Dental Anthropology Newsletter

A PUBLICATION OF
THE DENTAL ANTHROPOLOGY ASSOCIATION

Laboratory of Dental Anthropology Department of Anthropology
Arizona State University Box 872402 Tempe, AZ 85287-2402, U.S.A

Volume 10, Number 2 **1996**

PRESIDENTIAL ADDRESS — WINTER 1996

John R. Lukacs
Department of Anthropology, University of Oregon, Eugene, OR 97403-1218, U.S.A.

As miserable winter weather assaults most of North America from coast to coast, with record snow fall, cold temperatures, devastating floods, and landslides, it may seem that there is little escape from climatic adversity. Now, the dental anthropologists among us who are unable to enjoy a recreational escape to the Caribbean, Mexico, or Hawaii, while others were unable to schedule winter fieldwork in exotic and warm tropical locales, can turn to other rewarding diversions. The recent publication of several new compendia and journal articles on the topic of dental growth and development provide an exciting alternative to the winter blues. The goal of this address is to call your attention to the fluorescence of research that has recently been published on the topic of hominoid dental development. It is exhilarating to witness research frontiers under active expansion and to keep current with the fast pace of new developments and publications.

The recent bounty of high-quality research on hominoid dental development includes a succinct review article by Macho and Wood (1995) in the journal, *Evolutionary Anthropology.* Analytic methods, the current state of knowledge, and controversial issues are discussed, making this article a good starting place for newcomers to the subject of dental development and the timing of hard tissue formation.

More detailed treatment of these and related topics can be found in the published proceedings of the Ninth International Symposium of Dental Morphology, held in Florence, Italy (1992). This volume, edited by Jacopo Moggi-Cecchi, a member of the Dental Anthropology Association, contains valuable sections devoted to hominoid dental microstructure and to dental development, each of which includes several stimulating articles on primate and hominoid dentitions, (Moggi-Cecchi, 1995)[1].

Further intellectual distraction from nasty winter weather can be found in the January 1996 special issue of the *American Journal of Physical Anthropology.* This volume contains proceedings of a symposium on Recent Developments in Hominoid Ontogeny, held in Toronto, Canada at the 62nd annual meeting of the association. Symposium organizers Linda A. Winkler and Robert L. Anemone, members of the Dental Anthropology Association, have done an admirable job, bringing the AAPA readership up-to-date on recent advances in research on hominoid ontogeny. It is noteworthy that six of the thirteen articles in this special issue focus specifically on dental growth and development in hominoids, and two more utilize dental development as a scale for calibrating other aspects of hominoid growth (skeletal maturation, weight gain, etc),

A precursor to these recent publications, and a logical choice for placing them in context is the proceedings of the 1989 symposium on Primate Tooth Formation. This symposium was organized by Linda A. Winkler and Daris R. Swindler (past president of DAN) and convened at the AAPA meeting in San Diego. Living and fossil hominoid dental formation and issues surrounding the timing rhythmic of crown and root formation processes were central to topics of this symposium. This special issue of proceedings contains fifteen articles on dental emergence, calcification, and problems of assessing dental development. An important source of controversy was how to account for variation in data relating to the tempo of hard tissue formation (methodological differences in counting perikymata, assessing enamel secretion rates, proper methods for assessment of microstructures — histological vs. outer enamel surface etc.).

An assiduous and comparative study of these sources will serve multiple important functions. In addition to bringing researchers in allied fields of dental anthropology up-to-date on current progress and controversy in the field of hominoid dental growth, an in-depth survey of this stimulating literature should provide us with welcome, challenging, and entertaining diversions from the miserable climatic extremes around us.

[1] I will provide a detailed review of this volume in the Spring issue of the *Dental Anthropology Newsletter*.

REFERENCES

Macho GA, and Wood BA (1995) The role of time and timing in hominoid dental evolution. Evolutionary Anthropology. *4(1)*:17-31.

Moggi-Cecchi, J (1995) Aspects of Dental Biology: Palaeontology, Anthropology, and Evolution. Florence: International Institute for the Study of Man.

Primate Tooth formation: A Symposium. (1991) Am. J. Phys. Anthropol. *86(2)*:107-309.

Recent Developments in Hominoid Ontogeny. (1996) Am. J. Phys. Anthropol. *99(1)*:1-220.

PREMOLAR NUMBERING AND AGENESIS IN PRIMATES

GRAM P. JONES
Department of Anthropology, Arizona State University, Box 872402 Tempe, AZ 85287-2402, U.S.A.

Over the millions of years that have passed since mammals first appeared during the late Mesozoic, tooth number increased in a few lineages, but generally the primitive mammalian dental formula of 3-1-4-3 was retained or reduced. Primates show a reduction in tooth number through time, with the premolar being the most variable tooth in both size, morphology, and number (James, 1960). All extant primates exhibit a reduction in the primitive number of premolars. Old World anthropoids, including humans, possess a 2-1-2-3 dental formula, with the third incisor and first and second premolars considered to be the teeth that have been lost (Tome, 1889; Leche, 1895). The scope of this article is 1) to review the literature and trace the origin and reasoning for numbering premolars in Old World primates as P3 and P4 in the anthropological literature rather than as P1 and P2; and 2) to briefly discuss premolar agenesis in modern humans.

ORIGIN AND REASONING FOR NUMBERING PREMOLARS IN OLD WORLD PRIMATES

Heterodont dentition can be traced back to the early Triassic order of Pantotheria whose members possessed simple precanines, a true canine, and postcanines (Osborn, 1973). The therian *Thrinaxodon* is believed to lie close to the line of mammalian evolution. *Thrinaxodon* exhibits seven postcanines that become increasingly complex posteriorly. Early Tertiary eutherians commonly possessed the dental formula 3-1-4-3 with a larger tooth number occurring only in specialized mammals, such as the toothed whales, porpoises, sirens, and the giant sloth. Prototherians exhibit a 5-1-3-4/4-1-3-4 dental formula or a reduction, but never 3-1-4-3 as in the eutherians (Gregory, 1951).

De Blainville (1839) attempted to trace mammalian evolution based on tooth morphology. However, as Owen (1840-45) pointed out, the tooth that is caniniform in one species may be incisiform in another. Owen originated the present classification of teeth based on their position and mode of succession and wrote dental formulae for many of the known vertebrates of his time. Like Owen, Tome (1889) classified teeth in relation to other parts of the body, and also in their relation to one another. He defined premolars as those anterior to the molars and having deciduous precursors. Yet, he points out that they are not always displaced in marsupials. Tome observed that usually the first premolar is lost, except in bears and some bats where P2 and P3 are lost instead.

A major assumption in the determination of which tooth is lost is that the last to develop is the most variable, and therefore, the first to be lost. According to Leche's (1896) rule, from the initial cheek tooth forwards, the first buds produce the largest teeth, while retarded buds lead to the smallest teeth. Embryological studies reveal the tooth bud sequence for the mole *Talpa* (Sicher, 1916) and most insectivores (Osborne, 1973), which retain the primitive dental formulae, is i^1-i^2-i^3-c-p^4-p^3-p^2-p^1-M^1-M^2-M^3.

This sequence has flipped around for *Tupia* (Kindahl, 1957) and *Tarsius* (Greiner, 1929) with p^3 preceding p^4, although p^2 continues to erupts later. In *Pan* and *Homo* p^3 also precedes p^4 (Schour and Massler, 1941), but p^4 generally precedes p^3 in *Gorilla* (Clements and Zuckerman, 1953; Beynon et al., 1991). In the earliest embryos of which tooth formation is evident; i1, c1, and p4 are already present and referred to as the incisor, canine, and molar determinants, respectively. The fourth deciduous molar is probably the ancestral molar determinant. Eutherians, with reduced postcanine dentitions, differ only in that the penultimate deciduous molar may sometimes be the molar determinant (Osborn, 1973).

Reconstructions of developing insectivore dentitions show the molar region grows: 1) by interstitial growth between the canine and molar determinants, which provides space for the deciduous molars, and later the premolars, to be initiated in sequence forward; and 2) by expansion posteriorly, which provides space for the permanent molars to be initiated in sequence backwards (Kindahl, 1967; Osborn, 1973). Successive dental papillae derived from a single colony of mesoderm that initially generated p4 are less able to generate the paradigm molar shape horizontally in the succeeding deciduous molars, and even less so vertically in the premolars (Osborn, 1973).

The permanent molars are sequentially initiated in newly differentiated mesoderm behind the molar determinant. Therefore, each has a shape closer to the paradigm molar than the premolars. In insectivores that "retain" the primitive dental formula, p1 is retained throughout life and is never replaced by a successor. This observation lead Kindahl (1967) to assume that reduction of P1 begins with the disappearance of the successor, and not with the deciduous tooth as contended by Leche (1895).

Primates appear early in mammalian history, surfacing in North American deposits dating back to the late Cretaceous. *Purgatorius* is considered to be the basal stock from which all later primates descended (Van Valen, 1994). However, early protoprimates may have arisen from one or more separate insectivore lineages (Gingerich, 1976). *P. ceratops*, the earliest specimen, is represented by a single right M_2. It is considered to be a more primitive form of *P. unio*, but they may comprise only one species (Van Valen and Sloan, 1965; Van Valen, 1994). Direct evidence exists for *P. unio* having possessed one canine, four premolars, and three molars in each quadrant, but its retention of three incisors is inferred from later specimens referred to the Plesiadapidae, Carpolestidae, Saxonellidae, and Palaechthonidae (Clemens, 1974; Van Valen, 1994).

Polymorphisms in tooth number are seen in many of the Plesiadapidae and are believed to be characteristic of most of the early protoprimates (Gingerich, 1976; Van Valen, 1994). Reduction in the number of anterior premolars occurred independently in *Pronothodectes*, *Nannodectes*, *Plesiadapis*, *Chiromyoides*, and *Platychoerops* and is believed to be related to the rapid size increase of I1 (Gingerich, 1976). Carpolestidae evolved an enlarged plagiaulacoid P4 with up to five cusps in its extreme that is correlated with P1 agenesis (Fox, 1994). *Saxonella creptaturae* is uniquely characterized by having a P3 that is much larger than P4, accompanied by the loss of P1 and P2 (Fox, 1984).

The reduction of premolars from the typical eutherian number with P1 and P2 being the teeth lost is seen throughout the early primate fossil record and is justifiable on the basis of functional fields. The postcanines constitute a single integrated puncturing, shearing, and grinding unit. The loss of P3 and P4 would disrupt the functional integration of this unit whereas the loss of the anterior premolars would not (Gingerich, 1976).

Any similarities between the earlier Paleocene representatives of the primate order and the euprimates are considered to be homoplastic. The exception is *Purgatorius*, which is the only taxon known to retain four premolars in both jaws, a condition that links it with the early prosimians (Van Valen, 1994). The Omomyidae, ancestors to the Tarsiformes, retained four mandibular premolars (Williams and Covert, 1994), while the Adapidae, ancestral to the Lemuriformes, retained four premolars in both jaws (Gingerich, 1976). Like the earlier plesiadapids, an increase in the size of I1 in the Lemuriformes is associated with a loss of P1. P_2 takes over the function of C_1 as it is integrated into the tooth comb. As larger canines evolved in the anthropoids, the anterior premolars were displaced by diastemas to accommodate the larger canines, and P_2 or P_3 were anterolaterally extended to function as hones for C^1 (Simons, 1972). The second premolar is seen for the last time in the catarrhines at around 40 myr ago in southern Asia in the parapithecine *Amphipithecus mogaungensis* which may be ancestral to both the New and Old World monkeys (Ciochon et al., 1985).

AGENESIS

Polymorphisms in premolar tooth number occur throughout the primate line with agenesis occurring most often in the anterior region. However, humans deviate from the typical mammalian pattern with reduction usually taking place from the last premolar forward (Brekhus et al., 1944; Garn et al., 1962; Müller et al., 1970; Baum and Cohen, 1971). Dental agenesis (Table 1) is rare in the cercopithecoids (1.8%) and pongids (1.0%) compared to humans (11.1%), with monkeys and apes exhibiting a higher frequency of agenesis only in the

TABLE 1. Dental Agenesis in Old World Primates

	Number of Individuals	Incisors	Premolars	Molars	Total
Cercopithecoidea					
Colobus	140	—	5(3.6)	6(4.3)	11(7.9)
Presbytis	100	1(1.0)	—	---	1(1.0)
Cercopithecus	350	—	1(0.3)	3(0.9)	4(1.0)
Macaca	350	---	—	—	---
Papio	38	2(5.3)	---	—	2(5.3)
Total	978	3(0.3)	6(0.6)	9(0.9)	18(1.8)
Ponginae					
Gorilla	190	---	1(0.5)	---	1(0.5)
Pan	100	---	1(1.0)	2(2.0)	3(3.0)
Pongo	100	---	---	---	---
Total	390	---	2(0.5)	2(0.5)	4(1.0)
Hominidae					
Europeans	4000	12(0.3)	5(0.1)	259(6.5)	276(6.9)
Africans	1000	25(2.5)	10(1.0)	247(24.7)	282(28.2)
Total	5000	37(0.7)	15(0.3)	506(10.1)	558(11.1)

Values = number with percentage incidence in brackets. No agenesis was found in the canines. (After Lavelle and Moore, 1973)

premolar region (Lavelle and Moore, 1973). Premolar agenesis is generally more common in the mandibular region for all three groups although Brekhus et al. (1944) found the frequencies to be slightly higher in the maxillary region for humans.

Dental agenesis in modern humans is commonly correlated with the reduction of the maxillomandibular region due to the high incidence of agenesis of M3 at the distal end of the dental arch and I^2 at the mesial aspect (Schultz, 1932; Butler, 1963; Lavelle and Moore, 1973). However, this does not adequately explain the absence of P4 (Brekhus et al., 1944).

In a comparison of the cercopithecoid, pongid, and human data cited in Lavelle and Moore's study on dental agenesis, large-sample z-tests of the population proportion exhibiting tooth agenesis were calculated both for molar and premolar frequencies between the primate groups (no comparison could be made for incisor agenesis due to a lack of comparative data for the great apes). A significant difference was not found between the monkeys and apes in the frequencies of molar agenesis, but significant differences were detected between both the monkeys and humans and the apes and humans ($p<.001$). No significant differences were found between any of the groups in regards to premolar agenesis frequencies, suggesting that while molar agenesis may be related to a reduction in the jaw, premolar agenesis is not.

The suggestion that agenesis is related to dental arch reduction in modern humans is not borne out by other lines of evidence. Eskimo populations with large dental arches (Pedersen, 1949) and more prognathous African populations (Lavelle and Moore, 1973) often exhibit a reduction in the third molar region. Brekhus et al. (1944) found little correlation between dental arch size and the number of teeth, citing evidence of agenesis and the retention of large spaces between the teeth in small jaws, agenesis and crowded teeth in small jaws, and crowded teeth in large jaws in individuals within the same families. Reduction in M3 was observed to be accompanied by a reduction in other teeth in 94.7% of the cases of molar agenesis that Brekhus et al. examined, and multiple deficiencies were seen in nearly half of all cases of agenesis.

Suggestions that tooth size reduction and agenesis are correlated (Butler, 1939; Garn et al., 1963) are not supported by a study that revealed a lack of correlation between the mesiodistal and buccolingual diameters of teeth (Baum and Cohen, 1971). Calcagno and Gibson (1988) suggest that if the maxillomandibular region is undergoing reduction or fewer teeth are needed in modern humans, then positive selection for a reduction in tooth number would be more economical than a reduction in tooth size whereby teeth would wear more quickly. In a clinical study by Brekhus et al. (1944), observed frequencies of various combinations of I^2, P4, and M3 agenesis far exceeded the expected frequencies, and it was suggested that directional evolution is indeed occurring and reduction in tooth size is merely coexistent.

CONCLUSIONS

The present system of numbering teeth in mammals based on their position, relation to other teeth, and mode of succession in the paleontological literature dates back to the mid-nineteenth century (Owen, 1840-45). Premolars are counted from the molar region forwards in most veterinary literature due to the stability of the fourth premolar in most mammals (Peyer, 1968). It would appear logical to number the premolars in sequence from the most posterior premolar forwards based on the typical order of their development in mammals. However, this system would present problems with the reversed developmental sequences seen in the tree shrew and extant primates.

That the anterior premolars are the ones that have been lost in primates is evidenced in the fossil record, where the missing teeth are replaced by diastemas and the premolars show a reduction in size from back to front. Agenesis of P4 in association with I^2 and M3 in modern humans occurs more often than would be expected due to chance alone. This type of agenesis is thought to be an autapomorphic feature of human evolution in conjunction with a reduction of the maxillomandibular region due to natural selection (Brekhus et al., 1944; Lavelle and Moore, 1973; Calcagno and Gibson, 1988). Fourth premolar agenesis is not unique to humans, however (Lavelle and Moore, 1973), and it may be a pleiotropic effect associated with third molar agenesis that may be considered unique to modern humans (Brekhus et al., 1944; Garn et al., 1962).

LITERATURE CITED

Baum BJ, and Cohen MM (1971) Studies on agenesis in the permanent dentition. Am. J. Phys. Anthropol. *35*:125-12.

Beynon AD, Dean MC, and Reid DJ (1991) Histological study on the chronology of the developing dentition in gorilla and orangutan. Am. J. Phys. Anthropol. *86*:189-203.

