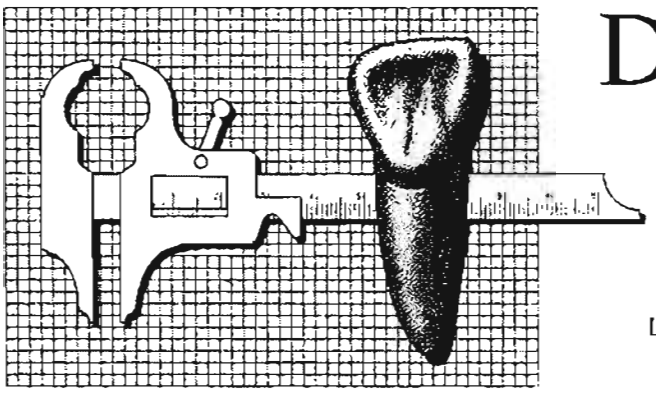

Dental Anthropology Newsletter

A PUBLICATION OF
THE DENTAL ANTHROPOLOGY ASSOCIATION

Laboratory of Dental Anthropology Department of Anthropology
Arizona State University Tempe, AZ 85287-2402

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Presidential Address

Daris Swindler

In this report to the members of DAA, I thought I would let you know what your president did upon his retirement last June. I spent the months of June and July working with archaeologists in the Valley of the Kings at Luxor, Egypt. I was invited by Dr. Donald P. Ryan, Director of the Pacific Lutheran University Valley of the Kings Project, to study the skeletal and dental remains which had been discovered during the last year's expedition. This was the third year of work for the project whose main purpose has been to investigate little known uninscribed burial sites in the New Kingdom Royal necropolis at Thebes (Luxor). The New Kingdom extended between 1550 and 1070 BC. During this time, the Valley of the Kings was the burial place of most of the pharaohs from Tutmosis I of the Eighteenth Dynasty to Rameses XI, the last ruler of the Twentieth Dynasty, a span of over four centuries. There are sixty-two tombs in the Valley of the Kings and Dr. Ryan had permission to clear and conserve the materials from six: KV21, KV27, KV28, KV44, KV45, and KV60. These tombs have been entered many times beginning with tomb robbers in antiquity to Howard Carter, the discoverer of King Tutankhamen, in 1922. Indeed, Carter "discovered" the tombs we worked in this summer during the early part of this century.

The human skeletal remains consisted of fourteen individuals from three tombs, KV28, KV44, and KV45. The remains were in various stages of repair from fairly intact skulls to nothing more than small fragments of bone, grim evidence to centuries of natural deterioration as well as to careless, unconcerned treatment of earlier human intruders. In several instances bones were bare, lacking any wrappings or evidence of soft tissue attachments while other skeletal parts (lower extremities) still possessed their original linen wrappings. Some long bones as well as several skull fragments still had parchment-like muscles attached to them, and one skull had leather-like skin covering the cranial vault. Morphologic observations and osteometric measurements were made of the skeletal material and will be published later. For this short report I will briefly summarize some of the dental findings I was able to make on the rather small number teeth available for study.

There were three individuals from KV28, two males and one female. All three individuals were about the same age, probably between 35 and 45 years old. The teeth were all permanent, although several of the anterior ones (I1 to PM4) were missing or had the crowns broken off postmortem in both the upper and lower jaws. In one male, however, the premolars were present and worn. In both males, the molars were worn to the point of

secondary dentin exposure over the whole occlusal surfaces of M1 and M2, but not M3. In one male skull, the left M2 had been lost postmortem, probably for several years before death, as indicated by the subsequent healing and atrophied alveolar bone between M1 and M3. Incidently, a single, small, round root was present in the alveolus of M3 and was positioned at an angle of about 45 degrees on the occlusal plane. Thus, it is very unlikely that this individual did much chewing on this side of the jaw, a situation reflected by the advanced wear of the molars on the left side. There were no cavities present in any of these teeth. The female skull had only M1 and M2 which were as worn as those of the males. The sockets for M3 were present, indicating that these teeth were present during the person's life and lost postmortem. The only incidence of dental pathology was found in this individual. The upper M1 had a large cavity on the occlusal surface as well as a defined circular abscess (8 mm) in the bone at the tip of the mesiobuccal root. The tip of this root was eroded.

