



Dental Anthropology Newsletter

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THE DENTAL ANTHROPOLOGY ASSOCIATION

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PRESIDENTIAL ADDRESS

In the Dental Anthropology Newsletter (Vol. 3, No. 1, 1988), President C. Loring Brace recalled an incident that happened to him in the mid-1970's at a cocktail party. When asked what his specialty was within anthropology, he replied, "Dental Anthropology". The questioner, a young marketing manager for a well-known publishing company, was overcome with obvious incredulity, if not patent disbelief. According to my predecessor, the young man never did believe there was such a discipline and that it was only a joke. Certainly, times have changed since then; today there is the DAA with its ever increasing membership, our Newsletter spreading the 'good word' and the joint sponsoring of several dental anthropology sessions and symposia each year at the annual AAPA meetings. Even with the current visibility of dental anthropology, though, I often wonder about the number of dental anthropology courses in the anthropology curricula in this country and abroad.

To my knowledge, there are three or so dental anthropology courses being taught in Departments of Anthropology throughout the U.S. at the present time. There is one at the University at Buffalo (SUNY) offered by Joyce Sirianni; Christy Turner is teaching one at Arizona State University and I am giving one here at the University of Washington. I also believe that Richard Scott occasionally offers a dental anthropology course at the University of Alaska. Similarly, as far as I know, Dental Schools in this country stopped offering courses in Comparative Dental Anatomy several years ago. A most unfortunate decision, in my opinion, on the part of our dental colleagues. In fact, I may have given one of the last courses in Comparative Dental Anatomy at an American Dental School in 1958, when I taught it at West Virginia University Dental School.

I would like to know if there are more than these three or four dental anthropology courses currently being offered in the U.S. and abroad. I believe it is crucial to the longevity of the DAA

and to the maintenance of the discipline of dental anthropology for all "Dental Anthropologists" to consider the development of a stronger curriculum in dental anthropology in our universities here and abroad. For, as our first president so eloquently wrote, "We have established a golden bridge between dental practitioners and researchers and created a forum for exchange of ideas and experiences. We are now ready to begin filling the cavities in our knowledge of primate dentitions" (DAN, 1, No. 2, 1986). What better way than through a comprehensive curriculum in dental anthropology at the university level?

Daris Swindler

LETTER FROM THE EDITORS

This edition of DAN represents a new look for the newsletter: including a new page and column format, the ability to publish photographs (thanks to improvements in high-resolution photocopying technology), and a new masthead/logo. The latter was kindly provided free of

charge to DAN by Concept and Design, Inc. of Nicollet, Minnesota. Your comments on these and other possible changes and/or improvements would be appreciated.

Joel D. Irish

SOME ABSTRACTS OF UPCOMING DENTAL PUBLICATIONS

Advances in Dental Anthropology, edited by Marc A. Kelley and Clark Spencer Larsen. Wiley-Liss, Inc., New York. January 1991 publication.

This book chronicles some of the advances made in dental anthropology since the publication of Brothwell's classic Dental Anthropology over 25 years ago. The volume includes substantially revised versions of papers presented in a Dental Anthropology Association symposium organized by Marc Kelley for the 1988 American Association of Physical Anthropologists that were held in Kansas City, Missouri. In addition, a number of other chapters were prepared to fill in some of the areas not covered at the symposium. In addition to an introduction, the book contains 19 chapters prepared by 37 contributors. A diversity of areas in the field are represented, including microwear, morphological variation, odontometrics, intentional and unintentional modifications, age estimation, pathology, enamel defects, occlusal variation, and growth and development.

Clark Spencer Larsen

Culture, Ecology and Dental Anthropology. Edited by John R. Lukacs. Special issue of the Journal of Human Ecology. Kamla-Raj Enterprises: Delhi, India. 1991 publication.

An upcoming issue of the Journal of Human Ecology will be devoted entirely to dental anthropology and will cover a broad range of topics including occlusal variation, attrition and abrasion, dental pathology, and morphometric variation. The forward will be written by AA Dahlberg, while the introductory and concluding chapters will be prepared by the editor. An alphabetic list of contributing authors consists of:

Bhasin, MK and Malik, SL.
Boklage, C.
Brown, T.
Haeussler, A and Turner, C.
Harris, E.
Hemphill, B, Lukacs, JR, and Rami Reddy, V.
Hildebolt, C, Vannier, M, and ShROUT, M.
Hillson, SW.
Kaul, S and Corruccini, R.
Kaul, V.
Kennedy, KAR.
Lukacs, JR.
Maunder, J. Goodman, A and Froment, A.
Ohno, N.
Pastor, RF.
Rami Reddy, V,
Chandrasekhar, BK and Manchar, K.
Sciulli, P.
Sharma, JC.
Townsend, G.
Van Reenen, JF.
Walimbe, SR.
y'Edynak, G.