Brekhus PJ, Oliver CP, and Montelius G (1944) A study of the pattern and combination of congenitally missing teeth in man. J. of Dent. Res. *23*:117-133.

Butler PM (1939) Studies of the mammalian dentition. Differentiation of the post-canine dentition. Proc. Zool. Soc. Lond. *B109*:1-36.

Butler PM (1963) Tooth morphology and primate evolution. In DR Brothwell (ed): Dental Anthropology. Oxford: Pergamon Press, pp. 1-13.

Calcagno JM, and Gibson KR (1988) Human dental reduction: Natural selection or the probable mutation effect. Am. J. Phys. Anthropol. *77*:505-517.

Ciochon R, Savage DE, Tint J, and Maw B (1985) Anthropoid origins in Asia? New discovery of *Amphipithecus* from the Eocene of Burma. Science *229*:756-759.

Clemens WA (1974) *Purgatorius*, an early paromomyid primate (Mammalia). Science *184*:903-905.

Clements EMB, and Zuckerman S (1953) The order of eruption of the permanent teeth in the Hominoidea. Am. J. Phys. Anthropol. *11*:313-337.

De Blainville HMD (1839) Ostéographie des Mamiféres. '1 A. De l'Ostéographie en général.'

Fox RC (1984) First North American record of the Paleocene primate *Saxonella*. J. of Paleont. *58*:892-894.

Fox RC (1994) The primitive dental formula of the Carpolestidae and its phylogenetic implications. J. of Vert. Paleont. *13*:516.

Garn SM, Lewis AB, and Vicinus JH (1962) Third molar agenesis and reduction in the number of other teeth. J. Dent. Res. 41:717.

Garn SM, Lewis AB, and Kerewsky RS (1963) Third molar agenesis and size reduction of the remaining teeth. Nature *200*: 488-489.

Gingerich PD (1976) Cranial anatomy and evolution of early Tertiary Plesiadapidae (Mammalia, primates). Ann Arbor, Michigan: Museum of Paleontology.

Gregory WK (1951) Evolution emerging, Vol. I. New York: The MacMillan Company.

Greiner E (1929) Zur entwicklungsgeschichte des Gebisses von *Tarsius spectrum*. Z. Anat. EntwGesch *89*:102.

James WW (1960) The jaws and teeth of primates. London: Pitman Medical Publishing Co, Ltd.

Kindahl M (1957) On the development of the teeth in *Tupaia javanica*. Arkiv. Zool. *10*: 463-479.

Kindahl ME (1967) Some comparative aspects of the reduction of the permanent molars in the Insectivora. J. Dent. Res. *46*:805-808.

Lavelle CLB, and Moore J (1973) The incidence of agenesis and polygenesis in the primate dentition. Am. J. Phys. Anthropol. *38*:671-680.

Leche W (1895) Zur Entwichlungsgeschichte des Zahnsystems der Saügethiere, zugleich un Beitrag zur Stammeszeschichte dieser Thiergruppe. l. Ontogenie. Zoologica, Stuttgart, 6, Heft 17, 1.

Leche W (1896) Untersuchungen über des Zahnsystems lebender & fossiler Halbaffen, Festschr. Gegenbaur, Leipzig 3:125.

Müller TP, Hill IN, Petersen AC, and Blayney JR (1970) A survey of congenitally missing teeth. J. Am. Dent. Assoc. *81*:101-107.

Osborn JW (1973) The evolution of dentition. Am. Sci. *61*:548-559.

Owen R (1840-45) Odontography; or, a treatise on the comparative anatomy of the teeth. Vol. I. London: H. Bailliere, pp. 298-299.

Pedersen PO (1949) The East Greenland Eskimo dentition. Meddelelser on Gronland.

Peyer B (1968) Comparative odontology. Chicago: University of Chicago Press.

Schour I, and Massler M (1941) The development of the human dentition. J. of Am. Dent. Assoc. *28*:1153-1160.

Schultz AH (1932) The hereditary tendency to eliminate the upper lateral incisors. Human Biol. *4*:34-40.

Sicher H (1916) Die Entwicklung des Gebisses von *Talpa europaea*. Arb. Anat. Inst. Wiebaden *54*:31.

Simons EL (1972) Primate evolution. New York: The MacMillan Company.

Tome CS (1889) A manual of dental anatomy; human and comparative. 3rd ed. London: J & A Churchill.

Van Valen LM (1994) The origin of the plesiadapid primates and the nature of *Purgatorius*. Chicago: Evolutionary Monographs 15.

Van Valen L, and Sloan RE (1965) The earliest primates. Science *150*:743-745.

Williams BA, and HH Covert (1994) New early Eocene Anaptomorphine primate (Omomyidae) from the Washakie Basin, Wyoming, with comments on the phylogeny and paleobiology of Anaptomorphines. Am. J. Phys. Anthropol. *93*:323-340.

STRESS IMPACT IN CENTRAL ITALY DURING THE IRON AGE: THE EVIDENCE OF LINEAR ENAMEL HYPOPLASIA

A. CUCINA, A. COPPA, AND D. MANCINELLI
Università Cattolica del Sacro Cuore, Rome, Italy (AC), Università de Roma "La Sapienza", Rome, Italy (AC), and Università de L'Aquila, L'Aquila, Italy (DM).

Teeth are important indicators of the interactions between an organism and its cultural and physical environment. Primarily composed of hydroxyapatite crystals, teeth are the strongest structure in the body. Since enamel and dentine do not undergo remodelling once they are formed, they provide immutable records of all types and degrees of environmental stresses that occurred during the time of formation.

Linear enamel hypoplasia is a defect in the enamel that may occur as a result of the disruption in the matrix formation phase of amelogenesis and is thought to be caused by the catabolic processes that occur in the organism as a response to stress (Sarnat and Schour, 1941; Kreshover, 1960; Osborn, 1973; Tanner, 1978, Yaeger, 1980; Goodman and Armelagos, 1985). Enamel defects have been attributed to or associated with as many as 100 different causal factors (Cutress and Suckling, 1982). Chavez and Martinez (1982) consider that the synergetic interaction between disease and malnutrition is most likely to produce hypoplasia. Although it is considered to be a non-specific, but still sensitive, indicator of stress (Kreshover, 1960; Massler et al., 1941; Sarnat and Schour, 1941), linear enamel hypoplasia is the object of the current study. The purpose is to analyze the impact of stress that had to be faced by some Italian populations during the Iron Age.

MATERIALS

The samples discussed in this paper come from some of the most important sites in Central Italy during the Iron Age (first millennium BC). They are the samples from the necropolis of Campovalano (Abruzzo, VII-II century BC), Alfedena (Abruzzo, VI-V century BC), Camerano (Marche, VI-III century BC), and Tarquinia (Lazio, VIII-II century BC). Because of sample size problems, only the data for necropolis of Campovalano could be separated into two chronological periods (period A VII-V century BC; period B IV-II century BC). Tarquinia is located 40 miles north of Rome. Camerano and Campovalano are close to one another at about the same latitude as Tarquinia, but on the eastern side of the peninsula. Alfedena is located south of Rome, in the center of the Peninsula, and slightly closer to Naples than to Rome.

METHODS

Defects have been scored on all teeth available. The total sample consists of 4,434 permanent teeth (2,150 maxillary and 2,284 mandibular) from 511 individuals (Table 1). The actual number of teeth examined is much higher, since only the antimere showing the more marked defect has been considered in the final counts.

The value of stress impact on the mandibular canine is calculated as the number of defects per 100 individuals. The total number of defects for which severity and chronology were sure, and the number of teeth from which data are obtained, are counted. Keeping into consideration the frequency of teeth affected (Table 2) the total number of teeth was calculated. The number of defects was related to the total number of teeth and then was related to 100. This way we have a numeric value per 100 teeth from every sample is available and the values are comparable to one another (Table 3).

The number of individuals over 50 years of age (dx) (Table 4) was calculated from the table of mortality according to the distribution of age of death of the sample. In this case, the lower the number of individuals that were affected by hypoplasia, the higher the chance these of individuals to reach old age (older than 50 years). The frequency was calculated from the table of mortality of the distribution of the age of death of the sample.

For the chronological distribution of dental enamel hypoplasia (Table 5), each number represents the frequency of defects in that age class within its own sample. To calculate the age at onset, all the measurable defects and both upper and lower margins of the defects were measured. Then, from the unworn teeth, the mean crown height for each type of tooth was measured. The standard time of development of every tooth crown was used from Goodman's table (1980-Human Biology). The mean height of the crown was considered as the height of that type of tooth for each sample. (For each sample its own mean crown height was used). Then, with simple mathematical calculations the age of onset and age of end of each defect was calculated to build the chronological distribution.

RESULTS and DISCUSSION

The frequency of individuals affected by at least one defect is shown in Fig. 1. All the samples seem to have undergone a heavy pressure since frequencies range from 95.3% in Campovalano period B to 98.7% in Camerano (Table 1). As a whole, Camerano seems to show the higher frequencies of defects, while the other sites do not show higher or lower prevalence when compared to one another.

The frequency of teeth affected by hypoplastic defects is reported in Table 2. Frequencies are very high in all the groups as regards the anterior teeth. As expected, maxillary central incisors and mandibular canines show higher values than the other teeth.

Since the frequency of defects per tooth does not take into account the number of times the tooth was affected, we tried to quantify the impact of stressful events occurring on each group. In this case, only the mandibular canine has been used. All defects affecting the lower canines have been calculated, no matter how

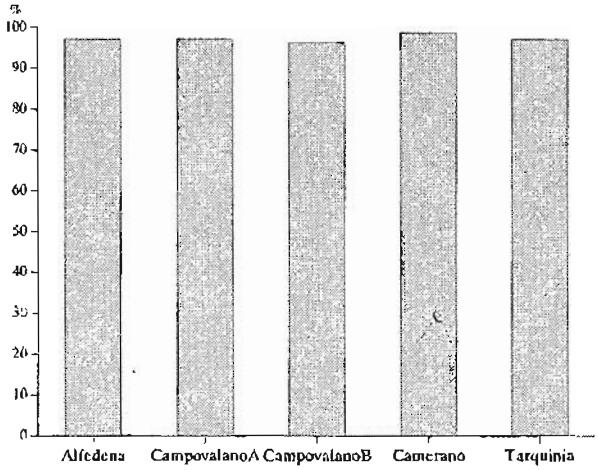


Fig. 1. Frequency of individuals affected by linear enamel hypoplasia in five Italian Iron Age samples. Data are given in Table 1.

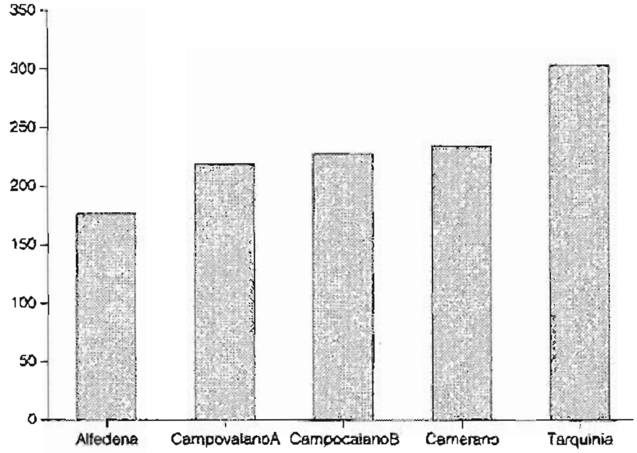


Fig. 2. Stress impact: mandibular canine. The value of stress impact has been calculated as the number of defects per 100 individuals. Complete explanation is given in the section, Methods. Data are given in Table 3.

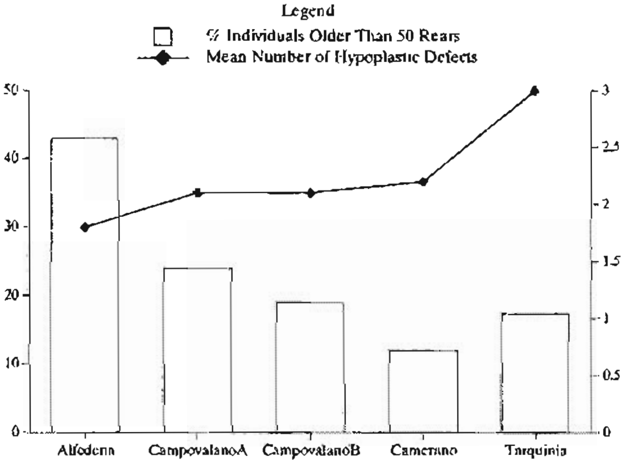


Fig. 3. Comparison between number of individuals older than 50 years of age and mean number of hypoplastic defects. The right and left Y-axes are of different scale. Data are given in Table 4.

severe they were. The total number of defects has been related to the number of teeth affected, and then to the total number of reliable teeth available. This way, as it can be noted in, we can see the real differences in the impact of stress in various human groups.

Camerano shows worst conditions than the other samples (Fig. 2). Tarquinia and both periods of Campovalano are set in the middle, and Alfedena shows the lowest value of stress impact. Alfedena seems to show better life conditions than the other samples. This can actually be confirmed if frequency of deaths after 50 years of age is compared to the mean number of defects affecting the mandibular canine (Fig. 3). Alfedena shows a higher frequency of deaths after 50 years of age and a lower mean number of defects than the other samples.

The chronological distribution of defects is graphically reported in Fig. 4. Alfedena has an earlier time of onset and peaks in the same class as Campovalano A and Campovalano B (2.5-2.9 years). Camerano and Tarquinia have a slightly later onset of defects, Tarquinia then peaks in age range of 3.0 to 3.4 years, while Camerano reaches its peak between 3.5 and 3.9 years of age. Interestingly, Tarquinia's and Camerano's distribution remains higher than Alfedena and both periods of Campovalano in the ages after peaks.

CONCLUSIONS

In conclusion, linear enamel hypoplasia is evident, with frequencies of individuals affected in all the sites considered approaching 100%. Analysis further shows that, although frequencies are high, a differential stress impact can be observed among the populations. This can be confirmed indirectly through comparison of the individuals over 50 years of age with the linear enamel hypoplasias. Slight differences in time of onset and age of peak occurrence can be due to different environmental impact or cultural habits that may have better protected infants either during the early years of life or after weaning occurred.

REFERENCES CITED

Chavez A, and Martinez C (1982) Growing up in a developing community. Mexico City: Instituto Nacional de la Nutricion.

Cutress TW, and Suckling GW (1982) The assessment of non carious defects of enamel. Int. Dent. J. *32*:117-122.

Goodman AH, and Armelagos GJ (1985) Factors affecting the distribution of enamel hypoplasias within tile human permanent dentition. Am. J. Phys. Anthropol. *68*:479-493.

Kreshover S (1960) Metabolic disturbances in tooth formation. Ann. N.Y. Aced. Sci. *85*:161-167.

Massler M, Schour I, and Poncher HG (1941) Developmental pattern of the child as reflected in the calcification pattern of teeth. Am. J. Dis. Child. *62*:33-67.

Osborn JW (1973) Variation in structure and development of enamel. Oral Science Review *3*:3-83.

Sarnat BG, and Schour I(1941) Enamel hypoplasia (chronic enamel aplasia) in relationship to systemic disease. A chronological, morphologic and etiologic classification. J. Am. Dent. Assoc. *28*:1989-2000.

Tanner JM (1978) Fetus into man. Cambridge: Harvard University Press.

Yaeger J (1980) Enamel. In SN Behaskar (ed.): Orban's Oral Histology and Embryology, 9th ed. St. Louis: C.V. Mosby, pp. 46-106.

TABLE 1. Frequency (%) of individuals (N) with linear enamel hypoplasia in five Italian cemetery samples

	Alfedena		Campovalano A		Campovalano B		Camerano		Tarquinia		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Enamel hypoplasia	143	97.2	36	97.2	27	95.3	76	98.7	129	97.7	511	97.1

TABLE 2. Frequency of linear hypoplasia for each tooth class.

Tooth class	Alfedena	Campovalano A	Campovalano B	Camerano	Tarquinia
Maxillary central incisor	81.8	80.8	70.1	84.8	80.1
Maxillary lateral incisor	73.3	70.4	77.8	90.5	76.6
Maxillary canine	82.8	89.7	89.5	94.3	86.4
Maxillary third premolar	72.6	67.9	70.7	79.1	72.6
Maxillary fourth premolar	42.3	61.5	57.3	65.3	47.9
Maxillary first molar	57.1	48.1	25.3	39.6	43.6
Maxillary second molar	44.3	43.5	20.8	37.8	47.9
Maxillary third molar	5.1	21.1	24.4	39.5	30.8
Mandibular central incisor	71.7	51.9	58.5	84.1	68.8
Mandibular lateral incisor	77.3	54.8	64.9	83.1	78.6
Mandibular canine	80.6	70.9	86.1	95.3	91.5
Mandibular third premolar	74.4	69.1	58.7	78.5	64.9
Mandibular fourth premolar	56.5	55.9	49.4	68.9	61.1
Mandibular first molar	34.7	8.3	20.3	44.8	45.1
Mandibular second molar	34.7	27.3	33.3	49.9	30.9
Mandibular third molar	29.1	6.7	5.1	55.1	35.5

TABLE 3. Stress impact on mandibular canine.