There was a skull and mandible from an old man from KV45. The upper jaw was edentulous except for a badly worn right M2 and the crypts of the left M2 and M3. which were lost postmortem. The anterior portion of the maxillary bone was nothing more than a ridge where the alveolar bone had been. The lower jaw possessed snags of the right and left canines and an open alveolus for the right M3. Otherwise, the lower jaw was toothless and had taken on the appearance of an infantile jaw. In addition, there were two left mandibular fragments from this tomb, one probably a male, the other female. Both had only molars present, whereas the anterior dentition had been lost postmortem. The molars displayed secondary dentin on their occlusal surfaces (M1 > M2 > M3).

There were several young female crania and mandibles from KV44. One was probably in her early twenties with lower M3's just emerging into the oral cavity. The open alveoli for the upper M3's were present indicating their postmortem loss (the left M3 alveolus possessed a single, round opening indicating a single root.) All teeth were permanent and present except the incisors and M3's noted above. There was little wear except for a slight amount on M1. There were no caries on any of these teeth. Another young female, perhaps slightly younger than the one just discussed, had permanent teeth from I1 to M2 in both jaws. The M3's had not emerged, but were present in their crypts. The teeth were in excellent condition: no caries and only beginning wear on M1's. There were two other young females in KV44. One was probably 20-30 years old; the other, probably less than twenty. In the former, all permanent teeth were present including M3's. Tooth wear had commenced on M1 (a small dentin wear facet on the protoconid) with a suggestion of wear on M2. The M3 had not emerged. The upper molars show the same degree of wear as the lowers. However, M3 was present and lacked a hypocone. The other female was represented by a partial cranium with no mandible. The upper teeth were permanent with slight wear on M1 and M2. The M3 was visible in the tuber maxilla. There was one final individual with the lower face and attached mandible possessing only deciduous teeth. The dm2 had just emerged but had not yet reached the occlusal plane. Thus, the child was between two and three years old.

The individuals discussed in this brief sketch lived, as previously mentioned, during the New Kingdom (1550-1070 BC) in Ancient Egypt. To place them in a more exact time period, i.e., Dynasty, we must await the results from ongoing studies of the ceramics, funeral furniture, and wooden coffin pieces found in the tombs.

In general, with respect to structure, position, and number, the teeth of these individuals were in good condition. Anomalies occurred only in the position of two M3's and

in the structural reduction of one M3 by the loss of its hypocone. Attrition was present even in younger persons, particularly in the molars. This condition is not surprising since marked attrition has been reported for all periods of Egyptian history. Dental caries were present in only one person on an upper M1. This person also had a periapical abscess on the bone above the tooth, which probably resulted from the carious activity. Alveolar resorption around the roots increased with the age of the person, probably as a consequence of periodontal disease. A slight amount of calculus was observed on the molars in the older individuals.

Dental Anthropology in the Pacific

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When the meetings of the XVII Pacific Science Congress here held in Honolulu between May 27 and June 2, Dental Anthropology was well represented. Steve Molnar of Washington University in St. Louis (USA) and Tas Brown of the University of Adelaide (Australia) organized a session on Craniofacial Variation of Pacific Populations which ran all day on Thursday, May 30. Unfortunately, an allergic reaction to infection medication prevented Tas Brown from attending, so Steve Molnar dragooned our President, Daris Swindler, into taking the chair when needed.

In his own presentation, Daris filled in some background for us on how problems in the field kept him from getting casts of female dentitions when he was working in New Britain in the mid-1950's (It isn't as risque as you might think – he ran out of dental stone and couldn't get any shipped in before his field session ended).

Adelaide was well represented with presentations by Grant Townsend and Lindsay Richards giving some interesting data of mirror imaging of facial asymmetry in twins. Steve and Iva Molnar reported on dental arch robusticity and tooth wear among prehistoric inhabitants of Australia's Murray River Valley, and Peter Brown of the University of New England (Australia) offered an assessment of dentofacial reduction in the post-Pleistocene Murray populations. In a related vein, Yuji Mizoguchi from the National Science Museum in Tokyo suggested an interpretation of the recent trend toward brachycephaly in Japan.

