above their older sisters. These rank relations are known to be stable and independent of the relative physical power of the females involved, They appeared to be based, at least in part, on alliances expressed through polyadic agonistic interactions.

A group of 16 Japanese monkeys from the Arashiyama troop (Texas) comprising 3 families totaling 12 females of known age and degree of maternal relatedness was established in Montreal. One of the major aims of this research program is to determine for each female her value as a social tool which can be used in the formation and maintenance of alliances. In a first series on experiments, the members of the highest ranking family were removed in two steps for periods of 5 days and put back into the group in the same order. Preliminary results suggest some hypotheses relating to the following questions: can the alpha female maintain her rank in the absence of her family? At what age can a female rank above her older sister and above unrelated females independently of her mother's support? Can the dominance relations within a family be affected by extra familial alliances? In what circumstances can a daughter outrank her mother? Why are females attracted to high ranking females?

11:00 am "Some Dietary Factors in Uganda Baboons, PAPIO CYNOCEPHALUS ANUBIS"

James D, Paterson, Dept. of Anthropology, University of Calgary

Two populations of PAPIO CYNOCEPHALUS ANUBIS were studied during 1970 and 1971 in Uganda. The two populations formed a contrasted sample; one from a thicket savanna biome, the second from a forest/forest-edge/woodland biome. differences in the form and quality of diet in each population's feeding ecology are presented. An example of geophagy is also noted as part of the forest-edge population's behavior. An X-ray diffraction analysis of the brick which was ingested suggests that past assumptions about the reason for geophagy are incorrect.

The dietary patterns of both populations are in line with the major features of foraging strategy models.

11:20 am "Primate Child Abuse"

Anne Zeller, Dept. of Anthropology, University of Waterloo

The phenomenon of offspring abuse and killing among primates is

one which has attracted increasing interest and concern from several disciplines. Both practical problems of individual or group maintenance and theoretical queries about the influence of selective forces on behavior are raised by the increasing evidence of maltreatment. In addition to direct concern with primates, child abuse among humans is a mounting problem which may be elucidated by study of a primate model.

11:40 am "Bases for Differences in Japanese and Western Primatology"

Pamela Asquith, Dept. of Anthropology, University of Calgary

Friday, November 16, 1984: 2:00 pm - 4:00 pm

HUMAN BIOLOGY

chair - E. Roth

2:00 pm "Genetics of Glucose Intolerance: Evidence from the Dogrib"

E.J.E. Szathmary, McMaster University, Hamilton, Ontario

The distribution of plasma glucose (adjusted for age, and in logarithmic scale) in a sample of adult Dogrib Indians is unimodal, and cannot be distinguished into a mixture of two (or more) distributions. This observation suggests that a major gene controlling plasma glucose level is not likely to exist in this population.

However, familial aggregation of glucose level does occur among the Dogrib. For example, plasma glucose is significantly elevated in sibs of hyperglycemics compared to sibs of normoglycemics, although no significant elevations were seen in comparisons of other first degree relatives, The sib-sib intraclass correlation is also significant (r=+0.507 +/- 0.122; N=32 sibships) but parent-offspring and husband-wife correlations for glucose level do not differ from zero.

Of the 37 pedigrees identified in the sample, only 8 contain hyperglycemic persons. Clusterings occur within these 8 pedigrees. For example, one contains 40% of all hyperglycemics, including four first cousins. Another pedigree that includes another 27% of the hyperglycemics also includes the single known case of clinical diabetes identified by Medical Services in the Dogrib.

The findings suggest that genes do play a role in the onset of glucose intolerance in the Dogrib. The model of plasma glucose regulation indicated by the results of this study is polygenic. The model must include genes that have additive effects, as well as dominant effects, and must allow for the operation of an intra-generational environmental effect.

2:20 pm "Delayed Sexual Maturation in Cystic Fibrosis"

Michael C. Mahaney, University of Alberta, Edmonton

As part of a cross-sectional study of biological development in cystic fibrosis (CF), sexual maturation was evaluated in 50 subjects (23 females, 27 males) aged 8 to 17 years. Sexual maturity, as indicated by the developmental status of selected secondary sex characters, was determined by direct observation of female breast development, male external genital development, and pubic hair development for both females and males. Additionally, attainment of menarche by females was evaluated by the STATUS QUO method. Observations of these traits were recorded as Tanner stages and converted to scores on an ordinal scale. Individual and cross-sectional comparisons were made to relationships among sexual development and CF disease severity, age at diagnosis, and chronologic age were conducted.