	Alfedena	Campovalano A	Campovalano B	Camerano	Tarquinia
Stress impact mandibular canine	176.9	218.9	228.0	234.1	303.5

TABLE 4. Frequency of individuals older than 50 years and mean number of defects.

	Alfedena	Campovalano A	Campovalano B	Camerano	Tarquinia
% individuals older than 50 yrs	43.0	24.0	19.0	12.0	17.4
Mean number of hypoplastic	1.8	2.1	2.1	2.2	3.0

TABLE 5. Chronological distribution of linear enamel hypoplasia.

	Alfedena	Campovalano A	Campovalano B	Camerano	Tarquinia
Age range in years	%	%	%	%	%
0.0-0.4	0.0	0.3	0.0	0.0	0.0
0.5-0.9	0.9	0.3	1.1	0.6	0.0
1.0-0.4	4.5	1.1	3.4	1.9	1.6
1.5-1.9	7.3	3.3	6.8	4.8	3.8
2.0-2.4	13.8	10.6	14.2	11.8	10.3
2.5-2.9	17.9	13.9	18.2	17.9	11.6
3.0-3.4	14.0	14.4	17.0	17.1	18.8
3.5-3.9	11.0	15.2	13.6	13.0	16.9
4.0-4.4	9.5	13.3	10.2	10.3	12.8
4.5-4.9	10.4	12.8	8.0	11.8	12.5
5.0-5.4	8.4	10.1	6.3	6.5	10.0
5.5-6.0	1.7	4.9	1.1	2.1	1.9
6.0-6.5	0.4	0.0	0.0	0.0	0.0

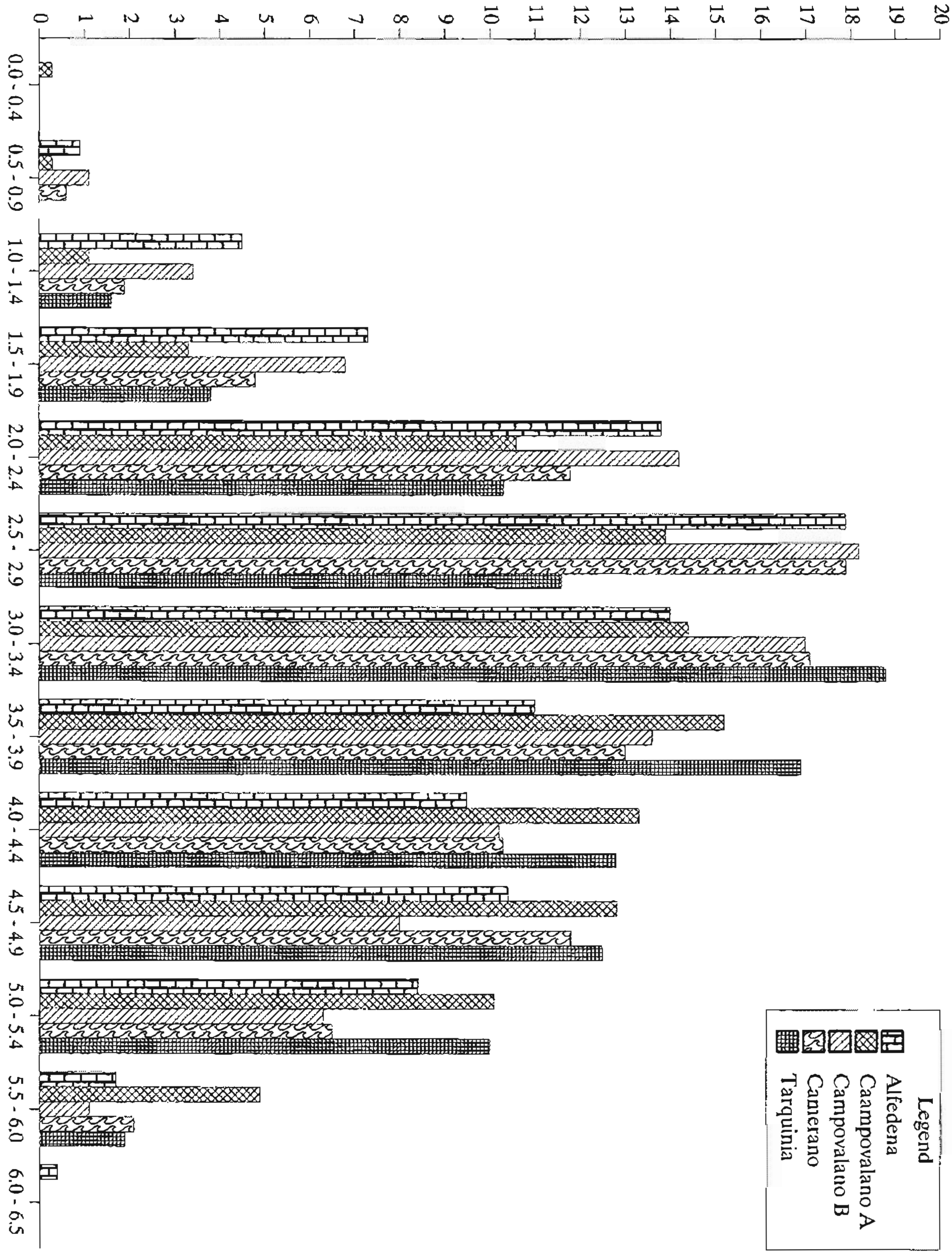


Fig. 4. Chronological distribution of linear enamel hypoplasia. Numbers on the X-axis are years. Explanation of calculations is given in the section, Methods. Data are given in Table 5.

WHAT'S NEW AT ASU?

SHARA BAILEY SCHMIDT
Arizona State University

Scott Burnett is conducting research on maxillary premolar accessory ridges (MxPAR). He is examining the utility of this dental trait in differentiating genetically distinct populations using the recently developed MxPAR plaque. He will be presenting the results of his preliminary research in a poster at the upcoming AAPA meetings.

Joshua Lipshultz is writing his master's thesis entitled "Who were the Natufians?: An assessment of their population affinity through an analysis of their dental morphology." This study utilizes dental morphology to assess biological relationships of populations who inhabited Israel from 12,000 to 8,000 BP. Joshua spent most of his summer collecting data for his thesis at Tel Aviv University, Israel, with Yoel Rak and Baruch Arensburg, and at Harvard University with Pat Liberson.

Stephen Reichardt is collecting data for his master's thesis which focuses on using dental morphology to study the biological prehistory of the Iroquois Indian populations of southern Ontario, Canada. He will be returning to Toronto in February to continue research begun July of 1995.

Jaimin Weets is collecting data for his master's thesis on a New Hebrides population of eastern Melanesia. While the research is primarily descriptive in nature, his goal is to assess affinity based on the dental morphology and metrics of this population.

Shara Bailey-Schmidt is currently conducting research for her dissertation on Neandertal dental morphology and its implications for modern human origins. This work will comprise a systematic study of Neandertal and modern human fossils using a modified ASU DAS (Arizona State University Dental Anthropology System) to record fossil hominid dental variation.

A.M. (Sue) Haeussler has completed her dissertation on the dental anthropology of Paleolithic, Mesolithic, Neolithic, and, in some regions, Bronze Age peoples of European and Siberian Russia, Ukraine, and Georgia.

Christy G. Turner II is completing his work as director of the physical anthropological studies of Roosevelt Platform. Turner's part of the study involves using dental morphological traits to decipher the affinities of the Salado people. DAA members Joel Irish and Marsha Regan have also worked on physical anthropological parts of the project; Rhea Jacanin, on computer aspects.

Christy G. Turner II, Sue Haeussler, Shara Bailey-Schmidt, Scott Burnett, and Jaimin Weets in front of the A.A. Dahlberg Collection of Pima Indian Casts in the Department of Anthropology at Arizona State University.

DENTAL ANTHROPOLOGY NEWSLETTER

A.M. HAEUSSLER

Manuscripts to be considered for Volume 10(3) are due by April 15 and for Volume 11(1), by September 15, 1996. Materials received after those dates will be considered for succeeding issues.

The newsletter maintains a file of back issues. Reprints of individual articles and entire issues are available for the cost of postage and xeroxing.

Thanks are due to all who have submitted articles, news, and lists of recent publication and presented papers during the past year. Your contributions have been responsible for enhancing the professional nature and international status of the newsletter.

NOTE FROM THE SECRETARY/TREASURER

SHARA BAILEY-SCHMIDT

Great news! I would like to officially announce to all our members that the Dental Anthropology Association will now accept membership fees paid by VISA or MasterCard. We anticipate that it will save our foreign members from having to pay the significant bank premium to get US funds.

1996 membership fees were due January 1, 1996. If you are unsure of your membership status check out your address label. If the year following your name is 1995 or earlier, please remit your annual fee in order to remain an active member. You can also drop me a note via e-mail at azsbs@imap2.asu.edu and I will update you on your status. Also, I would like to remind foreign members who would like to be sponsored by the DAA that they must apply in writing for membership and renewal each year.

REPORT FROM THE EXECUTIVE COMMITTEE MEMBER

BRIAN E. HEMPHILL
Department of Anthropology, Vanderbilt University, Box 6050 Station B, Nashville, TN 37235, U.S.A.

ANNUAL BUSINESS MEETING

The annual business meeting of the Dental Anthropology Association will be held on Thursday, April 11, 1996, at 7:30 pm. The location will be the Royal Room in the Sheraton Imperial Hotel and Conference Center in Research Triangle Park, which is on the outskirts of Durham, North Carolina.

As in past years, the Dental Anthropology Association meeting will be held during the annual meeting of the American Association of Physical Anthropologists. Individuals who are interested in attending scientific sessions of the American Association of Physical Anthropologists can contact Kenneth A. Kennedy, whose address is listed in the membership list in this issue.

NOMINEE FOR PRESIDENT-ELECT

John Mayhall (University of Toronto) has been nominated as president-elect of the association. A biographical sketch follows this report. The election will be held during the annual business meeting.

NOMINEE FOR PRESIDENT-ELECT, DENTAL ANTHROPOLOGY ASSOCIATION

JOHN T. MAYHALL
Faculty of Dentistry, University of Toronto, 124 Edward Street, Toronto, Ontario M5G1G6, Canada

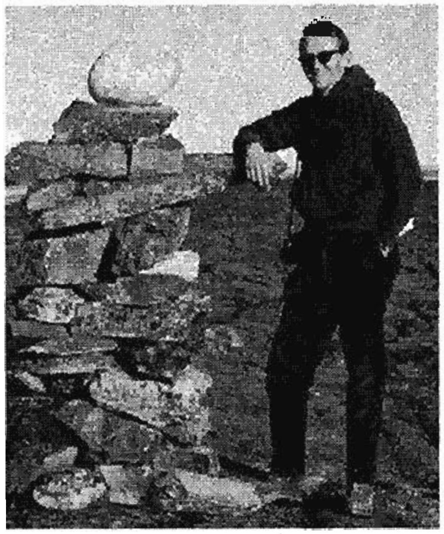
I received my B.A. degree from DePauw University and my D.D.S. from Indiana University before "enrolling" in the United States Public Health Service, Division of Indian Health. There I was assured that after only a few months in the Pribilof Islands, Alaska, I would be assigned to a location in the warmer, southwestern U.S. After three years in Alaska, where I practiced dentistry in the Pribilof Islands, Juneau, and traveled the Aleutian Islands with a base in Anchorage, I returned to academic pursuits. I enrolled in the dental anthropology program under Dr. A.A. Dahlberg at the University of Chicago and received my A.M. and Ph.D. there.

In 1970, I moved to Toronto as a Fellow of the Canadian International Biological Programme, Human Adaptability Study. I had begun with the I.B.P. in the U.S. in 1968 in Wainwright, Alaska, and then continued with dental studies of the Inuit in Igloolik and Hall Beach, Northwest Territories, Canada. The Canadian studies continued until 1973, and I then began teaching in both the graduate programme of the anthropology department and the undergraduate dental programme of the University of Toronto.

I am now a professor in the Faculty of Dentistry, University of Toronto, and responsible for teaching Oral Anatomy and Occlusion and Community Dentistry. I am also a member of the University Governing Council, a combination of senate and board of trustees at most universities.

My research over the years has included the oral health of Indians and Inuit of the Arctic and sub-Arctic, the dental morphology of these groups (as well as of exotic groups such as the residents of Burlington, Ontario, a suburb of Toronto), emergence timing of the teeth of Canadian natives, *torus mandibularis*, and other "anthropological" aspects of the dentition.

More recently, I have been working closely with Lassi Alvesalo, Grant Townsend, and Juha Varrela studying the effects of the sex-chromosomes on denial development using the materials from Finland that Lassi collected. As



John Mayhall during his days in Alaska. Photograph by C.F. Merbs.

well, I have embraced the moiré contourography techniques developed in Japan and have combined them with digital image analysis to derive volumetric determinations of the molar cusps. These techniques are proving useful in analyzing the molars of Australian Aborigines, Finns, and various Canadian groups.

Presentations of Interest to Dental Anthropology Association Members Annual Meeting of the American Association of Physical Anthropologists

(Presentations in addition to those listed below may also deal with dental anthropological topics)

APRIL, 11, 1996
Session 1: Paleoanthropology of Miocene Hominoids (Royal Room)
9:15 B. Brown, et al., New *Sivapithecus* mandibles from the Potwar Plateau, Pakistan.
9:45 G.T. Schwartz, G.C. Conroy, Cross-sectional geometric properties of the *Olavipithecus* mandible.
Session 2: Primates I Morphology and Methods (Imperial I & II Room)
11:00 V.E. Noble, M.F. Teaford, Group differences in incisor macrowear of *Alouatta palliata*.
11:15 R.J. Asher, Sterepsirhiny: Morphological diversity and its relationship to the prosimian toothcomb.
11:30 C.A. Robinson, The morphology of the anterior lower premolar in catarrhines and its phylogenetic implications.
Session 3: Paleoanthropology II: Neandertals and Human Evolution in Europe and West Asia (Imperial III, IV Room)
9:45 A. Bilsborough, J.L. Thompson, Dentition of the Le Moustier I Neanderthal.
10:30 B. Vandermeersch, A.E. Mann, An immature female Neanderthal mandible from Mantgaudier Cave, France.
Session 4a: Skeletal Biology I. Bioarchaeological Studies of Life in the Age of Agriculture (Imperial V Room)
9:00 M. Reeves, Life after Moundville: Dental health at early historic Fusihatchee Town.
10:15 E.I.Monahan, D. S. Weaver, Dental health and Late Woodland subsistence in coastal North Carolina.
10:45 P.L. Walker, Discussion.
Session 4b: Dental Anthropology I (Imperial V Room)
11:00 A. Cucina, M.Y. İşcan, Ancient Florida Indians: Assessment of living conditions through the analysis of the dentition.
11:15 A.M. Nelson, M.C. Griffin, Adult and deciduous dental morphology in four U.S. Amerindian population samples.
11:30 R.M. Menegaz-Bock, et al., Dentition of the Gullah Blacks of coastal Carolina and its relationship to that of Africans, African-Americans, and Whites.
11:45 S.M. Hens, et al., An analysis of dental wear in the Averbuch site.
Session 7: Skeletal Biology II (Imperial V Room)
2:00 O.M. Pearson, F.E. Grine, Cortical thickness and relative bending in human long bones: Correlations among elements.
Session 9: Paleoanthropology III: Human Evolution. Australopithecus`(Imperial III, IV Room)
2:30 D.S. Strait, et al., A reappraisal of early hominid phylogeny.
2:45 S.R. Loth, M. Henneberg,, The Taung child-it's a boy! Sexually dimorphic morphology in the immature mandible and its application to fossil hominids.
3:00 F. Ramirez Rozzi, The angle stria of Retzius-enamel-dentine junction as a measure of histologic process.
3:15 C.A. Lockwood, Sexual dimorphisms in the face of Australopithecus africanus.
3:45 M.A. McCollum, Rethinking the Australopithecine face.
Session 10a: Primates II: The Living and the Dead: Primate Behavior (Royal Room)
2:00 M.F. Teaford, et al., The evolution of diet in Old World monkeys.
2:15 P.S. Ungar, et al., Dental evidence for diets of Miocene apes.
3:30 J. Kelley, Behavioral significance of canine size in *Australopithecus afarensis.*
Session II: Dental Anthropology (Empire Room) Posters Time: 1:30 pm
1 L.R. Marion, Analysis of Natufian and pre-pottery Neolithic B dental wear patterns to aid in the reconstruction of ancient subsistence strategies.
2. T.L. Tucker, Deciduous dental microwear from Kalama Egypt: A methodological comparison.
3 CW. Schmidt, S.P. Nawrocki, Dental microwear analysis of dietary transitions in prehistoric Indiana.
4 F.D. Gurri, et al., Sex differences in the frequency and distribution of linear enamel hypoplasias among the Yucatec Maya.
5 populations.
6 D.G. Gantt, Analysis of individual, intraspecific, interspecific, and intergenetic variability of cercopithecoid molar enamel thickness.
7 S.E. Burnett, et al., Accessory ridges in maxillary premolars: A preliminary study of their occurrence in four populations.
8 L.J. Hall, D.H. Morris, New deciduous mandibular canine trait in Pima Native Americans.
9 G.R. Colby, Analysis of dental sexual dimorphism in two Western Gulf of Mexico precontact populations utilizing cervical measurements.
10 R. Hutton MacDonald, Dental anthropological perspectives on pastoralism.
11 S.A. McEvoy, et al., Wedge-shaped cervical dental lesions in two prehistoric Native American populations.
12 O.M. Langsjoen, Dental evidence of Paget's disease in a 50 year old male of the Chinchorro culture of Northern Chile.
13 J. Becker, K. Condon, Examination of dental development patterns in an African-American skeletal series.
14 E.F. Harris, E.L. Nance, Delayed bone and tooth formation in African Americans with sickle cell disease.
Session 12: Primates IV. Behavior (Empire Room) Posters. Time 1:30
41 M. Bond, L.A. Winkler, Orangutan life history: Resetting the clock.
APRIL 12,1996
Session 13: Human Biological Variation III. Growth and Development (Imperial I & II Room)
8:15 M. Lampl, Saltatory growth and illness patterns.
10:45 A.E. Mann, et al, The evolution of childhood: Dental evidence for the appearance of human maturation patterns.
11:45 D.L. Markowitz, Increase in the middle cranial fossa in Arikara subadults.
Session 15: Paleoanthropology IV. Evolution of Prosimians, Platyrrhines, and Early Catarrhines (Royal Room)
8:00 R.L. Anemone, et al., Geology and vertebrate paleontology across the Paleocene-Eocene boundary in the Great Divide Basin, southwestern Wyoming.