J.A. Kadonis and the Adelaide contingent gave us a new "twist" on interproximal wear, and their colleague, Nigel Clark, presented a clinician's view of fenestration over root surfaces.

Reflections on the relations of Pacific populations based on craniofacial data were discussed by Kazu Katayama from Kyoto University, and also by myself and colleagues from the University of Michigan. Phil Houghton and his Otago groups, representing New Zealand, also dealt with aspects of Polynesian craniofacial similarity in a well-prepared set of posters.

All told, the distractions of the setting (and the cost!!) did not prevent the exchange of a lot of stimulating and novel information.

Subjective Impression of Australmelanesian Dentition

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Jackie and Christy Turner were in Australia from May 17 to August 17 collecting data on Australian and Melanesian dental morphology and pathology through the aid of a grant from the Wenner-Gren Foundation for Anthropological Research. These observations will be used to assess various existing and new hypotheses about Australmelanesian origins, numbers of migrations, intra- and inter-group affinity, and microevolution. One unusual prior dental finding was a close relation between Australmelanesians and Africans. A total of 1,421 individuals were studied in the Queensland Museum (Michael Quinnell and Richard Robins), Shellshear Museum (Jonathan Stone), Australian Museum (Jim Sprecht), Macleay Museum (Susan Davis), Australian Institute for Aboriginal Studies (Colin Pardoe), and South Australian Museum (Graeme Pretty). Data are now being entered in computer files for analysis.

In the meantime, a subjective impression of Australmelanesian teeth seems to show that on the whole, Australian teeth seem to be very similar to those of Melanesians, although impressionistically there are two minor differences: (1) Australian teeth seem to be generally larger and more complex than those of Melanesians, and (2) Melanesian teeth seem to have a slightly stronger Asian quality. However, both Australians and Melanesians are more like each other, than either is like Southeast Asians.

With respect to the African versus Southeast Asian affinity issue for Australmelanesians, it is impossible to predict precisely how the quantitative analysis will turn out. But subjectively, we suspect a slightly closer Asian alignment because of the very low Australmelanesian occurrences of lower cusp 7 and Bushman canine (both African characteristics). On the other hand, strong incisor shoveling, three-rooted lower first molars, and one-rooted upper first premolars (Asian characteristics) are also very common.

As for specific traits, Australians can be preliminarily characterized as follows:

1. Upper central incisor winging is uncommon.
2. Incisor shoveling occurs, but mainly in the weak grades (1-2), seldom 3, almost never grade 4
3. Incisor double-shoveling occurs, but always in the weakest grade (1).
4. Maxillary canine mesial ridge (Bushman canine of Morris) is extremely rare and never occurs in the strong grade.
5. One Uto-Aztecan premolar was found. This is the first example I have seen outside North and South America. It must represent an independent mutation.
6. The upper molar hypocone is generally present, and usually large on all three molars.
7. All upper molars have a very high frequency of cusp 5, and often in the marked grade or larger. On third molars, cusp 5 may exceed the size of the tooth's hypocone.
8. Carabelli's trait occurs in a fairly high frequency, with many examples of grade 5 (attached cusp).
9. Upper molar buccal enamel extensions are uncommon.

Australmelanesian dentition (continued)

10. Two-rooted upper first premolars are very common.
11. Three-rooted upper second molars are very common.
12. Congenital absence of third molars is rare.
13. There is a high frequency of maxillary torus, usually of the weak to moderately strong grades.
14. There is some reduction in a number of upper lateral incisors.
15. Relative to molar size and complexity, upper canines are very small and simple.
16. The lower second molar usually has more than four cusps.
17. All grades of the first lower molar protostylid are very rare.
18. Cusp 7 of the lower first molar is uncommon.
19. Two-rooted lower canines are extremely rare.
20. Three-rooted lower first molars are extremely rare.
21. One-rooted lower second molars are uncommon.
22. Mandibular torus is extremely rare.
23. Rocker jaw occurs, but only infrequently.

These characters seemingly are about the same in each of the Australian regional samples. There seems to be no evidence, at least impressionistically, for marked inter-regional dental differences as occur between Southeast and Northeast Asians. As things stand at this point, without formal statistical analysis, our impression of Australian dental variation seems to favor a single migration hypothesis, rather than models of multiple migrations as proposed on biological or archaeological grounds by various other workers.