Delayed sexual maturation was observed for members of both sexes with CF. The majority of individuals who had attained a specific stage of sexual development, did so later than over 50% of the standards or failed to mature to the next stage as quickly as 50-97% of the standard population. Regression of CF disease severity scores on the principal component of sexual maturity scores yielded no significant correlations in either sex while similar regressions of chronologic age produced significant correlations for both females and males. Consequently, it is suggested that the delayed sexual maturation observed for CF in this study is not a response to the disease stress and may have a significant heritable component.

2:40 pm "Demography of the Juang Tribal Population of Orissa, India"

Ajit Kisor Roy, University of Toronto
Eric Abella Roth, University of Victoria

Demographic analysis of genealogical data, collected in 1954 on 23 Juang villages from Central Orissa was undertaken employing indirect estimation techniques and computer projection methodology. Results indicated that these largely nomadic swidden horticulturalists did not feature the historically high fertility levels associated with Indian tribal groups, although fertility was higher than previously reported for the Juang. The population did feature a mortality differential, with higher mortality than the Indian national population at this time. Reversed sexual mortality differentials, common in South Asian populations, were also present for the Juang. Computer projection revealed a steadily growing population, in contrast to some Indian tribal groups faced with extinction.

3:20 pm "Childhood Patterns of Morbidity and Mortality from Southern Sudan"

K.B. Kurup, United Nations Children's Fund, Sudan
Eric Abella Roth, University of Victoria

Investigations of mortality patterns consistently reveal far higher infant and childhood mortality for Black Christian Southern Sudan as opposed to Arabic, Islamic North Sudan. In a preliminary attempt to delineate underlying cause of death and morbidity hospital data from five ecologically distinct areas were examined. Cause of death data revealed similarities to a recent prospective study of infant mortality in the city of Juba, Southern Sudan. Morbidity data however show a great deal of areal heterogeneity negating the formulation of a regional morbidity pattern at present. Future research directions for Southern Sudanese demography are discussed.

3:40 pm "Serum Paraoxonase Polymorphism in a Canadian Jewish Sample"

M. Brackley, Dept. of Anthropology, University of Victoria
G. Carro-Ciampi, Dept. of Pharmacology, University of Toronto
A.K. Ray, Dept. of Anthropology, Uniuersity of Toronto
W. Kalow, Dept. of Pharmacology, University of Toronto

Human serum paraoxonase is a serum arylestease (EC 3.1.1.2) which detoxifies paraoxon, the active metabolite of a commercially used organophosphate pesticide, parathion (0,0-diethyl-0-(4-nitrophenyl)phospate). The enzyme is genetically determined and interethnically variable. Investigation of serum paraoxonase in a Canadian Jewish sample (n=678) revealed frequencies of 'high' and 'low' activity phenotypes identical to nonJewish Europeans reported in the literature. This result could not have been expected a priori, as demonstrated by multi-locus analysis of genetic variability between Ashkenasic Jews and resident non-Jewish Europeans (Carmelli and Cavalli-Sforza 1979; Cavalli-Sforza and Carmelli 1979; Roychoudhury 1982). The study of pharmacogenetic variation has much to contribute to an understanding of the distribution and maintenance of human genetic variation, in addition to its obvious clinical applications.

Saturday, 19 November 1984: 9:40 am - noon

SKELETAL BIOLOGY I

chair - S. Saunders

9:40 am "Changes in the Chemical Composition of Bone Following Burial"

Susan Pfeiffer, University of Guelph

The chemical composition of mature, mineralized human bone has been well characterized, as have its histological features. The histological features of archaeologically derived bone are sometimes well preserved but are frequently altered following prolonged burial. This research is an effort to correlate structural deterioration with the chemical results of bone-soil interaction. Thus far, four bone samples from different soil media have been studied, using the X-ray microanalysis capability of a Jeol scanning electron microscope. Using two levels of acceleration voltage, the presence [of] a wide range of elements can be quantified. Results indicate a general loss of calcium and gain of aluminum, potassium and sometimes sulfur. Added elements are most common near the bone surfaces. However, the chemical changes do not appear to correlate directly with structural changes. Changes in the proportion of heavy elements (Fe, Cu, Zn) have also been quantified. The relevance of this type of research for the anthropological study of bone tissue will be discussed.

10:00 am "A Histological and SEM Study of Periosteal Growth Remodeling in Human Archaeological Bone"

Shelley R. Saunders, McMaster University

Growth remodeling in the vertebrate skeleton is a sculpting process that maintains normal bone macroarchitecture throughout maturation by coordinating patterns of addition and removal of bone from periosteal and endosteal surfaces. The general patterns of growth remodeling in mammalian long bones have been described by several researchers, notably Enlow and Frost. But there is little information on the specific distribution and variation in these growth patterns for human long bones except for the fetal and neonatal periods.