PRESENTATIONS OF INTEREST TO DAA MEMBERS AT THE AAPA MEETINGS

8:45 C. Beard, et al., Oldest complete dentition of an anthropoid primate from the middle Eocene Heti Family, Yuanqu Basin, Shanxi Province, China.

9:00 M.A. O'Leary, Anagenetic evolution in the densest record of fossil primates and the taxonomy of the Notharctidae.

Session 17: Skeletal Biology III. (Empire Room) Posters Time 8:30 am

1 A.F. Christensen, et al., Prehistoric Bactrain relationships to Russian and Central Asian populations.

14 S.L. Steen, et al., An application of a comprehensive strategy for recording activity-related stress markers on the skeletal remains of Alaskan Eskimos.

15 N.E. Munson, B.L.B. Nagy, Indications of habitual activity from the shoulder region.

Session 18: Empire Room: Paleoanthropology V (Empire Room) Posters Time: 8:30 am

29 P.-F. Puech, et al., Diet, dental morphology, and wear in early Homo.

Session 19: Dental Anthropology IV (Royal Room)

2:00 B.E. Hemphill, JL. Brauer, A dental perspective on health and subsistence in a Bronze Age oasis.

2:15 R.J. Henneberg, Dental health of an urban population in 7th-2nd century B.C. Metaponto, South Italy.

2:30 R.A. Halberstein, G.M. Abrahmsohn, Anthropological aspects of alveololgia ('dry socket').

2:45 C.F. Hildebolt, et al., Bone mineral density interrelationships with smoking, body mass, years since menopause, and tooth loss.

3:00 S.W. Hillson, Dental histology and anthropology - current status and future directions.

3:15 B.E. Ensor, J.D. Irish, Variation in dental enamel hypoplastic area among Nubians.

3:45 P.L. Walker, Modern variation in tooth wear rates.

4:00 S. Peck, et al., Anomalies of tooth number and size associated with malposition of the maxillary canine.

4:15 R.C. Sutter, Biocultural change and continuity among prehistoric coastal groups of South Central Andes as indicated through the analysis of non-metric dental traits.

4:30 DR. Swindler, et al., Variation and frequency of three-rooted lower first molars in precontact Easter Islanders and its anthropological significance.

4:45 A. Coppa, et al., Dental anthropology of Iron Age populations in central-southern Italy.

5:00 J.D. Irish, Diachronic and synchronic dental trait affinities among post-Pleistocene North African populations.

5:15 A.M. Haeussler, From Pazyryk kurgans to Neolithic cemeteries. The dental anthropology of Western Siberia.

Session 21: Primate Behavior II Foraging Strategy, Positional Behavior and Locomotion (Imperial III Room)

3:00 K.E. Glander, et al., Group differences in *Alouatta palliata* feeding time.

Session 24: Biological Variation (Empire Room) Posters Time 1:30 pm

29 W. Dirks, et al., Histological reconstruction of dental development in a juvenile gibbon.

30 K.B. Propst, The etiology and significance of enamel crazing.

Session 27: Paleoanthropology VIII. Human Evolution. Early Homo and General Models (Imperial I & II Room)

8:15 R.J. Sherwood, et al., Mandibular fossa anatomy of the Chemeron temporal bone (KNM-BC 1).

8:30 M.J.Kohn, M.J. Schoeninger, J.W. Valley, $\delta^{18}O$ of modern East African herbivore teeth: Potential for paleoclimate studies.

8:45 T.L. Crummett, Phylogenetic affinities of *Homo ergaster:* Sister-species of Homo sapiens?

9:45 B.Wood, G. Macho, Mechanisms underlying the delayed eruption of the modern human dentition.

10:15 C.M. Willermet, Fuzzy set theory and its implications for the classification of fossil species.

10:30 C.L. Brace, The dynamics of regional continuity versus race in human evolution.

APRIL 13, 1995

Session 30: Paleopathology and Forensic Anthropology I (Empire Room) Posters 8:30 AM

1 A.L. Magennis, L.S. Cummings, A record of food and grit in human dental calculus at Kichpanha, Belize.

4 C.A. Roberts, A. Woodward, Dental calculus from leprous and non-leprous individuals from two Medieval sites in the United Kingdom.

5 T. Jolly, Dental health of an Oneonta population.

6 S.M. Duray, Stress and mortality: Evidence from the deciduous dentition.

7 M. Penton, Paleopathological indicators of subsistence in the lower Mississippi Valley.

11 E.M. Braunstein, et a., Radiologic-pathologic correlation in a paleopathology teaching collection.

Session 31: Human Biological Variation VII: Growth and Development (Empire Room) Posters 8:30 AM

23 L.A. Winkler, Growth weight of Mayan infants from Ticul: An analysis of data from the Steggarda collection.

Session 32: Paleoanthropology IX.- Australopithecus - Postcrania and Locomotion (Imperial III & IV Room).

4:15 V. Galichon, et al., Trabecular architecture of the hominoid pelvis and locomotor behavior.

Session 34: Paleopathology and Forensic Anthropology II (Imperial V Room)

2:30 B. Rothschild, C. Rothschild, Periosteal reaction patterns in selected skeletal populations.

3:15 L. Mayes, et a., The environmental scanning electron microscope and dental microstructure.

Session 35: Primates X. Biomechanics of Mammalian Feeding (Royal Room)

1:30 C.E. Wall, W.L. Jungers, Kinematics and shape of the anthropoid TMJ.

1:45 R.Z. German, OH, A.W. Crompton, Ontogeny of feeding on infant mammals.

2:00 F. Anapol, S.W. Herring, Ontogeny of masticatory physiology.

2:15 K.M. Hiiemae, Accident or evolutionary inevitability? The mechanisms of mammalian feeding revisited.

2:30 P.W. Lucas, J.F. Prinz, Mechanisms of bolus formation - their relevance to chewing and the swallow threshold.

2:45 J.F. Prinz, P.W. Lucas, Salivary lubrication - the effect of tannins.

3:00 D.S. Carlson, P.C. Dechow, *In situ* contractile properties of intact jaw muscles in male and female rhesus monkeys *(M.mulatta).*

3:15 M.A. Spencer, Functional constraints on masticatory system form in anthropoid primates.

4:00 W. S. Greaves, Modeling the distance between mammalian cheek tooth rows.

4:15 D.E. Lieberman, A.W. Crompton, Why fuse the symphysis?

4:30 S.W. Herring, S. Teng, Strain in sutures.

4:45 W.L. Hylander, et al., Mandibular bone-strain and jaw-muscle recruitment patterns during mastication in anthropoids and prosimians.

5:00 D.J. Daegling, W.L. Hylander, Bone strain in the mandibular corpus: Experimental validation of theoretical models.

5:15 P.C. Dechow, T. Huynh, Elastic properties and biomechanics of the baboon mandible.

5:30 M.J. Ravosa, Experimental analysis of masticatory function in capuchin monkeys.

5:45 C.F. Ross, W.L. Hylander, *In vivo and in vitro* strain analysis of the owl monkey circumorbital region.

Some Recent Publications of Interest to Dental Anthropologists

Brace CL (1995) Biocultural interaction and the mechanism of mosaic evolution in the emergence or "modern" morphology. American Anthropologist *97(4)*:711.

Braun S, Bantleon HP, Hnat WP, Freudenthaler JW, MR Marcotte, and BE Johnson (1995) A study of bite force, 1: Relationship to various physical characteristics. Angle Orthodontist *65(5)*:367-372.

Braun S, Bantleon HP, Hnat WP, Freudenthaler JW, Marcotte MR, and BE Johnson BE (1995) A study of bite force, 2: Relationship to various cephalometric measurements. Angle Orthodontist *65(5)*:373-377.

Conroy GC, and Kuykendall K (1995) Paleopediatrics: Or when did human infants really become human? American Journal of Physical Anthropology *98*:121-131.

Conroy GC, Lichtman JW, and Martin LB (1995) Brief communication: Some observations on enamel thickness and enamel prism packing in the Miocene hominoid *Otavipithecus namibiensis*. American Journal of Physical Anthropology *98(4)*:595-600.

Dempsey PJ, Townsend GC, Martin NG, and Neale MC (1995) Genetic covariance structure of incisor crown size in twins. Journal of Dental Research *74(7)*:1389-1398.

Ensor BE, and Irish JD (1995) Hypoplastic area method for analyzing dental enamel hypoplasia. American Journal of Physical Anthropology *98(4)*:507-517.

Gabounia L, and Vekua AK (1995) The mandible of the fossil Dmanissi Man (Eastern Georgia) dating up to the upper Villafranchian. Anthropologie *99(1)*:29-41.

Hanihara T (1995) On "Chinese" migrations into Neolithic Southeast Asia - Reply. Anthropological Science *103(4)*:405-406.

Hargreaves JA, Matejka JM, Cleaton-Jones PE, and Williams S (1995) Anterior tooth trauma in eleven-year-old South African children. Journal of Dentistry for Children *62(5)*:353.

Hawkey DE, and Merbs CF (1995) Activity-induced musculoskeletal stress markers (MSM) and subsistence strategy changes among ancient Hudson Bay Eskimos. International Journal of Osteoarchaeology *5(4)*:324-338.

Koufos GD (1995) The first female maxilla of the hominoid *Ouranopithecus macedoniensis* from the late Miocene of Macedonia, Greece. Journal of Human Evolution *29(4)*:385-399.

Kuzmina IN, Kuzmina E, and Ekstrand KR (1995)Dental caries among children from Solntsevsky - A district in Moscow, 1993. Community Dentistry and Oral Epidemiology *23(5)*:266-270.

Larsen CS (1995) Biological changes in human populations with agriculture. Annual Review of Anthropology *(24)*:185-213.

Martinez-Canut P, Lorca A, and Magan R (1995) Smoking and periodontal disease severity. Journal of Clinical Periodontology *22(10)*:743-749.

Marzke MW, Young DL, Hawkey DE, Su SM, Fritz J, and Alford PL (1996) Comparative analysis of weight gain, hand/wrist maturation, and dental emergence rates in chimpanzees aged 0-24 months from varying captive environments. American Journal of Physical Anthropology *99(1)*:175-190.

Mintz SM , Ettinger AC, Geist JR, and Geist RY (1995) Anatomic relationship of the genial tubercles to the dentition as determined by cross-sectional tomography. Journal of Oral ad Maxillofacial Surgery *53(11)*:1324-1326.

Mitsis FJ, and Taramidis G (1995) Alveolar bone loss on Neolithic man remains on 38 skulls of Khirokitia's (Cyprus) inhabitants. Journal of Clinical Periodontology *22(10)*:788-793.

Mornstad H, Reventlid M, and Teivens A (1995) The validity of four methods for age determination by teeth in Swedish children: A multicentre study. Swedish Dental Journal *19(4)*:121-130.

Morton AA, Williams RW, and Watts TLP (1995) Initial study of periodontal status in non-insulin-dependent diabetics in Mauritius. Journal of Dentistry *23(6)*:343-345.

Ogaard B, and Krogstad O (1995) Craniofacial structure and soft tissue profile in patients with severe hypodontia. American Journal of Orthodontics and Dentofacial Orthopedics *108(5)*:472-477.

Pajari U, Ollila P, and Lanning M (1995)Incidence of dental caries in children with acute lymphoblastic leukemia is related to the therapy used. Journal of Dentistry for Children *62(5)*:349.

Rasmussen DT, Shekelle M, Walsh SL, and Riney BO (1994) The dentition of Dyseolemur, and comments on the use of the anterior teeth in primate systematics. Journal of Human Evolution *29(4)*:301-320.

Ross C, and Henneberg M (1995) Basicranial flexion, relative brain size, and facial kyphosis in Homo sapiens and some fossil hominids. American Journal of Physical Anthropology 98:575-593.

Rothschild BM, and Heathcote GM (1995) Characterization of gout in a skeletal population sample: Presumptive diagnosis in a Micronesian population. American Journal of Physical Anthropology *98*:519-525.

Schie M, and Cleaton-Jones P (1995) Dental caries in Namibia - The first national survey. Community Dentistry and Oral Epidemiology *23(5)*:262-265.

Skold HM, Klock B, Rasmusson CG, and Torstensson T (1995) Is caries prevalence underestimated in today's caries examination? A study on 16-year-old children in the county of Bohuslan, Sweden. Swedish Dental Journal *19(5)*:213-217.

Seah YH (1995) Torus palatinus and torus mandibularis: A review of the literature. Australian Dental Journal *40(5)*:318-321.

Silness J, Berge M, and Johannessen G (1995) A 2-year follow-up study of incisal tooth wear in dental students. Acta Odontologica Scandinavica *53(5)*:331-333.

Smith BH, and Tompkins RL (1995) Toward a life history of the hominidae. Annual Review of Anthropology *24*:257-279

Stoner KE (1995) Dental pathology in Pongo *satyrus borneensis*. American Journal of Physical Anthropology *98*:307-321.

Swindler DR (1995) James A. Gavan (1916-1994). American Journal of Human Biology *7(5)*:R1-R2.

Tanzer JM (1995) Dental caries is a transmissible infectious disease: The Keyes and Fitzgerald revolution. Journal of Dental Research *74(9)*:1536-1542.

Tumen D (1993) Anthropological study of ethnic groups in eastern Mongolia. Mongol Solongos Ulsyn Khamtrsan Erdem Shindkilgee 2:175-186.

Turner CG II (1995) Shifting continuity: Modern human origin. In S Brenner and K Hanihara (eds.): The Origin and Past of Modern Humans as Viewed from DNA. Singapore: World Scientific.

Türp JC, Vach W, Strub JR, Barbich K, and Alt K (1995) Erkennung von mandibulären Assymmetrien auf der Panoramaschichtaufnahma [The recognition of mandibular asymmetries in rotational panoramic radiographs]. Schweiz Monatsschr Zahnmed *105*:755-759.