Finally, we collected data on oral pathology, wear, and behavioral considerations. As mentioned, wear was severe, even after European contact. With contact, as in the American Arctic, dental caries became much more common, and so did the associated alveolar abscesses. We were surprised at the fairly large number of adults with severely damaged osteoarthritic temporal-mandibular joints, a condition common in the Roonka crania studied by L.C. Richards. Dental ablation of one or more upper incisors was fairly common, but not universal, across the continent. A behaviorally-induced grooving of the distal (mainly) and mesial surfaces of molars and premolars was rather common, more so in identifiable males than in females, and never in children or adolescents. These grooves have been generally attributed as due to the habitual use of toothpicks, although more recently Tasman Brown has pointed out that they could be due to string manufacturing. Whatever the cause(s), they indeed characterize older adults, mainly males.

In sum, we sampled in three months a fair amount of the eastern and southern Aborigine population, as well as enlarging our Melanesian series, most importantly with observations for southern New Guinea. We did not have time to adequately sample central or western Australia. This will have to be done in the future. In the meantime we will proceed with our formal statistical analysis which will address a number of biohistorical and microevolutionary problems. These include questions we knew of before the project, and several issues we learned about from the many workers who generously gave us the benefit of their experiences and ideas about Australian and Melanesian origins, adaptations, microevolution, and affinities.

The Dental Anthropology of the Caucasus

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On a geographical map the Caucasus looks like a tiny part of the earth. Situated simultaneously between the North and the South, the West and the East of the Old World, the Caucasus region has undergone a very long and complex history. I call the Caucasus the mirror of the Old World. Isolated by mountains and seas, this region has managed to conserve the traits of history and preserve them for our contemporaries through complex national, ethnic, linguistic, religious, cultural, and political structures.

The dental anthropology of the Caucasus also reflects this situation. The main result is the high level of polymorphism characteristic for central populations of a species in the wide sense of the meaning. I have analyzed 87 samples from the living population (more than 10,000 persons total) representing all the peoples of the Caucasus, using the program and methods adopted in the USSR. I have also examined 58 cranial series of Bronze, Classic, and Feudal Age periods from the territory of the Caucasus.

The data on excavated materials showed the stability of characteristics of high taxonomic value (shoveling, deflecting wrinkle, distal trigonid crest, 2 med-II (see editor's note 1 below), Carabelli's cusp) and an increase in frequencies of reduction traits (maxillary lateral incisor, maxillary second molar metacone and hypocone, mandibular second molar hypoconulid reduction) from antiquity to the present.

The similarity between synchronous series from the Caucasus and northern Europe, which increases with antiquity, led us to hypothesize that both gracile types, the northern and the southern (see editor's note 2) developed from one gracile super-type. We also believe that the differentiations towards taxonomical subdivisions in living Caucasus populations began in ancient times, no later than the Bronze Age.

The differentiation which can be traced in living Caucasus populations is mainly determined by two morphological complexes. They are maximally expressed in the southern zones of the Caucasus. The balance of two complexes in a population seems to be the main formative factor. One of the complexes is called western because individuals within its area are characterized by high frequencies of Carabelli's cusp (40-60%), 2 med-II (30-40%), diastema (10-20%), and low concentrations of shoveling and deflecting wrinkle (0-5%). The eastern variant has the opposite tendencies. The values of morphological distances also reflect this subdivision.

The anthropological history of the populations which I have studied seems to exceed their ethical and national history and can be compared only with their linguistic antiquity.

I will be especially appreciative to hear from other dental anthropologists who have worked in the Near East and Mediterranean countries. We know that the "western sub-type" can be traced to Greece and Bulgaria. However, we have no information for southern Europe and the Near East. I would be very pleased to receive information about ancient and contemporary peoples living in these regions.