Subadult human femora from a late Ontario Iroquois site were carefully washed and their periosteal surfaces replicated. Positive replicas prepared from the surface molds were examined in the SEM and composite periosteal surface maps produced for the complete shaft of each bone. These maps indicate areas of surface resorption, smooth areas indicating depository or resting bone as well as damaged surfaces. In addition, multiple serial thin sections of each bone were prepared as a second means of observing growth activities at various levels along the shaft.

Results indicate that the factor which most influences the distribution of resorption on the periosteal surface of the femur is progressive narrowing of flared metaphyseal ends. Evidence for cortical drift at midshaft was absent in the youngest bones (infancy) and did not appear until early childood. This preliminary study also suggests that there is substantial individual variability in growth pattern distribution at the perosteal envelope.

10:20 am "Forensic and Palaeontological Applications of Ultrasound Measurement of Soft Tissue Thickness"

L.M. Pinch, University of Manitoba
W.D. Wade, University of Manitoba
J.S. Rhine, Univesity of Mew Mexico

Beginning in the late 19th century, the restoration of soft tissue contours to the facial skeleton for either forensic or palaeontological purposes has been based upon data obtained from cadavers, using invasive techniques, with attendent problems that can never be fully overcome. This paper introduces the use of ultrasound measurement to obtain undistorted data with relative ease. Some of the problems of obtaining and using soft tissue measurements are discussed, and an example is provided, from work in progress, of palaeontological application.

11:00 am "First Comments on the Demography of the Mesolithic-Neolithic Transition in Portugal"

Mary Jackes, Department of Anthropology, University of Alberta

From what little evidence we have, it seems that mortality amongst the people of Illinois fell after agriculture eas established about AD 1200. We will be looking for evidence of comparable changes with the Neolithic in Europe. Preliminary results from the Portuguese site of Moita so Sebastiao indicate

that sample bias may be too great to allow quick answeres to the question.

11:20 "Beechey Island 1984: A Preliminary Report on the Investigation of a Crewman from the Last Franklin Expedition"

Owen Beattie, Dept. of Anthropology, University of Alberta
Roger Amy, Dept. of Pathology, University of Alberta
Eric Damkjar, Dept. of Anthropology, University of Alberta

This paper reports on the excavations of a burial site located on Beechey Island, NWT. Three graves originating from the last Franklin Expedition are located on the island, and one of these was investigated in August of 1984. The individual in the grave was buried in permafrost on January 1, 1846. Information on burial preparation was collected, and an autopsy was performed on the extremely well preserved individual. The importance of this investigation in contributing to our understanding of the Franklin Expedition disaster is outlined. In addition, the effects of premature and unplanned publicity on proper scientific reporting are discussed and evaluated.

Saturday, November 19, 1984: 2:00 pm - 3:30 pm

SKELETAL BIOLOGY II

chair - O. Beattie

2:00 pm "Australopithecine Radiodontics"

G.H. Sperber, Dept. of Oral Biology, University of Alberta

Radiological investigation of the excellently preserved dentitions of the South African Australopithecinae has revealed a number of insights into internal tooth morphology not evident on superficial examination. Details of pristine dental enamel thickness, attrition and abrasion wear facets, dentine and tooth root configuration, pulp chamber nd root canal morphology are rendered radiographically as skiagrams. Analysis of patterns of molar morphology and pulp chamber outline indicate the australopithecines had a variable cynodont/supraradicular mesotauradontic pattern of molar tooth form, with no clear molar pulp pattern distinction between the species.

The status of unerupted members of juvenile dentitions provided by radiographs lent evidence for dental developmental pattens and tooth eruption sequences furnishing a basis estimation of human equvalent age levels of specimens at the times of their deaths and gives insight into the speed of maturation of the species.

The trabeculation of the supporting alveolar bone seen on X-rays provided information on masticatory stress trajectories that contribute to conjectures on their dietary regimes, aided by abrasional wear rates on different teeth. The incidence of dental pathology was revealed to be extremely low. Dental caries and periodontal lesions were absent from the specimens examined but occasional antemortem tooth loss was evidence of dental trauma. Radiology revealed heavy secondary dentine deposition in the dental pulps combined with occasional pulp stones.

The similarity of heavy dental abrasion patterns among all australopithecines suggests a similitude of diets, with neither A. ROBUSTUS or A. AFRICANUS being exclusively graminovorious or carnivorous. The combination of small anterior teeth and large posterior teeth in the robust and hyper-robust australopithecines

is interpreted as a functional adaptation for crushing/grinding mastication. Selection for this dental combination occurred in the absence of extra-oral food preparation, in keeping with pre-habiline culture. Australopithecines triturated food intra-orally. HOMO HABILIS initiated cultural distinction by triturating food extra-orally, using stone tools, heralding the decline of the dentition in digestion.