DENTAL ANTHROPOLOGY ASSOCIATION MEMBERSHIP LIST

Aiello, Leslie C., University College London, Gower St., London, WCIE 6BT, ENGLAND, Telephone 44 71 387-7050 ext. 2464, Fax +44 71 380-7728, Email L.AIELLO@UCL.AC.UK (Human evolution, comparative anatomy)

Alexandersen, Verner, Department of Anthropology, Bledgamsvej 3, Panum Institute, Copenhagen, N. DK-2200, DENMARK, Telephone 44 972745

Allen, Mary Barbot, 415 Kern Street, West Palm Beach, FL 33405, USA, Telephone+075408585, MBALLEN@ACC.FAU.EDU (Biological anthropology)

Alt, Kurt W., Duesseldorf University, Institut für Rechtsmedizin, Moorenstraße 5, Dusseldorf D-40225, GERMANY, Telephone, 0211 311-2388, Fax 0211 311-2366 (Dental anthropology)

Alvesalo, Lassi, University of Oulu, Institute of Dentistry, Aapistie 3, Oulu 90220, FINLAND, Telephone (358-81) 537-5011, Fax (358-81) 534-5560 (Dental genetics)

American Dental Association, Bureau of Library Services, 211 East Chicago Avenue, Chicago, IL 60611-2678, USA, Telephone (312) 440-2647

Anemone, Robert L., Department of Anthropology, State University of New York, Geneseo, NY 14454, USA, Telephone (716) 245-5204, Fax (716) 245-5633, Email ANEMONE@UNO.CC.GENESEO.EDU (Growth and Development)

Anzilotti, Craig E., 732 Dover St., Baltimore, MD 21230, USA, Telephone (410) 837-7029 (Dental anthropology)

Aoba, T. J., 1875 Elizabeth Court, Deerfield, IL 60015, USA, Telephone (708) 945-6973 (Orthodontics, craniofacial growth)

Arneson, James, 506 Marine Way, Kodiak, AK 99615, USA, Telephone (907) 486-3269, Fax (907) 486-3260 (Siberian-Alaska links)

Arriaza, Bernardo, Department of Anthropology, University of Nevada Las Vegas, Las Vegas, NV 89154-5012, USA, Telephone (702) 895-1114, Fax (702) 895-3850, Email BEN@NEVADA.EDU (Paleopathology, South America)

Artaria, Mita, Department of Anthropology, Arizona State University, Tempe, AZ 85287-2402, USA, Telephone (602) 921-5445, Email MITA@asu.edu (Forensics, anthropometry)

Avci, Mehmet, Resit Galip Caddesi, Ilkadim Sokak 9/16, 06700 Gazi Osman Pasa, Ankara 06100, TURKEY

Bailey-Schmidt, Shara, Department of Anthropology, Arizona State University, Tempe, AZ 85287-2402, USA, Telephone (602) 965-6213, Email AZSBS@imap2.asu.edu (Dental morphology, human evolution)

Bang, Gisle, Department of Oral Pathology, School of Dentistry, Haukeland Hospital, Bergen N-5021, NORWAY

Becker, Marshall J., Department of Anthropology, West Chester University, West Chester PA 19383, USA, Telephone (610) 436-2884, Email MBECKER@WCUPA.EDU (Dental appliances)

Benfer, Jr., Robert A., Anthropology Department, University of Missouri, Columbia MO 65211, USA, Telephone (314) 882-9403, Fax (314) 884-5450, Email ANTHRAB@MIZZOU1.MISSOURI.EDU (Wear, attrition)

Bennike, Pia L., Institute of Anatomy B, Laboratory of Biological Anthropology, Bledgamsvej 3, University of Copenhagen, Copenhagen N. DK-2200, DENMARK, Telephone +45 3532-7229, +45 3537-1552, Email BENNIKE@MOC.PANUM.KU.DK

Bergschneider, Lisa, 505 W. 1st Street, Portales NM 88130, USA, Telephone (505) 356-9114, Email BERGSCHL@ziavms.enmu.edu

Bergschneider, Diane, 9276 N. Broadmoor Road, Milwaukee WI 53217, USA, Email pearls2@aol.com (dental hygenist)

Bettger, Athena M., 4400 SE 74th Ave., Portland OR 97206, USA, Telephone (503) 771-4329, Fax (503) 497-8638 (Dental anatomy and pathology, dental evolution, primates and primate fossils)

Beynon, A. David, Department of Oral Biology, Dental School, University of Newcastle-Upon-Tyne, Newcastle-Upon-Tyne, NE2 4BW, ENGLAND, Telephone 091 222 8391 (Histology)

Birkby, Walter H., Department of Anthropology, University of Arizona, Human Identification Laboratory, Tucson AZ 85721, USA, Telephone (520) 621-2827, Fax (520) 621-2088, Email HUMANID@anthro.arizona.edu (Forensic anthropology)

Boaz, Noel, International Institute for Human Evolutionary Research, Central Oregon University Center, 2600 NW. College Way, Bend OR 97701-5998, USA

Bogdan, Georgieann, 3601 Henderson Rd., Greensboro, NC 27410, USA, Telephone (910) 218-0369 (Physical anthropology)

Bolton, Richard, 4721 Dixie Highway, Waterford MI 48329, USA, Telephone (810) 673-7026 (Dental anthropology)

Botella, Miguel C., Laboratorio de Antropologia, Departamento de Ciencias Morfologicas, Facultad de Medicina, Avda. de Madrid s/n, Gradana 18012, SPAIN, Telephone 34-58-243533, Fax 34-58-252717, Email LRUIZ@UGR.ES (Dental paleopathology)

Brace, C. Loring, Museum of Anthropology, University of Michigan, Ann Arbor MI 48109, USA, Telephone (313) 936-2951, Fax (313) 763-7783, Email CLBRACE@MICH.EDU

Bracha, Stefan, 1132 Bishop Street, #307, Honolulu HI 96813, USA, Telephone (808) 521-7100, Fax (808) 566-1992

Brandt, Kari L. Department of Anthropology, University of Michigan, 1054 LSA Bldg., Ann Arbor MI 48108, USA, Telephone (313) 677-2751, Email KARI.BRANDT@UM.CC.UMICH.EDU (Dietary reconstruction)

Branstrator, Robert, 1168 Country Club Dr., Prescott, AZ 86303, USA, Telephone (602) 717-1491 (Paleo dental pathology)

Brewer-Carias, Charles, POBA International. #65, P.O. Box 52-1308, Miami FL 33152, USA, Telephone (582) 952-2411, (582) 952-2853 (Dental anthropology, genetics)

British Dental Association, Library, 64 Wimpole Street, London, W1M 8AL, ENGLAND

Bromage, Tim, Department of Anthropology, Hunter College, CUNY, 695 Park Avenue, New York, NY 10021, USA, Telephone (212) 772-5410, Fax (212) 772-5423, Email 398-8147@MCIMAIL.COM (Dental development)

Brown, Tasman, Department of Dentistry, The University of Adelaide, Adelaide 5005, SOUTH AUSTRALIA, Telephone (08) 3035968, Fax (08) 232-4062, Email TBROWN@ACHE.MAD.ADELAIDE.EDU.AU (Craniofacial growth, medical imaging)

Bubniak Jones, Erica, Department of Anthropology/MRC 112, NMNH/Smithsonian Institution, Washington, DC 20560, USA, Telephone (202) 786-2505, Fax (202) 338-7978, Email MNHAN145@SIVM.SI.EDU

Buck, Andrea L., 2716 East Cathedral Rock, Phoenix, AZ 85044, USA, Telephone (602) 759-7321 (Paleopathology, osteology)

Buikstra, Jane E., University of New Mexico, Department of Anthropology, Albuquerque, NM 87131, USA

Burnett, Scott E., Department of Anthropology, Arizona State University, Tempe, AZ 85287-2402, USA, Telephone (602) 921-1618, Email BURNETT@imap2.asu.edu (Bioarchaeology)

Butler, P.M., 23 Mandeville Court, Strode St., Egham, Surrey, TW20 9BU, UNITED KINGDOM, Telephone 784-432987 (Comparative dentition)

Cacciatore, Erin, 2838 W. Muriel Dr., Phoenix, AZ 85023, USA, Telephone (602) 504-0818 (Dental anthropology)

Calcagno, James M., Department of Sociology and Anthropology, Loyola University of Chicago, 6525 N. Sheridan Road, Chicago, IL 60626, USA, Telephone (312) 508-3445, Email JCALCAG@LUC.EDU (Odontometrics, mechanisms of dental reduction)

Caldwell-Ott, Peggy C., 62 Elm Avenue, Iselin, NJ 08830, USA, Telephone (908) 548-3951, Email OTT@ZODIAC.RUTGERS.EDU (Forensic anthropology)

Carrero, Rosanne, 4909 W. Joshua Blvd, #1078, Chandler, AZ 85226, USA, Telephone (602) 961-3136 (Paleopathology, Medical anthropology)

Case, D. Troy, 10365 E. Voltaire Ave., Scottsdale, AZ 85260, USA, Telephone (602) 451-9714, Fax (602) 451-9714, Email TROYCASE@IMAP1.ASU.EDU (Population affinity)

Ceranski, Dorothy, 903 W. Glendale Ave., Phoenix, AZ 85021, USA, Telephone (602) 242-2110 (Dental anatomy)

Chandrasekera, Malkanthi S., University of Peradeniya, Department of Anatomy, Faculty of Medicine, Peradeniya, SRI LANKA

Chikisheva, Tatyana A., Institute of Anthropology and Ethnography, Russian Academy of Sciences, Prospekt Lavrenteva 17, Novosibirsk 630090, RUSSIA

Clarke, J. Henry, OHSU School of Dentistry, 611 SW Campus Dr., Portland, OR 97201, USA, Telephone (503) 494-7633, (503) 494-4666 (Dental anatomy, dental evolution, dental pathology)

Colby, Gail R., Department of Anthropology, Texas A&M University, College Station, TX 77843-4352, USA, Telephone (409) 845-9884, Email GRC3113@TAMVMI.TAMU.EDU, (Dental metrics, discrete traits, population genetics)

Cologlu, Sedat, Istanbul Universitesi, Adli Tip Enstitusu, 34303 Cerrahpasa, Istanbul 06100, TURKEY

Cooke, Phillip L., 4025 West Bell Road #11, Phoenix, AZ 85023, USA, Telephone (602) 938-6550 (General dentistry)

Coppa, Alfredo, Dipartimento B.A.U. Sezione di Antropologia, Università di Roma "La Sapienza", P.le A. Moro, Roma, 5 - 00185, ITALY, Telephone 396-49912350, Fax (06) 4991-2900, Email COPPA@VAXRMA/4959387 (Dental reduction, dental genetics)

Cordell, Nancy Neville, 14624 153rd St. E., Orting, WA 98360, USA, Telephone (206) 893-2574 (Primate anatomy, evolution and odontology)

Corruccini, Robert S., Department of Anthropology, Southern Illinois University, Carbondale, IL 62901, USA, Telephone (618) 536-6651, Fax (618) 453-5037, Email RCORRUCC@SIU.EDU (Malocclusion, morphology)

Crespo, Edwin, University of Puerto Rico, Department of Sociology and Anthropology, Box 23345, San Juan, Puerto Rico 00931-3345, USA, Telephone (809)764-3145 or 763-5594, Email ED-CRESPO@UPR1.CLU.EDU (Dental and forensic anthropology)

Crummett, Tracey, Department of Anthropology, San Jose State University, San Jose, CA 95192-0113, USA, Telephone (408) 924-5710, Email CRUMMETT@isc.sju.edu

Cucina, Andrea, Dipartimento B.A.U. Sezione di Antropologia, Universita' di Roma "La Sapienza", P.le A. Moro 5, Roma, 00185, ITALY, Telephone 06 49912252, Fax 06 49912900, Email ACUCINA@ACC.FAU.EDU (Paleodontology, enamel hypoplasia)

Curtin, A. Joanne, Department of Anthropology, Ohio State University, 208 Lord Hall, 124 West 17th Ave., Columbus, OH, 43210-1364, USA, Telephone (614) 292-6466, Email ACURTIN@MAGNUS.OHIO.STATE.EDU (Cultural modifications, attrition, biological distance)

Dahlberg, Mrs. Albert A., 885 W. Stone Barn Road, Franklin Grove, IL 61031, USA, Telephone (815) 456-2106

Danforth, Marie Elaine, Department of Anthropology & Sociology, University of Southern Mississippi, Hattiesburg, MS 39406-5074, USA, Telephone (601) 266-5629, Fax (601) 266-6800, Email DANFORTH@WHALE.ST.USM.EDU (Histology, hypoplasias)

Davis, Peg, 1824 E. Caroline, Tempe, AZ 85284, USA, Telephone (602) 820-8363, (602) 838-2613 (Bioarchaeology, activity-induced morphology, affinity, discrete traits, pathologies)

Dean, M. Christopher Department of Anatomy & Devel. Biology, Gower Street, University College London, London, WC1E 6BT, ENGLAND, 71-387-9300 ext. 5245, Fax 01 71 209-0346 (Dental development, histology)

deHart, Craig, P.O. Box 129, Enterprise, UT 84725, USA, Telephone (801) 878-2647 (Fremont Anasasi cultures)

del Angel-E, Andres, Instituto de Investigaciones Antropologicas, Universidad Nacional Autonoma de Mexico, Circuito Exterior, Cd. Universitaria, Coyoacan, 04510, MEXICO, Telephone (5) 622-96-55, Fax (5) 622-96-51 (Biological affinities, microevolution, dental reduction)

Dentistry Library, School of Dentistry, University of Michigan, Ann Arbor, MI 48109, USA

Dokladal, Milan, Department of Anatomy, Section of Medical Anthropology, Medical Faculty, Masaryk Univ., Komenskeho nam. 2., Brno, 66243, CZECH REPUBLIC, Telephone 05 2132421 (Anthropology and anatomy of the dentition, eruption, development)

Donta, Alison, Department of Epidemiology, University of Massachusetts, Arnold House, School of Public Health, Amherst, MA 01002, USA

Dort Lambell, Barbara, 1666 Andorre Glen, Escondido, CA 92029, USA, Telephone (619) 738-0369 (Hereditary/environmental diet wear patterns)

Dreier, Frederick G., P.O. Box 979, Bella Vista, CA 96008, USA, Telephone (916) 547-2022 (Dental attrition, aging, dental pathology)

Dremov, Vladimir A., Ul. Sovetskaya dom 8 kv. 5, Tomsk 634050, RUSSIA

Drusini, Andrea, Dipartmento Di Biologia, Via Trieste 75, Padova 35121, ITALY, Telephone (049) 828-6305, Fax (049) 828-6300.

During, Ebba, Osteological Research Laboratory, University of Stockholm, Royal Castle Ulriksdal SOLNA, S-17071, SWEDEN, Telephone +46 81 61395, Fax +46 88 57 311 (Osteology, paleopathology, enamel defects, growth, development and wear of teeth)

Duyar, Izzet, Department of Anthropology, Faculty of Language, History and Geography, Sihhiye, Ankara 06100, TURKEY (Odontometrics, growth, pathology)

Eiken, Charla H., 2121 N. 134th Ave., Goodyear, AZ 85338, USA, Telephone (602) 935-7719 (Physical and medical anthropology)

DENTAL ANTHROPOLOGY ASSOCIATION MEMBERSHIP LIST

Erdal, Yilmaz Selim, Faculty of Letters, Department of Anthropology, Hacettepe University, Beytepe, Ankara 06100, TURKEY, Telephone 312-2351092 (Dental anthropology)

Faculty of Dentistry, Library, 124 Edward Street, Toronto M5G 1G6, CANADA

Fink, T. Michael, Department of Anthropology, Arizona State University, Tempe, AZ 85287-2402, USA, Telephone (602) 946-7832 (Osteology, paleopathology)

Fisher, Marc R., 13975 Connecticut Avenue, Suite #309, Wheaton, MD 20906, USA, Telephone (301) 871-7111, Fax (301) 871-7945 (Periodontics)

Fitzgerald, Charles M., University of Cambridge, Department of Biological Anthropology, Downing Street, Cambridge CB2 3D2, UNITED KINGDOM, Telephone +44-1223-335461, Fax +44-1223-335-460, Email CMFI8@PHX.CAM.AC.UK (Dental histology)

Fong, Michael R., Department of Anthropology, Arizona State University, Tempe, AZ 85287-2402, USA, Telephone (602) 730-5280, Email asmrf@asu.edu (Paleopathology, dental anthropology)

Fox, Sherry C., 108 N. Wallace Blvd., Ypsilanti, MI 48197, USA, Telephone (313) 482-4593 (Forensic anthropology, paleopathology)

Frayer, David, Department of Anthropology, Fraser Hall, University of Kansas, Lawrence, KS 66045-2110, USA, Telephone (913) 864-4103, (913) 864-5224, Email DWFMESS@KUHUB.CC.UKANS.EDU (Metrics and pathology)

Frost, Chuck, Box 239, 320 West Plane St., Bethel, OH 45106, USA, Telephone (513) 734-6055 (Temporomandibular disease, dental pathology)

Fu, Yong, Department of Anthropology, University of Oregon, Eugene, OR 97403, USA, Telephone (503) 687-6566, Email YFU@GLADSTONE.UOREGON (Dental morphology and pathology)

Gaines, John, 3001 High St., Suite A, Oakland, CA 94619, USA, Telephone (510) 436-4715 (Dentistry, cultural anthropology)

Galera, Virginia, Departmento de Biologia Animal, Facultad de Ciencias, Universidad de Alcala de Henares, Alcala de Henares, Madrid 28871, SPAIN, Telephone 34-1-8855074, Fax 34-1-8855080, Email BNGALERA@ALGALA.ES (Forensic anthropology, paleoanthropology)

Gantt, David, Department of Biology, Georgia Southern University, Landrum Box 8042, Statesboro, GA 30460-8042, USA, Telephone (912) 681-5964, Fax (912) 681-0845

Garcia-Godoy, Franklin, Department of Pediatric Dentistry, 7703 Floyd Curl Drive, University of Texas Health Science Center, San Antonio, TX 78284, USA, Telephone (210) 567-3533, Fax (210) 567-3522 (Dental anthropology)

Garralda, Maria Dolores, Sec. de Antropologia, Facultad de Biologia, Universidad Complutense de Madrid, ciudad Universitaria, Madrid, 28040, SPAIN, Telephone 34-1-3944936, Fax 34-1-3944947 (Paleoanthropology, morphometrical evolution)

Gartrell, James R., 4466 Ferncroft Road, Mercer Island, WA 98040, USA, Telephone (206) 232-1696 (Prehistory of Columbia Basin and the Southwest)

German, RZ, Department of Biology, University of Cincinnati, ML-006, Cincinnati, OH 45221, USA, Telephone (513) 556-9749, Email REBECCA.GERMAN@UC.EDU (Evolution, functional morphology, ontogeny)

Ghosh, Asok K. 16B R.K. Chatterjee Road, Calcutta 700 042, INDIA, Calcutta Telephone 42-65-17 (Dental anthropology- change and evolution)