Dental Anthropology of the Caucasus (continued)

Editor's notes:
1. 2 med-II is one of A.A. Zubov's odontoglyphic traits. Briefly put, on the metaconid, furrow 2 (a second order furrow located nearer to the center of mandibular teeth than furrow 1) goes into furrow II (a first order furrow which separates the protoconid from the metaconid). Zubov (1977) contains an explanation of odontoglyphic traits.
2. Information about the northern and southern gracile dental types can be found in Zubov (1979). Here, the northern gracile type is characterized by weak reduction of the lateral incisors, high Carabelli's trait, increased amount of four-cusped first mandibular molars, gracility of the second mandibular molars, fairly high deflecting wrinkle, low distal trigonid crest, and high variant 2 med. This type is seen in Finnish language peoples, such as Estonians and Finns. The southern gracile type has low percentages of Carabelli's trait, somewhat increased cusp 7, and low variant 2 med. The southern gracile type is characteristic for peoples of the Caucasus. Azerbaijan, Daghestan, India and Bulgaria.

Vera Kashibadze, with whom I worked in Tbilisi during all of May, 1991, considers the main characteristics of the southern gracile type to be high or increased frequencies of four-cusped first and second molars, distal trigonid crest, and deflecting wrinkle. Additional characters are increased frequencies of three-cusped third lower molars, reduction of the hypocone and metacone on maxillary second molars, and reduction of the lateral incisor.

A.M. Haeussler

References:

Zubov AA (1977) The laws of variation of the human molar crown relief. In AA Dahlberg and TM Graber (eds.): Orofacial Growth and Development. The Hague: Mouton, pp. 269-282.

Zubov AA (1979) Conclusion. In AA Zubov and NI Khaldeyeva (eds.): Etnicheskaya Odontologiya SSSR (Ethnic Odontology of the USSR), Moscow: Nauka, pp. 229-251.

Upcoming Meetings

61st Annual Meeting of the American Association of Physical Anthropologists. March 30 - April 4, 1992. Las Vegas, Nevada. Program Chair: Dr. Lorna G. Moore, University of Colorado at Denver, Department of Anthropology Campus Box 105, Denver, Colorado 80217-3364. Individuals who are not members of the American Association of Physical Anthropologists, but wish to attend, should contact Local Arrangements Chairperson for hotel information. Dr. Sheilagh Brooks, Department of Anthropology, University of Nevada, Las Vegas, Nevada 89154.

Fourteenth Congress of the International Primatological Society. August 16 to 21, 1992. Strassburg, France.

3rd International Congress on Human Paleontology. Jerusalem, Israel, August 23 - 28, 1992. Deadline for abstracts December 12, 1991. For form for abstracts and additional information write: The 3rd International Congress on Human Paleontology, c/o International Ltd., P.O. Box 29313, 61292 Tel Aviv, Israel.

9th International Symposium on Dental Morphology. September 2 - 5, 1992. Florence, Italy. Those interested in participation and additional information should write to Dr. Jacopo Moggi-Cecchi, Institute di Antropologia, Universiteta di Firenze, Via del Proconsolo 12, 50122 Florence, Italy. Tel. and FAX 0039-55-239-80-65.

Statistics and Software

NTSYS-pc, Version 1.60, Numerical Taxonomy System

NTSYS-pc is a powerful collection of programs to solve many problems in numerical taxonomy on the microcomputer. Written by F. James Rohlf, this package is based on programs used in the mainframe library, NTSYS. The newer update, NTSYS-pc, Version 1.60 contains many programs not usually available in most standard statistical software packages, including numerous similarity and dissimilarity coefficients and ordination analysis, data transformations, and matrix comparisons. The package also contains all of the more common hierarchal clustering methods, principal components analysis, and multi-dimensional scaling.

All of the programs in this sequential package are directly relevant to dental anthropologists and are supported by a clear and concise user's manual. The upgrade also contains two improvements: simpler use of the interactive graphics and increased accessibility to the programs for those not initially familiar with the statistical manipulations.

NTSYS-pc requires a hard drive, 320+K RAM and DOS 3.0+. The program supports many common printers. A math coprocessor speeds up most of the procedures significantly. The entire package costs $175.00 and is available from Exeter Software, 100 North Country Rd., Bldg. B., Setkauket, NY 11733. F. James Rohlf is also very responsive to questions and suggestions about implications and upgrades. I recommend this package without reservations and am sure that you will find it useful in your own research.