2:20 pm "Skeletal Biologists Lay Aside Your Calipers"

B. Averill
D. Mueller

We begin to nag the skeletal biologists for their metric musings and suggest they take test-tube and reagent to probe the physical and biochemical mysteries of their deceased brothers and sisters.

Basic molecular research into bone and tooth physiology generates much information of potential use to those preoccupied with former femurs and perished pre-molars. Past misunderstandings about the organic content of skeletal remains are clarified by simple, statistical analysis. Several biochemical boulevards are explored to partake of the molecular treats awaiting the adventuresome anthropologist, treats such as osteonectin, proteoglycans, phosphophoryns, osteocalin, the sweet bitterness of sialic and uronic acids, some stodgy plasma proteins and the ubiquitous, undigestible collagen, Bone mineral cobblestones of the boulveard[sic] reveal many interesting possibilities under the eagle-eye of the electron microscope and the dulcet tones of the spinning electron.

2:40 pm "Human Skeletal Remains from the Loma Alta Site (OGSEMa-182), Southwestern Ecuador"

Brenda Kennedy, Dept. of Archaeology, University of Calgary

Excavations carried out in 1980 and 1982 at Loma Alta, Ecuador, revealed seventeen burial features relating to the Formative Period (Valdivia and Chorrera Phases). For the most part, these were primary interments of a single individual accompanied by few grave goods. While skeletal analysis was limited by small sample sizes and poor preservation, certain data support the intermediate position of these remains between those of the earlier Preceramic Period and the later Regional Developmental and Integration Periods. Evidence relating to cranial

deformation, coca consumption and dietary changes is presented.

3:00 pm "A Morphological Study of the Lumbrical Muscle in MACACA FACSULARIS and CERCOPITHECUS AETHIOPS"

Corinne Allyson Lee, Dept. of Kinesiology, Simon Fraser University

The intrinsic musculature of the nonhuman primate hand and foot can be seen to be homologous in structure and function to that of the human. While many variations in the origin, insertion and quantity of lumbrical muscles have been found in the human, very little research has been conducted on nonhuman primates.

The purpose of this study was to describe the anatomy of nonhuman primate lumbrical muscles and to compare this with human data. Dissections were conducted on hands and feet of two species of Cercopithecine (cheek pouched) monkeys: twenty-eight CERCOPITHECUS AETHIOPS (grivets) and twenty-three MACACA FASCICULARIS (crab-eating macaques). Origins, insertions and numbers of lumbrical muscles were documented.

When veiwing hand lumbrical origins and the patterns which they displayed in the entire hand, it was found that macaques showed more variation than did grivets. When individual muscles were considered, macaques showed more diversity in numbers of patterns than did grivets, Both species exhibited uni-, bi-, and tripennation in muscle structure, In half the cases, left and right hands were identical. Four patterns were common to both species; in addition, ten patterns were shown exclusively by grivets, and seven by macaques. In one grivet, the first lumbrical was absent in one hand.

Insertions were not as variable as origins of these muscles. Macaques and grivets both displayed tendinous more often than bony insertions, However, macaques showed comparatively more tendinous attachments than did grivets.

The feet of macaques and grivets showed less variablility than the hands. Each foot consisted of either three or four lumbricals. Frequently, grivets were found to have three lumbricals while macaques often possessed four, In all cases, left and right feet were identical. In both species, all foot lumbricals were inserted via tendinous attachments.

On the whole, both monkeys displayed considerably more variability in hand lumbricals than those reported for humans. The existence of random genetic variation could be due to Founder effects and genetic drift.

ABSTRACT OF PAPER FOR THE [illegible] CAPA/AAIS(?) MEETING HELD AT THE UNIVERSITY OF ALBERTA, NOVEMBER [illegible], 198[illegible]

Pamela J. Asquith, Department of Anthropology, University of Calgary

Title: Bases for Differences in Japanese and Western Primatology

Japanese and Western studies of primate behaviour show fundamental differences in two areas: one is the almost exclusive use in Western reports of reproductive advantage to the individual as an explanation for observed behaviour as well as correlation of overall social organization with the environment, whereas these explanations are almost never used in Japanese reports; the other difference being the mostly negative attitude to attribution of purposeful behaviour and personality to individual animals on the part of most Western researchers as compared with its acceptability to Japanese primatologists.

The bases for these differences are found to some extent in cultural and philosophical differences, but more in theoretical bases for primate [illegible] in [illegible]. These are [illegible] and implications [illegible] suggested.