Giacobbe, John A., 1205 Pecan Dr., Roswell, NM 88201, USA, Telephone (505) 624-1863, Fax (505) 622-0661, Email catalinus@aol.com (Forensic osteology, archaeology)

Gibson, Ben W., 201-44-12th Ave. S., Cranbrook, BC, V1C 2R7, CANADA, Telephone (604) 426-5865, Fax (604) 489-3265 (Forensic odontology)

Gill, Darbi, 1704 Bryn Mawr NE, Albuquerque, NM 87106, USA,Telephone (505) 268-6559, Email dmgill@unm.edu (Southeast Asia/Native Americans)

Giusti, Juan B., Pio Baroja W5-14, Hucares, Rio Piedras, PUERTO RICO 00926, Telephone (809) 761-7662 (Dental epidemiology, dental anthropology)

Goaz, Paul W., 3302 Gaston Ave., Baylor Dental College, Dallas, TX 75246, USA, Telephone (214) 828-8390 (Dental morphology)

Goodman, Alan, Natural Sciences, Hampshire College, Amherst, MA 01002, USA, Telephone (413) 582-5372 (413) 582-5448, Email AGOODMAN@HAMP.HAMPSHIRE.EDU (Histology and development)

Greenfield, Leonard, Department of Anthropology, Temple University, Philadelphia, PA 19122, USA, Telephone (215) 204-1489, Email GREEN@VM.TEMPLE.EDU (Primate and human evolution)

Gren, Mathias, Kitimenpolku 22 C 43, Oulu 90500, FINLAND, Telephone 981-5375532 (Orthodontics)

Griffin, Mark C., 616 New York St., Lafayette, IN 47901, USA, Telephone (317) 429-5406, Fax (317) 274-2347 (Dental morphology)

Grine, Frederick E., Department of Anthropology, State University of New York, Stony Brook, NY 11794, USA, Telephone (516) 632-7622, Fax (516) 632-9164, Email FGRINE@EPO.SOM.SUNYSB.EDU (Early hominid evolution, enamel structure)

Guatelli-Steinberg, Debbie, 4945 Fox Hollow Rd., Eugene, OR 97405, USA, Telephone (503) 344-2752, GUATELLI@DARKWING.UOREGON.EDU (Enamel hypoplasia, primate dentition)

Gulec, Erksin, Dil ve Tarih Cografyo Fakultesi, Paleoantroploji Anabilim Dali, Sihhiye, Ankara, 06100, TURKEY, Telephone (312) 310-3280 ext.1732, Email ERKSIN@VM.CC.METU.EDU.TR (Dental pathology, odontometrics, dental evolution)

Hack, Gary, University of Maryland, Dental School, 666 West Baltimore St., Baltimore, MD 21201-1586, USA, Telephone (410) 706-1586

Haeussler, A.M., Department of Anthropology, Arizona State University, Tempe, AZ 85287-2402, USA Telephone (602) 965-0158, Fax (602) 957-8851, Email AGAMH@ASUACAD (Morphometrics, Russia, Ukraine, Georgia, Paleo-Indians, peopling of the New World)

Haglund, William, 24104 43rd Ave. West, Mountlake Terrace, WA 98043, USA, Telephone (206) 771-9408, Fax (206) 287-8555 (Forensic anthropology)

Halberstein, R.A., Department of Anthropology, University of Miami, Coral Gables, FL 33124-2005, USA, Telephone (305) 661-1395, Fax (305) 284-2110 (Dental health, nutrition, fossil teeth)

Hall, LaJoyce, Department of Anthropology, Arizona State University, Tempe, AZ 85287-2402, USA, Telephone (602) 437-2141 (Affinity, subadults)

Hall, Roberta, Department of Anthropology, Oregon State University, Corvallis, OR 97331-6403, USA, Telephone (503) 737-3860, Email HALLR@CCMAIL.ORST.EDU (Native American dental health & diet)

Hanihara, Kazuro, 2-1-2-503, Higashi-Sakaidani-cho, Oharano, Nishikyo-ku, Kyoto, 610-11, JAPAN, Telephone +81-075-331-8831, Fax +81-75-331-8831 (Dental Anthropology, Human Evolution)

Hanihara, Tsunehiko, Department of Anatomy, Tohoku University School of Medicine, 2-1 Seiryo-cho, Aoba-ku, Sendai, 980-77, JAPAN, Telephone 022-274-1111 ext. 2142, Fax 022-272-7273 (Dental anthropology, population history of East Asia)

Harris, Edward F., Department of Orthodontics, College of Dentistry, University of Tennessee, 875 Union Avenue, Memphis, TN 38163, USA, Telephone (901) 448-6265, Fax (901) 448-8745, Email EHARRIS@UTMEM1.UTMEM.EDU

Hawkey, Diane, Department of Anthropology, Arizona State University, Box 872402, Tempe, AZ 85287-2402, USA, Telephone (602) 965-5016, Fax (602) 965-7671, Email DENTANTH@ASUACAD (South Asia, dental morphology, peopling of the world)

Haydenblit, Rebeca, Department of Biological Anthropology, University of Cambridge, Downing Street, Cambridge, CB2 3DZ, ENGLAND, Telephone (44) 223-335463, Fax 44 223 335460, Email RH10007@UK.AC.CAM.PHX (Dental morphology, population variation, New World)

Heathcote, Gary, Anthropology Lab, University of Guam, UOG Station, Manilla, 96923, GUAM, Fax 671-734-7930, Email zinjman@UOG.EDU

Hecht Edgar, Heather, 6859 Eastridge #1107, Dallas, TX 75231, USA, Telephone (214) 692-8631, Fax (214) 692-8631, Email bhedgar@aol.com (Paleopathology)

Heiklinen, Tuomo, Kelokatu 22, Kempele 90450, FINLAND, Telephone Finl. +81+512033, Fax +81 5375560 (Ontogenesis, embryology)

Hemphill, Brian E., Department of Anthropology, Vanderbilt University, Box 6050 Station B, Nashville, TN 37235, USA, Telephone (615) 343-2518, Email HEMPBE@CRTVAX.VANDERBILT.EDU (Dental morphology, odontometrics, India)

Henneberg, R. J., Department of Anatomy and Human Biology, University of the Witwatersrand Medical School, 7 York Road, Parktown, 2193, SOUTH AFRICA, Telephone 27-4-6739994, Email O55RJHS@WITSVMA.WITS.AC.ZA (Dental anthropology)

Herrmann, Nicholas, 252 South Stadium, Department of Anthropology, University of Tennessee, Knoxville, TN 37996-0720, USA, Telephone (423) 974-4408, Email HERRMANN@utkux.utk.edu (Southeastern Archaic archaeology, oral pathology)

Hershey, Stephen E., 390 Park, Suite 211, Birmingham, MI 48009, USA, Telephone (810) 642-9220, Fax (810) 642-0142 (Orthodontics, forensic odontology)

Hershkovitz, Israel, Sackler School of Medicine, Division of Anatomy & Anthropology, Tel Aviv University, P.O.B. 39040, Tel Aviv 68878, ISRAEL, Telephone 972-3-6409495, Fax 972-3-6408287, Email ANATOM2@TAU.AC.IL (Dental anthropology)

Hildebolt, Charles F., Mallinckrodt Institute of Radiology, Box 8131, 510 S. Kingshighway Blvd., St. Louis, MO 63110, USA, Telephone (314) 362-8491, Email CHARLES@DAVEY.WUSTL.EDU (Alveolar bone)

Hillson, Simon W. Institute of Archaeology, 31-34 Gordon Square, University College London, London WCIH OPY, ENGLAND, Telephone 044171 387 7050 x4784 (General dental anthropology, histology)

Hinkes, Madeleine J., 2251 Worden St., #9, San Diego, CA 92107, USA, Telephone (619) 221-0282 (Forensic anthropology)

Hodges, Denise C., 605 Davy St., Dekalb, IL 60115, USA

Holland, Kathryn M., 3208 Doris Street, Anchorage AK, 99517-2028, USA, Telephone (907) 277-8244 (Aleutian and Arctic anthropology)

Hollander, Gena, Anthropology Department, Irvine Valley College, 5500 Irvine Center Drive, Irvine, CA 92720, USA, Telephone (714) 559-9300 ext. 238 (Third molars, dental hominid evolution)

Holman, Darryl, Department of Anthropology, Room 409 Carpenter Bldg., Penn State University, University Park, PA 16802, USA, Telephone (814) 237-8391, Email HOLMAN@POP.PSU.EDU (Genetics, deciduous emergence)

Hunter, Lisa, 606 Denbigh Boulevard, Suite 303, Newport News, VA 23602, USA, Telephone (804) 874-0420 (General dentistry)

Hutton MacDonald, Rachel, Department of Biological Anthropology, University College London, Gower Street, London WC1E 6BT, UNITED KINGDOM, Email r.macdonald@ucl.ac.uk (Oral pathology, diet, dental microwear)

Hylander, William L., Department of Biological Anthropology, and Anatomy, Duke University Medical Center, Box 3170, Durham NC, 27710, USA, Telephone (919) 684-5782, Fax (919) 684-8034, Email HYLAN@MC.DUKE.EDU (Craniofacial biomechanics)

Ideguchi, Tadashi, Department of Anatomy and Anthropology, Kyushu Dental College, 2-6-1 Manazuru, Kokurakita-ku, Kitakyushu Fukuoka, 803, JAPAN, Telephone +81-93-582-1131 ext. 644, Fax 81-93-582-6000 (Tooth morphology)

Indriati, Etty, 5621 S. University Ave., Chicago, IL 60637, USA, Telephone (312) 324-4816, Fax (312) 324-4816, Email INDR@kimburk.uchicago.edu (Paleopathology, Dental Anthropology)

Institute of Human Origins, 2453 Ridge Rd., Berkeley, CA 94709, USA, Telephone (510) 845-0333, Fax (510) 846-9453

Irish, Joel D., Department of Anthropology, University of New Mexico, Albuquerque, NM 87131, USA, Telephone (505) 217-3240, Email jirish@unm.edu (Dental morphometrics of Africa, numerical taxonomy, paleopathology, osteology)

İşcan, Mehmet Yaşar, Department of Anthropology, Florida Atlantic University, Boca Raton, FL 33431-0991, USA, Telephone (407) 367-3230, Email ISCAN@ACC.FAU.EDU. (Odontometrics, forensics, dental pathology)

Isler, Robert, 17870 Stonebridge Court, Boca Raton, FL 33498, USA

Ives, Vickie Souza, 1007 W. 1st St. #214, Tempe, AZ 85281, USA, Telephone (602) 829-4941 (Prehistoric adult female mortality, Mississippian populations, Oceanic archaeology)

Jacanin, Rhea, 3001 N. 21st Place, Phoenix, AZ 85016, USA, Telephone (602) 954-0612 (Use of computers in dental anthropology)

Jacobs, Kenneth, Department d'Anthroplogie, Universite de Montreal, CP 6128/Succ. 'A', Montreal, H3C 3J7, CANADA, Telephone (514) 343-6490, Fax (514) 343-2494, Email JACOBSK@ERE.UMONTREAL.CA (European biological pre-history)

Jacobson, Alex, 3605 Dover Court, Birmingham, AL 35223, USA, Telephone (205) 879-0557, Fax (205) 879-6611 (Orthodontics)

Jayasinghe, J.A.P., Anatomy Department, Medical Faculty, Galle, SRI LANKA

Jimenez-Brobeil, Sylvia A., Laboratorio de Antropolgia, Departamento de Ciencias Morfolgicas, Facultad de Medicina, Avda. de Madrid s/n, Granada 18012, SPAIN, Telephone 34-58-243533, Fax 34-58-252717. Email LRUIZ@UGR.ES (Dental paleopathology)

Jones, Alan, 116 Old Road, East Cowes, Isle of Wight PO32 6AX, ENGLAND, Telephone (0983)-291438 (Dental mutilation)

Jones, Gram, 2520 E. Huntington Drive, Tempe, AZ 85282, USA, Telephone (602) 777-1851, Email gpg@asu.edu (Dental Anthropology)

Joshi, MR, 4 Vikas Housing Society, Near Drive-in-Cinema, Memnagar, Ahmedabad, 380 052, INDIA

Kaidonis, John A., Department of Dentistry, The University of Adelaide, Adelaide 5005, SOUTH AUSTRALIA, Telephone (08) 3033059, Fax (08) 232-4062 (Tooth wear, evolution, adaptation, variation)

Kamegai, Tetsuya, Department of Orthodontics, Iwate Medical College, 1-3-27 Chuo-Dori, Morioka City, Iwate, 020, JAPAN, Telephone 0196-51-5111 ext. 4511, Fax 0196-53-2547 (Orthodontics, anthropology)

Kanazawa, Eisaku, Department of Anatomy, School of Dentistry, 2-870-1 Nishi Sakaecho Matsudo, Nihon University, Chiba, 271, JAPAN, Telephone 0473-68-6111, Fax 0473-64-6295

Keene, Harris J., University of Texas - Houston H.S.C., Department of Stomatology-Pathology, Dental Branch - Room 4.131, Houston, TX 77225, USA, Telephone (713)794-1853 (Evolutionary biology/Paleopathology)

Kennedy, Kenneth A. R., Ecology and Systematics, Corson Hall, Cornell University, Ithaca, NY 14853-2701, USA, Telephone (607) 255-6582, Fax (607) 255-8088, Email KAKIO@CORNELL.EDU (Human paleontology, forensic anthropology)

Keso, Larson R., 3501 Northwest 50th Street, Oklahoma City, OK 73112, USA, Telephone (405) 943-8330 (Orthodontics)

Kieser, Jules, P.O. Box 90327, Bertsham 2013, Johannesburg, 2013, SOUTH AFRICA, 6838318 (Fluctuating asymmetry)

King, Christopher, Florida Atlantic University, Department of Anthropology, P.O. Box 3091, Boca Raton, FL 33431-0991, USA, Telephone (407) 367-3230,, Fax (407) 367-2744, Email ckin8144@acc.fav.edu

Kneller, Timothy D. 18749 Marsh Lane #2314, Dallas, TX 75287, USA, Telephone (214) 307-36-58 (General dentistry, forensics)

Kocsis, Gabor, Department of Dentistry & Oral Surgery, Szent-Gyorgyi Albert Medical University, 6720 Szeged, Tisza L. korut, 64, HUNGARY, Telephone 36 62 310-011, Fax 36 62 321-796 (Dental anomalies, orthodontics, paleopathology)

Koritzer, DDS, Richard T., 7367 Furnace Branch Road, Glen Burnie, MD 21060, USA, Telephone (410) 768-2131 (Anatomy, dental anthropology, biomechanics)

Kosa, Ferenc, Department of Forensic Medicine, Albert Szent-Gyorgyi Medical University, H-6724 Szeged, Kossuth Lajos sugarut 40, HUNGARY, Telephone (62) 12-875, Fax (62) 26-444 (Forensic pathology, forensic odontology and osteology)

Kussick, Leon, 349 E. Northfield Road, Livingston, NJ 07039, USA, Telephone (201) 994-0830, Fax (201) 994-0831 (Orthodontics, bone remodeling, mid-face growth, periosteal-muscle adjustment or slippage)

Kuykendall, Kevin L., Department of General Anatomy, School of Dentistry, University of the Witwatersrand, Johannesburg, WITS 2050, SOUTH AFRICA, Email 097KLKS@COSMOS.WITS.AC.ZA (Dental development, hominoids/hominids)

Kvaal, Sigrid, Louisegate 4, Oslo N-0168, NORWAY, Telephone (+47) 22460753 (Age-related dental changes)

La Rua, Conception de, Departmento de Biologia Animal y Genetica, Facultad de Ciencias, Universidad del Pais Vasco, Apartado 644, Bilboa, 48080, SPAIN, Telephone 4 4 4647700 x2611, Fax 4 4 4648500, Email GGPRUVAC@lg.ehu.es, Physical Anthropology/Dental Biology of Human populations

Lampl, Michelle, Department of Anthropology, Emory University, Atlanta, GA 30322, USA, Telephone (404) 727-4260, Email ANTML@EMORY.ANTHRO.EDU (Growth and development, hard tissue metabolism)

Langsjoen, Odin M., 301 Morley Parkway, Duluth, MN 55803, USA, Telephone (218) 724-4260 (Dental anatomy, pathology)

Larsen, Clark S., Research Laboratories of Anthropology, Alumni Building, Box 3120, University of North Carolina, Chapel Hill, NC 27599-3120, USA, Telephone (919) 962-3844, Fax (919) 932-1613, Email CSLARSEN@EMAIL.UNC.EDU

Laughlin, William S., Department of Ecology and Evolutionary Biology, Box U-154, University of Connecticut, Storrs, CT 06269-4154, USA, Telephone (203) 486-2556, Fax (203) 486-2786 (First Americans, Aleuts and Eskimos)

Lincoln, Lorrie, 1426 S. Kenneth Pl., Tempe, AZ 85281, USA (Bioarchaeology)

Lipschultz, Joshua G., Department of Anthropology, Arizona State University, Tempe, AZ 85287-2402, USA, Telephone (602) 730-5650, Email LIPPY@IMAP1.ASU.EDU (Dental anthropology, Middle East)

Little, Lisa M., 11281 Kelly Lane, Los Alamitos, CA 90720, USA, Telephone (310) 596-1195