Steven R. Street

Advances in Dental Anthropology. Marc A. Kelley and Clark Spencer Larsen, editors. New York: Wiley-Liss, 1991. xiv + 389 pp. Retail price: $96.00. Special price to DAA members: $59.95. (Cloth). See advertisement on page 8.

Diane E. Hawkey

Recently, the occupation of dental anthropologist was listed as one of the "101 best career opportunities of tomorrow" (New York Times Career Planner, 1988), reflecting the growing interest in and rapid progress of the discipline, since Brothwell edited the classic Dental Anthropology almost 27 years ago. In the introduction to the newest contribution to the field, Advances in Dental Anthropology, editors Larsen and Kelley note that the purpose of this volume is "(1) to demonstrate the vitality of dental anthropology, (2) to discuss some of its diversity in methodology, and (3) to present a sampling of the kinds of exacting research questions and investigator agendas that are currently being pursued by dental anthropologists" (pg. 2).

A total of 39 authors, have contributed to this volume, featuring subjects that include the history of dental anthropology (AA Dahlberg), dental morphology scoring techniques (CG Turner II, CR Nichol, and GR Scott), application of morphometrics to South Asian prehistory (JR Lukacs and BE Hemphill), use of metrics to determine population affinity and/or evolutionary mechanisms in dental reduction (CL Brace, SL Smith, and KD Hunt; JM Calcagno and KR Gibson; EF Harris and TA Rathburn), new techniques for age assessment by tooth formation or dental wear (BH Smith; PL Walker, G Dean, and P Shapiro; RA Benfer and DS Edwards); dental evidence of diet and nutritional status (CS Larsen, R Shavit, and MC Griffin; MA Kelley, DR Levesque, and E Weidl; PS Sledzik and PH Moore-Jansen; P Hartnady and JC Rose; AH Goodman and JC Rose; MF Teaford), techniques for assessing periodontal disease and changes in the alveolar bone (CF Hildebolt and S Molnar; NG Clarke and RS Hirsch), orofacial and occlusal variations and anomalies (RS Corruccini), and intentional mutilation and accidental modification of teeth (GR Milner and CS Larsen).

Dahlberg's historical perspective of the discipline initially sets the tone of the volume; sections within each of the subsequent chapters further discuss the history within the specialized areas of dental anthropology. Clearly expressed throughout Advances in Dental Anthropology are the trends that seem to have contributed most to the rapid progress of dental anthropology within the past few years, including use of multi-variate statistical analyses, technological developments such as scanning electron microscopy, and standardized methodology. A particularly noteworthy trend is the use of recent clinical evidence to re-define dental pathologies found in the archaeological record.

Although the volume is perhaps weighted more towards the current research in dental paleopathology, all of the major topics in dental anthropology are well represented. References within each chapter are comprehensive and will prove invaluable to those with either an initial or a continuing interest in the field. Photographs, charts and tables, are numerous and of excellent quality. In sum, Advances in Dental Anthropology clearly illustrates the progress and vitality of today's dental anthropology, and is a worthy addition to the library of both biological anthropologists and clinical practitioners alike.

Product Review

Mitutoyo 500-321 digimatic calipers

In 1990, while accumulating equipment for data gathering in the Soviet Union, I spent an inordinate amount of time locating calipers for dental measurements. Therefore, I am writing this with hopes of saving future researchers some of the frustration I encountered. Because my previous work in dental metrics had resulted in blistered fingers and a sore hand, and because I planned to work in a place where I could not count on repairs to either my fingers or to the calipers, equipment had to be light weight, easy to manipulate, and technically problem-free. Ideally, the calipers would have capabilities for interfacing with a lap-top computer.

The calipers that filled most of my requirements were Mitutoyo 500-321 "digimatic" calipers. Model 500-321 measures materials up to six inches, has a liquid crystal display, a space for an output connector, and operates on a standard MS76 battery. Before I used the calipers, I had the machine shop in the Arizona State University Department of Physics grind down the external surfaces of the measuring teeth so that they could fit between skeletal and plaster cast teeth.