Liversidge, Helen, Hard Tissue Research Unit, Anatomy Department, University College London, Gower Street, London WCIE 6BT, UNITED KINGDOM, Telephone 071 387 7050 x3315, Fax 071 391 1302 (Dental development)

Loots, Marius, P.O. Box 5023, Pretoria 0001, SOUTH AFRICA, Telephone 12 319-2144, Fax 12 319-2240, Email MARIUS.LOOTS@SPECTRUM.IACCESS.ZA

Loth, Susan R., Florida Atlantic University, Department of Anthropology, Boca Raton, FL 33431, USA, Telephone (407) 367-3230, Email LOTH@ACC.FAU.EDU (Forensic anthropology)

Loudon, Bente T., 41 Tytherton Rd., London N19 4PZ, ENGLAND, 071-272-1952

Lovell, Nancy C., Department of Anthropology, 13-15 Tory Building, University of Alberta, Edmonton, Alberta T6G 2H4, CANADA, Telephone (403) 492-0186, Fax (403) 492-5273, Email nancy.lovell@ualberta.ca

Lukacs, John R., Department of Anthropology, University of Oregon, Eugene, OR 97403, USA, Telephone (503) 346-5112 (Odontometrics, paleopathology, morphology, Asia)

Lundeen, R. Curtis, School of Dentistry, 611 S. W. Campus Drive, Oregon Health Sciences University, Portland, OR 97201-3097, USA, Telephone (503) 494-8930, Fax (503) 494-4666, Email LUNDEENC@OHSU.EDU (Radiology, forensic odontology)

Lunt, Dorothy A., Oral Biology Group, University of Glasgow Dental School, 378 Sauchiehall Street, Glasgow G2 3JZ, SCOTLAND (Dentition in prehistoric/mediaeval periods)

Lytle, James D., 121 William Howard Taft Rd., Cincinnati, OH 45219, USA, Telephone (513) 961-8113 (Prosthodontics)

Maas, Mary C., Department of Biological Anthropology and Anatomy, Box 3170, Duke University Medical Center, Durham, NC 27710, USA

Macchiarelli, Roberto, Soprintendenza Speciale Museo Nazionale, Preistorico Etnografeo "L.P. Pigorini", P.LE G.Marconi, 14, Roma 00144, ITALY, Telephone 06 5923057, Fax 06 5919132 (Skeletal biology)

Malhotra, Kailash C., Anthropometry and Human Genetics Unit, Indian Statistical Institute,. 203 Barrackpore Trunk Rd., Calcutta, 700 035, INDIA, Telephone 52-6694 (Biological anthropology)

Malville, Nancy J., Department of Anthropology, CB233, University of Colorado, Boulder, CO 80309-0233, USA, Telephone (303) 442-8678, MALVILLN@SPOT.COLORADO.EDU (Enamel hypoplasia)

Mandell, Charles S., 3220 Stirling Road, Hollywood, FL 33021, USA, Telephone (305) 966-0404, Fax (305) 987-8378 (General dentistry)

Mann, Alan, Department of Anthropology, University of Pennsylvania, Philadelphia, PA 19104-6398, USA, Telephone (215) 898-6986, Fax (215) 898-7462, Email AMANN@SAS.UPENN.EDU (Microstructure, evolution of hominid dentition)

Marcsik, Antonia, Department of Anthropology, Attila Jozef University, 6701 Szeged Egyetem u. 2., P. O. Box 660, Szeged, H-6701, HUNGARY, Telephone 36-62-312-921 (Anomalies of tooth shape and size)

Marielva, Torino, Via Angelini Tito, Napoli, 10-80129, ITALY

Markowitz, Diane L. Department of Geography and Anthropology, Rowan College of N.J., 201 Mullica Hill Road, Glassboro, NJ 08028, USA, Telephone (609) 256-4500, Fax (609) 926-1307, Email MARKOWITZ@SATURN.ROWAN.EDU (Craniofacial growth and development)

Marks, Murray K., Department of Anthropology, University of Tennessee, 250 South Stadium Hall, Knoxville, TN 37996-0720, USA, Telephone (615) 974-4408, Fax (615) 974-2686, Email MMARKS@UTKV.UTK.EDU (Dental histology, enamel histology, bioarchaeology)

Marshall, Thomas D., Department of Restorative Dentistry, 7703 Floyd Curl Drive, University of Texas Health Sciences Center, San Antonio, TX 78284, USA, Telephone (210) 567-3688 (Dentistry)

Mayes, John O., 1201 W. Governor Road, P. O. Box 25, Hershey, PA 17033, USA, Telephone (717) 533-6200, Fax (717) 533-6458 (General dentistry)

Mayhall, John T., Faculty of Dentistry, University of Toronto, 124 Edward Street, Toronto, Ontario M5G1G6, CANADA, Telephone (416) 979-4908 ext. 4494, Fax (416) 979-4936, Email john.mayhall@utoronto.ca (Dental Morphology)

McCabe, Barbara Q., P. O. Box 356, Green Cove Springs, FL 32043, USA, Telephone (904) 284-4110

McCabe, John B., 407 Walnut St., Green Cove Springs, FL 32043, USA, Telephone (904) 284-0773 (General dentistry)

McGeehan, Laura, Department of Anthropology, Arizona State University, Tempe, AZ 85287-2402, USA, Telephone (602) 804-0695 (Primatology, museum studies)

McKee, J.K., Department of Anatomy and Human Biology, Witwatersrand Medical School, 7 York Rd., Parktown 2193, SOUTH AFRICA, Telephone (011) 647-2405, Email 055JKMS@WITSVMA.WITS.AC.ZA (Dental reduction, paleoanthropology)

McKinstry, Robert E., 5547 Beverly Place, Pittsburgh, PA 15206, USA, Telephone (412) 661-2963 (Maxillofacial prosthodontics, forensic anthropology)

Medvedev, G.I., Department of Archaeology and Ethnography, Historical Faculty, Irkutsk State University, Ul. Karla Marksa 1, Irkutsk 66400, RUSSIA

Merbs, Charles F., Department of Anthropology, Arizona State University, Tempe, AZ 85287-2402, USA, Telephone (602) 965-4537 (Pathology, forensics)

Minturn, Penny Dufoe, Box 505, Tonto Basin, AZ 85553, USA

Miura, Fujio, School of Dental Medicine, Tsurumi University, 2-1-3 Tsurumi, Tsurumi-ku, Yokohama, 230, JAPAN, Telephone 045-582-8868, Fax 045-582-8868 (Orthodontics)

Mizoguchi, Yuji, Department of Anthropology, National Science Museum, 3-23-1 Hyakunin-cho, Shinjuku-ku, Tokyo, 169, JAPAN, Telephone 03-5332-7170, Fax, 03-3364-7104, Email MZGCH@TANSEI.CC.U-TOKYO.AC.JP (Craniofacial morphology, morphogenesis)

Moggi-Cecchi, Jacopo, Istituto di Antropologia, Universita' di Firenze, Via del Proconsolo, 12, Firenze 50122, ITALY, Telephone 55-239.8065, Fax 55-239-8065, Email UNIFIANT@VM.IDG.FI.CNR.IT (Dental morphology, hominid evolution)

Molnar, Stephen, 3414 W. Desert Bend Loop, Tucson, AZ 85741, USA

Moore-Jansen, Peer H., Department of Anthropology, The Wichita State University, Wichita, KS, 67260-0052, USA, Telephone (316) 689-3195, Fax (316) 689-3795, Email MOOREJA@TWSUVM.UC.TWSU.EDU (microwear, diet. reconstruction)

Moorrees, Coenraad F. A., 4 Peacock Farm Road, Lexington, MA 02173-6317, USA, Telephone (617) 862-1162

Morgan, Esther, USFS Tonto National Forest, 1009 E. Hwy 260, Payson, AZ 85541, USA, Telephone (602) 474-7900, Fax (520) 474-7966, e.morgan.gov@xt:400 (Dental pathology, attrition, enamel hypoplasia)

Morris, Donald H., Department of Anthropology, Arizona State University, Tempe, AZ 85287-2402, USA, Telephone (602) 965-6213 (Dental anthropology of Africa)

Moss, Melvin L., Department of Anatomy & Cell Biology, Columbia University, 630 W. 168th St., New York, NY 10032-3702, USA, Telephone (212) 305-5647, Fax (212) 305-1609, Email MOSS@CUCERS1.CIVIL.COMUMBIA.EDU (Dental anatomy, histology)

Moss-Salentijn, Letty, Department of Anatomy & Cell Biology, Columbia University, 630 W. 168th St., New York, NY 10032-3702, USA, Telephone (212) 305-5647, Fax (212) 305-7134, Email lm23@columbia.edu (Dental development, histology)

Mossman, Ned, 440 NW 10th Street, Corvallis, OR 97330, USA, Telephone 752-4995

Moyes, Holley, 102 N.E. 17th St., Delray Beach, FL 33444, USA, Telephone (407) 278-5314, Email HMOYES@FAU.CL.EDU

Mueller, William A., The Children's Hospital, 1056 E. 19th Ave., Denver, CO, 80218, USA, Telephone (303) 861-6788, Fax (303) 861-3992 (Pediatric dentistry)

Natural History Museum, Acquisitions Section, Department of Library Services, Cromwell Road, London SW7 5BD, ENGLAND

Navsa, Nadia, Department of General Anatomy, University of the Witswatersrand, Johannesburg 2050, SOUTH AFRICA, Telephone (011) 407-8671, Fax (011) 403-7990, Email 097Navsa@Cosmos.WITS.AC.ZA (Dental morphology)

Neiburger, Ellis J., 1000 North Avenue, Waukegan, IL 60085, USA, Telephone (708) 223-5077, Fax (708) 223-5077, 102254.525@Compuserve.com (Hypoplasia, forensics)

Nelson, Greg C. Department of Anthropology, University of Oregon, Eugene, OR 97403-1218, USA, Telephone (541) 346-5102, Fax (541) 346-0668, Email GCNELSON@oregon.uoregon.edu (Dental pathology, occlusal variation, paleoanthropology)

Newell, Elizabeth, 2921-A Queen Lane, Philadelphia, PA 19129, USA, Telephone (215) 849-5284, Fax (215) 849-1276, Email enewell@vm.temple.edu

Noikura, Takenori, Department of Dental Radiology, Kagoshima University Dental School, 8-35-1 Sakuragaoka, Kagoshima, 890, JAPAN, Telephone 992-75-6270, Fax 992-75-6278 (Dental radiology)

Oms, Josep I., Placa Tetuan 26 7o 3a, Barcelona 08010, SPAIN, Telephone 246 32 08 (Odontometry, morphological traits, paleopathology)

Orban, Rosine, Institut Royal des Sciences Naturelles de Belgique, Section d'Anthropologie et de Prehistoire, 29 Rue Vautier, Bruxelles B-1040, BELGIUM, Telephone 322-648-0475 (Paleoanthropology, odontometry)

Ozaki, Tadashi, Nihon University, School of Dentistry at Matsudo, Department of Anatomy, 2-870-1, Sakaecho-Nishi, Matsudo, Chiba, 271, JAPAN, Telephone 0473-68-6111 (Dental anatomy and anthropology)

Ozbek, Metin, Faculty of Letters, Department of Anthropology, Hacettepe University, Beytepe, Ankara, 06100, TURKEY, Telephone 90-4 (2351092), Fax 90-4-2352533 (Dental anthropology)

Ozolins, Erik, 10700 Academy Road NE, #2317, Albuquerque, NM 87111, USA, Telephone (505) 271-1244, ozolins@unm.edu (Biological distance studies)

Panzer, Arthur, 8 Church St., Bernardsville, NJ 07924, USA, Telephone (908) 766-0333 (General dentistry)

Pappanastos, Leon E., 140 Twin Oaks Drive, Los Gatos, CA 95032, USA, Telephone (408) 356-8554, Email LEONPAP@aol.com (Occlusal and functional wear)

Pastor, Robert F., Department of Cell Biology and Anatomy, Johns Hopkins University, 725 Wolf St., Baltimore, MD 21211, USA, Telephone (410) 955-7034, Fax (410) 955-4129, Email RPASTOR@WELCHLINK.WELCH.JHU.EDU (Functional morphology, microwear, paleoanthropology, Asia, Central America)

Pasveer, Juliette M., Department. of Anatomy and Embryology, Oostersingel 69, Groningen, 9713 E2, NETHERLANDS, Telephone +3150632469, Fax +3150632461, J.M.PASVEER@MED.RUG.NL (Physical anthropology, Pacific area, archaeology)

Peck, Sheldon, 1615 Beacon Street, Newton, MA 02168, USA, Telephone (617) 969-1416, Fax (617) 527-2025, PECKS@warren.med.harvard.edu (Odontometrics, orthodontics, dental anomalies)

Penton, Misty, 749 West 13th Ave. Apt. A, Eugene, OR 97402, USA, Telephone (503) 465-9158 (Pathology, nutrition)

Pereira, Cleber Bidegain, Av. Duque de Caxias, 1739, Uruguaiana CEP, 97500-905, BRAZIL

Phalen, Steven, 6510 N. 11th Avenue, Phoenix, AZ 85013-1012, USA, Telephone (602) 246-9660, thirteen@imap2.asu.edu (Caries in contemporary societies)

Phillips-Conroy, Jane, Department of Anatomy, Washington University School of Medicine, 660 S. Euclid Avenue, St. Louis, MO 63110, USA, Telephone (314) 362-3396, Email BABOON@THALAMUS.WASTL.EDU (Nonhuman primate dentition)

Pietrusewsky, Michael, Department of Anthropology, University of Hawaii, 2424 Maile Way, Porteus 346, Honolulu, HI 96822, USA, Telephone (808) 956-6653, Fax (808) 956-9541, Email MIKEP@UHUNIX.UHCC.HAWAII.EDU (Skeletal/dental biology, Pacific-Asia)

Pompa, Jose Antonio, Direccion de Anthropologia Fisica, Paseo de la Reforma y Calzada Gandh, Mexico DF, CP, 11560, MEXICO

Powell, Joseph F., Department of Anthropology, University of New Mexico, Albuquerque, NM 87131, USA, Email jpowell@unm.edu (Odontometrics, New World dental evolution)

Power, Catryn, Department of Archaeology, University College, Cork, REPUBLIC OF IRELAND, Telephone 021-276871 ext. 4443, Fax 021 272127 (Dental anthropology, paleopathology)

Preston, C.B., P.O. Box 77066, Fon Tainebleau, 2193, SOUTH AFRICA, Telephone 0114078596, Fax 0113396216, Email 130FD1@WITSVMB.WITS.AC.AZ (Cranial Growth)

Puech, Pierre F., 2 Rue Saint Antoine BP 191, Nimes, 30012, FRANCE, Telephone 66-673226, Fax 33 66-67 97 58

Radlanski, Ralf J., Freie Universität Berlin, ZMK WE24, Aßmannshauser Str. 4-6, 14197, Berlin-Wilmersdorf, GERMANY, 030-8290-271, Fax 030-8290-392, Email RADLANSK@FUB46.ZEDAT.FU-BERLIN.DE

Rami Reddy, V, Univ. Professor of Physical Anthropology (SV University), 517 Reddy and Reddy Colony, Tirupati, Andhra Pradesh, 517501, INDIA, Telephone 91-08574-21308 (Human genetics, physical anthropology, dental anthropology)

Rega, Elizabeth, Department of Biology, Cal State Univ. San Bernadino, 5500 University Parkway, San Bernadino, CA 92407, USA

Regan, Marcia, 9013 E. Ludlow Drive, Scottsdale, AZ 85260-7056, USA, Telephone (602) 965-7181 (Pathology and aging)

Reichardt, Stephen C., Department of Anthropology, Arizona State University, Tempe, AZ 85287-2402, USA, Telephone (602) 345-8135 (Dental anthropology)

Reid, Cynthia, Anatomy and Human Biology, Medical School, 7, York Road, Parktown 2193, Johannesburg, 2193, SOUTH AFRICA, Telephone 6472114 (Carabelli's cusp)

Reid, Michael C., 6627 South 43rd Place, Phoenix, AZ 85040, USA, Telephone (602) 437-2141 (Affinity)

Reinhardt, Gregory A., 6438 E. Welham Road, Indianapolis, IN 46220, USA, (317) 788-3440, Fax (317) 788-3275, Email REINHARDT@GANDLF.UINDY.EDU (Attrition, Native North Americans)

Richards, Gary, Department of Anthropology, University of California, Berkeley, CA 94720, USA, Telephone (510) 849-0214, Email grichard@uclink2.berkeley.edu (Craniofacial growth and development, hominid evolution paleopathology)

Richards, Lindsay C., Department of Dentistry, The University of Adelaide, South Australia 5005, AUSTRALIA, (618) 223-9305, Fax (618) 232-4062, Email RICHARDS@DENTISTRY.ADELAIDE.EDU.AU

Rijpma, Femke, 646 E. 5th Street, Tucson, AZ 85705, USA

Roberson, Jr., W.V. 6392 West Spring Mountain Rd., Las Vegas, NV 89102, USA, Telephone (702) 871-0120, Fax (702) 871-0196

Roberts, Charlotte, Department of Archaeological Sciences, University of Bradford, Bradford, BD7 1DP, UNITED KINGDOM, Telephone 0274-383538, Fax 0274-385190, Email C.A.ROBERTS@UK.AC.BRADFORD (All areas of biological anthropology)

Robinson, DDS, Jonathan, 2010 E. Cedar Ave, Flagstaff, AZ 86001, USA, Telephone (520) 774-3851, Dentist

Roler, Kathy, 820 S. Main Ave., Portales, NM 88130, USA, Telephone (505) 356-4692, Email ROLERK@ZIAVMS.ENMU.EDU (Near East studies)

Rosado, Maria Araya, 31 North Pennington Rd, New Brunswick, NJ 08901, USA, Telephone (908) 220-8582 (Paleopathology)

Rose, Jerome C., Department of Anthropology, Old Main 330, University of Arkansas, Fayetteville, AR 72701, USA, Telephone (501) 575-5247, Fax (501) 575-6595, Email JR27204@UAFSYSB.UARK.EDU (Histology)

Rosenberg, Karen R., Department of Anthropology, University of Delaware, Newark, DE 19716, USA, Telephone (302) 831-2802, Fax (302) 831-4002, Email KRR@STRAUSS.UDEL.EDU (Paleoanthropology)

Rothschild, Bruce, 5701 Market St., Youngstown, OH 44512, USA, Telephone (216) 726-7400, Fax (216) 726-7105, Email BMR@neoucom.edu (Paleopathology)

Roy, Subho, c/o Professor Asok K. Ghosh, Department of Anthropology, Calcutta University, 35 Ballygunge Circular Road, Calcutta, 700019, INDIA, Calcutta 42-6517 (Dental anthropology, bio-cultural attributes)

Ruben, Philip H., 9201 Sunset Blvd. #903, Los Angeles, CA 90063, USA, Telephone (213) 272-2211 (Prosthodontics)

Rudy, Robert J., 1051 Beacon Street, Suite 514, Brookline, MA 02146, USA, Telephone (617) 731-6760

Ryan, Alan S., Ross Laboratories, 625 Cleveland Avenue, Columbus, OH 43215, USA, Telephone (614) 624-3807, Fax (614) 624-3453, Email USABTCHM@IBMMAIL (Dental microwear)

Saler, Gail, 3604 S. Quincy Ave., Milwaukee, WI 53207, USA

Sankhyan, A.R., 2/B Moore Avenue, Calcutta 700 040, INDIA

Saunders, Shelley, Department of Anthropology, McMaster University, Hamilton Ontario L8S 4L9, CANADA, Telephone (416) 525-9140, Email SAUNDERS@MCMAIL.CIS.MCMASTER.CA

Scandrett, Adrian E., 184 Granby Court, Denbigh, Milton Keynes, MK1 1NQ, UNITED KINGDOM (Developmental biology)

Schirtzinger, Erin, 10365 E. Voltaire Ave, Scottsdale, AZ 85260. USA, Telephone (602) 451-9714, Fax (602) 451-9714, Email eesem@imap2.asu.edu (Geographic variation in hominids)

Schmidt, Chris, 5343 N. Guilford, Indianapolis, IN 46220, USA, Email SCHMIDTC@VM.CC.PURDUE.EDU

Schober, Theresa M., Department of Anthropology, 109 Davenport Hall, 607 South Mathews Avenue, University of Illinois, Urbana, IL 61801, USA, Telephone (217) 333-3616, Fax (217) 244-3490, Email TSCHOBER@UXA.CSO.U.UC.EDU (Upper Paleolithic/Mesolithic skeletal biology)

Schultz, Michele A., 9 Springhouse Rd., Wayside, NJ 07712, USA, Telephone (908) 918-9054 (General dentistry)

Schulz, Peter D., 2001 Whittier Drive, Davis, CA 95616, USA, Telephone (916) 445-3133 (Paleopathology)

Sciulli, Paul W., Department of Anthropology, Ohio State University, Columbus, OH 43210-1364, USA, Telephone (614) 292-1984 (Dental metrics, morphology, development, pathology)

Scott, G. Richard, Department of Anthropology, University of Alaska-Fairbanks, Fairbanks, AK 99775, USA, Telephone (907) 474-6755, (907) 474-7543 (Crown and root morphology, dental genetics, population variation, American Southwest, North Atlantic, Alaska)

Segeda, Serghei A., Pr. Akademika Glushkova dom 15, kv 3, Kiev 252187, UKRAINE, Telephone 266-95-15

Sekikawa, Mitsuo, Obihiro University of Agriculture, and Veterinary Medicine, Inada-cho, Obihiro, 080, JAPAN, Telephone 0155 48 5111 ext. 317, Fax (706) 721-6276, Email SEKIKAWA@OBIHIRO.AC.JP (Dental morphology)

Sevim, Ayla, Dil ve Tarih Cografya Fac., Department of Anthropology, Sihhiye, Ankara, 06100, TURKEY, Telephone 3103280/1767 (Pathology, variation, odontometrics)

Shields, Ed, Oral Biology, Faculty of Dentistry, McGill University, Montreal Quebec H3A-2B2, CANADA, Telephone (514) 398-7234, Email NOBLE@MCRCIM.MCGILL.CA (Evolution, odontometrics)

Shrout, Michael K., Medical College of Georgia, School of Dentistry, Augusta, GA 30912-1241, USA, Telephone (706) 721-2607, Email MSHROUT.DENTISTR@MAILGW.MCG.EDU (Digital imaging)

Sirianni, Joyce E., Department of Anthropology, State University of New York at Buffalo, Buffalo, NY 14261, USA (Craniofacial growth and development and morphology)

Sjøvold, Thorsten, Osteological Research Laboratory, University of Stockholm, Royal Castle Ulriksdal, Solna S-17171, SWEDEN

Skinner, Mark, Department of Archaeology, Simon Fraser University, Burnaby, B.C. V5A 1S6, CANADA, Telephone (604) 291-4171, Fax (604) 291-5666, Email MSKINNER@SFU.CA (Enamel hypoplasia)

Smith, B. Holly, Museum of Anthropology, University of Michigan, Ann Arbor, MI 48109, USA, Telephone (313) 764-0485 (Development, evolution, attrition)

Smith, Patricia, Department of Anatomy, Hadassah - Hebrew Univ. Med. School, P.O.B. 12272, Jerusalem, ISRAEL, Telephone 972-2-758577, Fax 972-2-784010, Email PAT@md2.huji.ac.il (Near East, evolution, dental anthropology)

Smith, Richard J., Department of Anthropology, Washington University, St. Louis, MO 63130, USA, Telephone (314) 935-5252, Fax (314) 935-8535, Email RJSMITH@artsci.wustl.edu (Primates, Functional morphology)

Smith, Maria O. Department of Anthropology, Northern Illinois University, DeKalb, IL 60115-2853, USA, Telephone (815) 753-0246, Email T20MOS1@NIU.BITNET (Dental pathology, attrition)

Soma, Kunimichi, 1st Department of Orthodontics, School of Dentistry, Tokyo Medical and Dental University, 1-5-45 Yushima Bunkyo-ku, Tokyo, 113, JAPAN, Telephone 03-3813-6111 ext. 5250, Fax 03-5684-5469 (Orthodontics)

Somer, Lonnie, 92-932 Palailai St., Apt. 80, Kapolei, HI 96707, USA, Telephone (808) 847-8270 (Metric/nonmetric traits)

Specht, William J., Department of Anthropology, Southern Illinois University, Carbondale, IL 62901-4502, USA, Telephone (618) 536-6651, Fax (618) 453-5037, Email wspecht@siu.edu (Physical anthropology, osteology, dental anthropology, pathology)

Sperber, G. H., Faculty of Dentistry, University of Alberta, Edmonton Alberta T6G 2N8, CANADA, Telephone (403) 492-5194, Fax (403) 492-1624 (Dental evolution)

Steele, D. Gentry, Department of Anthropology, Texas A & M University, College Station, TX 77846-4352, USA, Telephone (409) 845-5297, Fax (409) 845-4070 (North American paleobiology)

Sterner Beyer-Olsen, Eva M., Department of Oral Radiology, P.O. Box 1109, Blindern, Oslo N-0316, NORWAY, Telephone +4722852104, Fax +472285347

Street, Steven R., 2306 West 45th Ave., Apt. B, Anchorage, AK 99517, USA, Telephone (907) 243-5386, Email 73642.1221@COMPUSERVE.COM (Dental morphology, mortuary studies, biodistancing)

Sutter, Richard, Department of Anthropology, 200 Swallow Hall, University of Missouri, Columbia, MO 65211, USA, Telephone (314) 882-2920, Email C569310@MIZZOU1.Missouri.edu (Dental wear aging, dental reduction, dental pathology)

Swails, Nancy J., 2037 E. Lublin Drive, Reynoldsburg, OH 43068, USA, Telephone (614) 577-0365

Swindler, Daris R., 1212 8th Avenue North, Edmonds, WA 98020, USA, Telephone (206) 771-5908, Fax (206) 771-5908, dswindle@u.washington.edu (Primates, dental development, morphology)

Tasa, Guy L., 645 Davis St., Eugene, OR 97402, USA, Telephone (503) 346-3020, Fax (503) 346-5122, Email TASA@DARKWING.UOREGON.EDU (Dental metrics and morphology of New World)

Teaford, Mark F., Department of Cell Biology and Anatomy, Johns Hopkins University School of Medicine, 725 N. Wolfe Street, Baltimore, MD 21205, USA, Telephone (410) 955-7034, Fax (410) 955-4129, Email MTEAFORD@WELCHLINK.WELCH.JHU.EDU (Functional morphology, primate evolution)

Teschler-Nicola, Maria, Antropologische Abteilung Naturhistorisches Museum, Burgring 7, Vienna, A-1014, AUSTRIA, Telephone +43 1 52177-1 (214), Fax +43 1 935254, Email U3771DAA@helios.eduz.univie.ac.at (Sexual dimorphism, eruption)

Tillier, Anne-Marie, Laboratoire d'Anthropologie, Universite de Bordeaux I, Avenue des Facultes, Talence, 33405, FRANCE, Telephone 56.84.89.35, Fax 56.37.03.30 (Growth and development, paleoanthropology)

Tobias, Phillip V., Director, Palaeo-anthropology Research Unit, University of the Witwatersrand Medical School, 7 York Road, Parktown, Johannesburg 2193, SOUTH AFRICA, Telephone (27) (11) 647-2516, Fax (24) 11 643-4318, Email 055PVTS@CHIRON.WITS.AC.ZA (Palaeo-anthropology)

Townsend, Grant, Department of Dentistry, University of Adelaide, Adelaide 5005, SOUTH AUSTRALIA, Telephone (08) 3035968, Fax (08) 2324062, Email TOWNSEND@ACHE.MAD.ADELAIDE.EDU.AU (Dental genetics, craniofacial growth and development)

Türp, Jens C., Facial Pain Clinic, Department of Biologic & Material Sciences, University of Michigan, Ann Arbor, MI 48109-1078, USA, Telephone (313) 747-4238, Fax (313) 742-2110, Email JCTUERP@UMICH.EDU (TMJ, dental anatomy)

Turkel, Spencer Jay, 259 Wyndcliff Road, Scarsdale, NY 10583, USA, Telephone (516) 686-7830 (Forensics)Turner II, Christy G., Department of Anthropology, Arizona State University, Tempe, AZ 85287-2402, USA, Telephone (602) 965-6452 (Dental affinity, morphology, New World)

Turner II, Christy G., Department of Anthropology, Arizona State University, Tempe, AZ 85287-2402, USA, Telephone (602) 965-6452 (Dental affinity, morphology, New World)

Turner, Korri Dee, 907 S. Craver Place, Tempe, AZ 85281, USA, Telephone (602) 858-0081 (Bioarcheology)

Tyler, Donald E., Department of Anthropology, University of Idaho, Moscow ID, 83844-1110, USA, Telephone (208) 885-6751, Fax (208) 885-5878, Email DTYLER@OSPREY.CSRV.UIDAHO.EDU (Hominoid evolution)

Ungar, Peter, Department of Biological Anthropology and Anatomy, Duke University Medical Center, Box 3170, Durham, NC 27710, USA, Telephone (919) 684-2417, Fax (919) 684-8034, Email PUNGAR@ACPUB.DUKE.EDU (Dental morphology and microwear, paleoanthropology)

University of Texas, Health Science Center, Dental Branch Library, P.O. Box 20068, Houston, TX 77225-0068, USA

Van Reenen, J. F., 18 Lamprecht Street, Denverpark, George 6530, SOUTH AFRICA (Tooth morphology)

Vandermeersch, Bernard, Laboratoire d'Anthropologie, Universite de Bordeaux I, Avenue des Facultes, Talence, 33405, FRANCE, Telephone 56.84.89.31, Fax 56.37.03.30 (Paleoanthropology)

Vargiu (c/o Prof. A. Coppa), Rita, Dept. Biologia Animale Edell'Vomo, Sezione Antropologia - Univ. "La Sapienza", Piazza A. Moro, 5, Roma, 00185, ITALY, Telephone 396-49912350, Fax 396-49912900 (Paleopathology, paleonutrition)

Varrela, Juha, Institute of Dentistry, University of Toronto, 124 Edward Street, Toronto M5G 1G6, Canada, Telephone (416) 979-4924 x4340, Fax (416) 979-4936, Email JVARRELA@dental.utoronto.ca (Occlusal development, craniofacial growth, chromosomal disorder)

Waddell, Brett, 600 Wardlaw Ave., Winnipeg, Manitoba R3L OM2, CANADA, Telephone (209) 475-2941 (Dental paleopathology, enamel hypoplasias)

Walimbe, SR, Department of Archaeology, Deccan College Research Institute, Pune 411006, INDIA

Walker, Phillip L., Department of Anthropology, University of California, Santa Barbara, CA 93106, USA, Telephone (805) 893-2236, Fax (805) 893-8707, Email WALKER@ALISHAW.UCSB.EDU

Ware, E. Macon, Dowlen Plaza, 1490 Wellington Circle, Beaumont, TX 77706, USA, Telephone (409) 866-3700, Fax (409) 866-1738 (General dentistry)

Washburn, Arthur 3105 W. Penn Street, Philadelphia, PA 19129, USA, Telephone (215) 438-2922 (Anatomy, osteology, dental anthropology, living primates)

White, Tim, Laboratory for Human Evolutionary Studies, Department of Integrative Biology, The University of California at Berkeley, Berkeley, CA 94720-3140, USA (510) Telephone 642-2889, Fax (510) 643-8231, Email timwhite@garnet.berkeley.edu (Paleoanthropology)

Willermet, Catherine M., Department of Anthropology, Arizona State University, Box 872402, Tempe, AZ 85287-2402, USA, Telephone (602) 965-6213, Fax (602) 965-2012, Email ASCMW@ASUVM.INRE.ASU.EDU (Modern human origins)

Winkler, Linda A., 420 W. Third Street, Oil City, PA 16301, USA, Telephone (814) 827-4415, Fax (814) 827-4448, Email LAWUPT@EVMS.CIS.PITT.EDU (Hominoid growth and development)

Wolpoff, Milford H., 7501 Werkner Rd., Chelsea, MI 48118, USA, Telephone (313) 475-3291, Fax (313) 763-6077, Email WOLPOFF@UMICH.EDU (Paleoanthropology)

Wu, Liu, Institute of Vertebrate Paleontology & Paleoanthropology, Academica Sinica, P.O. Box 643, Beijing 100044, CHINA, Telephone 861-8355511, Fax 861-8312683 (Dental anthropology, forensics)

Yuan, Michael S., 150 Claremont Ave. #1H, New York, NY 10027, USA, Telephone (212) 662-8016, Fax (212) 662-8016, Email MSY1@COLUMBIA.EDU (Orthodontics, dental and craniofacial morphology and evolution)

Zeng, Xiang-long, Department of Orthodontics, School of Stomatology, Beijing Medical University, Weigoncun Haidan District, Beijing, 100081, CHINA, Telephone 8329977-391 (Orthodontics, dento-craniofacial morphology and evolution)

Zingeser, Maurice R., 2460 SW Winchester Avenue, Portland, OR 97225, USA, Telephone (503) 646-1895 (Primate functional occlusofacial morphology)

Zubov, Alexander A., Department of Anthropology, Institute of Ethnography and Anthropology, Russian Academy of Sciences, 32a Leniniski' Prospekt, Moscow 117334, RUSSIA

Zukosky, William, Dames and Moore, Inc., 4220 S. Maryland Parkway, Suite 108, Las Vegas, NV 89119, USA, Telephone (702) 796-7800 (Biological anthropology, Native American prehistory)

The Dental Anthropology Newsletter

Volume 10, Number 2, 1996

TABLE OF CONTENTS

DENTAL ANTHROPOLOGY ASSOCIATION SECTION

The Dental Anthropology Newsletter
Volume 10, Number 2, 1996
Published three times yearly

Laboratory of Dental Anthropology
Department of Anthropology
Arizona State University
Box 872402
Tempe, AZ 85287-2402
Telephone (602) 965-0158 FAX (602) 957-8851
BITNET AGAMH@ASUACAD INTERNET AGAMH@ASUVM.INRE.ASU.EDU

Editors
A.M. Haeussler
Shara Bailey-Schmidt

Printed Digitally by Alphagraphics, Tempe, Arizona