Unfortunately, I could not find software that would input a sufficient number of variables into my computer. Therefore, I purchased a Mitutoyo "Digimatic mini processor" DP-IHS 264-503, connected it to the calipers, and used it to print out a tape of measurements which I scotch taped to my data sheet. The mini-processor operates on two A batteries and uses ordinary adding machine paper. It lists each measurement, computes descriptive statistics after a selected set of measurements, and prints the results along with a space for date and specimen number.

I located a dealer by telephoning Mitutoyo in California (818-961-9661). The address is 16925 Gale Avenue, City of Industry, CA 91745. Individuals with similar needs might avoid a trip to a dealer by asking the California office for the telephone number of the local Mitutoyo representative and dealing with him directly. The local Phoenix dealership is a machine tool company whose workers had no conception of the type of work we do. As a result, the manager called the representative. He came to my home with a brief case filled with several types of calipers and the processor, demonstrated the equipment, telephoned the Mitutoyo warehouse to locate the products, and ordered the materials by phone. I had everything in two days.

The most recent price quote was $143.00 for the calipers, $290.00 for the mini-processor, and $20.00 for the connecting cable. The calipers without the capability to connect with a processor cost $113.00. In addition, the Mitutoyo representative recently informed me that the company now sells a cable to download measurements into a host computer and a statistical package for accepting and analyzing the data. We will review these in the next issue of DAN.

A.M. Haeussler

Recent Dental Anthropology Symposium Publication

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The October issue of the American Journal of Physical Anthropology entitled, Primate Dental Symposium: Old and New Questions, New Trends, consists of papers from a dental anthropology symposium organized by Daris Swindler and Linda Winkler for the 1989 American Association of Physical Anthropologists' meeting in San Diego. Papers include: S. Simpson, O. Lovejoy, and R. Meindl, Relative dental development in hominoids and its failure to predict somatic growth velocity; G. Conroy and M. Vannier, Dental development in South African australopithecines Part I. Problems of pattern and chronology; G. Conroy and M. Vannier, Dental development in South African australopithecines Part II. Dental stage assessment; B.H. Smith, Dental development and the evolution of life history in Hominidae; A. Mann, J. Monge, and M. Lampl, An investigation into the relationship between perikymata counts and crown formation times; D. Beynon, C. Dean, and D. Reid, A histological study on the chronology of the developing dentition in gorilla and orangutan; T. Bromage, Enamel increment periodicity in the pigtailed macaque; C. Dean and D. Beynon, Histological reconstruction of crown formation times and initial root formation times in a modern child; R. Anemone, E. Watts, and D. Swindler, Dental development of known-age chimpanzees, Pan troglodytes (Primates, Pongidae); G. Conroy and C. Mahoney, A mixed longitudinal study of dental emergence in the chimpanzee, Pan troglodytes (Primates, Pongidae); L. Winkler, J. Schwartz, and D. Swindler, Aspects of dental development in the orangutan prior to eruption of the permanent dentition; J. Schwartz and H. Langdon, Innervation of the human upper primary dentition: Implications for understanding tooth initiation and rethinking growth and eruption patterns; J. Siebert and D. Swindler, Perinatal dental development in the chimpanzee (Pan troglodytes); D. Beynon, C. Dean, and D. Reid, On thick and thin enamel in hominoids.

The contributors address many of the current issues and debates in dental anthropology including: (1) the range and significance of variation in developmental patterns, morphologies, and the chronologies of the hominoid dentition; (2) questions as to whether dental development can be used to infer maturation or chronological age in the fossil record; (3) the validity of methods used in the study of dental development particularly histological methods used to establish chronologies; and (4) the role of ontogeny in resolving taxonomic questions.

Since this volume integrates a variety of methodologies and research designs, it facilitates a comparison of diverse results and hypotheses. There is a general concordance regarding dental developmental differences between gracile and robust australopithecines. However, debates continue as to whether the developing dentition can be used to approximate rate of development and age. The range of variation continues to be a problem in establishing developmental parameters and interspecific differences in dental development. In addition, there is growing recognition than an understanding of differences in hominoid dental development could be enhanced by increasing our knowledge of jaw growth mechanics.

Letter to the Editor

Portion of a letter from Vera Kashibadze, Tbilisi, dated July 27, 1991.
... Yesterday I received the letter from D. Hawkey and DAN N. 3, May 1991. I've read it with great interest. The importance of this correspondence can scarcely be exaggerated for me, for I had been lacking communications with my colleagues before I became a member of DAN. So I thank everybody for this opportunity. D. Hawkey wrote that any short articles about my work would be welcome, so I intend to prepare and send at the end of September some very short articles concerning my researches in retrospective aspect (1974-1991), as well as, some information about the course in dental anthropology taught at Moscow State University for more than 20 years.....

Very Sincerely,
Vera F. Kashibadze (address with article on page 6.)

Recent Dissertations

Cordell, Nancy (1991) Craniofacial Anatomy and Dietary Specialization in the Galagidae. University of Washington. Daris Swindler, dissertation committee chairman.

Haglund, William (1991) Applications of Taphonomic Models to Forensic Investigation. University of Washington. Daris Swindler, dissertation committee chairman.

Selected Bibliography of Recent Publications

Andrews P (1990) Lining up ancestors. Nature 345:664-665.

Anerud A, Loe H, and Boysen H (1991) The natural history and clinical course of calculus formation in Man. Journal of Clinical Periodontology 18:160-170.

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News from DAN

1. Telephone (602) 965-0158

The Dental Anthropology Newsletter now has a telephone. The number is (602) 965-0158. One of the DAN staff is usually in the lab between 7:00 am and 5:00 pm Pacific time in summer and mountain time in winter (Arizona does not have daylight savings time). In addition, by the time the newsletter reaches the membership, an answering machine should be functioning to pick up after-hours and weekend calls.

The phone is a "joint venture" between the Department of Anthropology at Arizona State University and the Dental Anthropology Association. Charles Redman, department chairman, agreed that the department underwrite the installation charges, and the Dental Anthropology Association agreed to pay the monthly bills.

The DAN staff also has a computer terminal to the Arizona State University mainframe set up on the same telephone line. Our BITNET code remains the same: AGAMH@ASUACAD. The mechanics of this technological improvement are due to the work of DAA member and computer expert Rhea Jacanin.

2. Liu Wu Joins DAN Staff

Liu Wu, Research Associate in the Institute of Vertebrate Paleontology and Paleoanthropology in Beijing is a visiting scholar studying dental anthropology with Christy Turner this year. Liu has agreed to serve as a DAN editor during his year at Arizona State.

In China Liu has been conducting research on dentition and jaw form in contemporary Chinese. His latest publication is "Study of Metric Traits and Geographical Variation in Modern Chinese Skulls", Acta Anthropologica Sinica (1991) 10:108-118.

3. Special Savings for DAA Members

To obtain a 40% discount on Advances in Dental Anthropology see the special advertisement on page 8.

4. DAN Has Grown!

The present issue of DAN is twice as long as that of a year ago. WHY? Some of the length is cosmetic (larger, clearer print). Additional space is taken up by a membership list that is 127% the length as that of a year ago. BUT, the major reason is the excellent articles and reviews contributed by DAA members.

DAN especially thanks those who have contributed the impressive collection of papers, reviews, notes, and letters published during the past year. DAN further invites contributions for future issues and hopes that prospective authors will phone or send us a note over BITNET.

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DENTAL ANTHROPOLOGY ASSOCIATION
MEMBERSHIP APPLICATION / RENEWAL FORM

Membership is for the calendar year and includes a one-year subscription to the Dental Anthropology Newsletter (three issues published annually).
Dues are $10.00 for regular membership, and $5.00 for student members.

Please make your check payable to the DENTAL ANTHROPOLOGY ASSOCIATION, and mail to the following address:

Diane E. Hawkey
DAA Secretary-Treasurer
Department of Anthropology
Arizona State University
Tempe, AZ 85287-2402
USA

The Association has a limited number of sponsored memberships available for foreign members. Please send a letter to the Secretary-Treasurer if you are requesting sponsorship. Contributions in any amount towards sponsoring foreign members are also welcome.

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Annual Dues /Membership Status

The information on your address label indicates your current DAA membership status. If "1991" or "1992" appears after your name, your dues have been paid to the end of that year. If a series of asterisks (***) appear after your name, please remit your annual membership fee in order to maintain active status in the organization. The 1992 membership fees are not due until January, although you may choose to renew prior to this date.

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