John R. Lukacs

ARTICLES AND REPORTS

LM1 Lingual Cuspule in a Central Sotho dentition from South Africa

While recording a set of dental discrete traits in a plaster cast-based sample of Bantu-speaking Central Sotho (N=197), a large cuspule was noted on the disto-lingual surface of both LM1's in a male individual (BA 160). The triangular-shaped structure measures 3.5 mm along its base at the gingival margin by 5 mm from the base to the apex (see photograph). It is not associated with a small metaconulid (cusp 7) present on the lingual occlusal surface, but is instead located distally apparently originating at the cemento-enamel junction. The structure looks very similar to protostylid which may be present on the buccal surface of lower molars. Examination of the remainder of the sample failed to reveal a second example of the lingual cuspule.

In addition to the Sotho sample, southern African San (N=83), Meroitic (N=91), X-Gro (N=32), and Christian (N=18) Nubian, American caucasian (N=100), and various southwestern United States prehistoric Nat (N=>300) samples from Arizona State University and several samples of African populations (N=1) located at the National Museum of Natural History were examined for presence of this trait. No examples were found. Turner and AA Dahlberg were consulted to determine if they had seen such a cuspule in any of their world-wide samples.

have examined. Turner reported that he has not seen the trait in >20,000 dentitions studied whereas Dahlberg believes that he has noted the cuspule in one Native American dentition out of the thousands of dentitions he has worked with. A review of the known African dental literature and several dental anatomy books failed to reveal any incidences of the trait.

This LM1 lingual cuspule is apparently a very rare dental anomaly, to date occurring in only two out of tens of thousands of dentitions world-wide. The question is: have any of the Dental Anthropology Association members or associates observed this structure in any human populations? If so please write to the author at this newsletter's address. The results will be published in the next issue of the Dental Anthropology Newsletter.

Joel D. Irish

Tooth Preservative

As can be observed in almost all dental samples, the enamel crowns of teeth commonly fracture and become fragmentary due to dehydration through time. This break-down of the enamel structure can be avoided to some degree by the application of a tooth preservative that I have been using for over 20 years. It consists of:

- 10 parts water
- 1 part glycerol
- 2 phenol crystals

to make ONE CUP of the solution.

This liquid can be



LM1 lingual cuspule as discussed in the text.

applied to the tooth crowns. However, the preservative works best if the whole tooth can be immersed in the solution. Ideally, the longer the teeth are immersed the better -- up to a week or more. Following treatment, the teeth should be allowed to drain and air-dry.

Individual teeth that I have collected over the years for use in my Dental Anthropology class are remarkably well-preserved and show very little evidence of the friability common in untreated teeth. The teeth remain in good condition despite the continuous handling of dental students.

Christy G. Turner II

Notes on Recent Conferences in Japan

Two international symposia in anthropology, recently held in Japan, had papers of interest to dental anthropologists. The first, titled Japanese as a Member of the Asian

and Pacific Populations, was convened by Kazuro Hanihara and the International Research Center for Japanese Studies, Kyoto, September 25-29, 1990. Papers with a dental anthropology component included: Yuji Mizoguchi (National Science Museum), Similarities of the modern Japanese and some Asians in dental size and foodstuff intakes; Tsunehiko Hanihara (Jichi Medical School), Affinities of Japanese: dental and cranial evidence; Hiro Kurashina and Bruce E. Anderson (University of Guam), Human skeletal remains from the Gognga-Gun Beach project; Kazuro Hanihara (International Research Center for Japanese Studies), Dual structure model for the population history of Japanese; and Christy G. Turner II (Arizona State University), Sundadonty and Sinodonty in Japan; The dental basis for dual origin hypothesis for the peopling of the Japanese islands.

T h e a b o v e

contributors and others totalling 19, including several archeologists, geneticists, and one zoologist, presented a wide range of evidence tightly focussed on Japanese biocultural history. Most of the very diverse evidence pointed to a dual origin, that is, the Jomon were the early people of Japan, originating from a southern origin, most likely Southeast Asia, more than 12,000 years ago. The living Ainu of Hokkaido are descended from the Jomonese and have no relationship to Caucasoids as was once believed. Much later, about 2,500 years ago, a large number of migrants flooded into Japan from the Asian mainland, initiating what was to become modern Japan's dominant culture and population. Some modern Japanese almost certainly have Jomonese genes. In sum, this key symposium laid to rest isolationist views about Japan's biocultural history based on archeological grounds.

The second symposium, titled The Evolution and Dispersal of Modern Humans in Asia was convened on the campus of the University of Tokyo by a distinguished organizing committee headed by Takeru Akazawa of the University of Tokyo Museum, November 14 - 17, 1990. Papers with a dental anthropology component included: Past DENTAL ANTHROPOLOGY ASSOCIATION President C. Loring Brace and his co-author David P. Tracer (University of Michigan), Craniofacial change and continuity: A comparison of late Pleistocene and recent Europe and Asia; Geoffrey G. Pope (University of Illinois), The facial

evidence for regionalism in the Far East; Erik Trinkaus (University of New Mexico), Unusual characteristics of the Middle Paleolithic humans from Qafzeh and Skhul; Christy G. Turner II (Arizona State University), Microevolution of East Asian and European populations: A dental perspective; and Xinzhi Wu (Academia Sincia), The origin and dispersal of the anatomically modern Homo sapiens of China.

Unlike the Kyoto symposium, the 35 papers presented in Tokyo did not converge to produce one or two major conclusions. Proponents of the "punctuated out of Africa origin of anatomically modern humans" held their ground, as did those participants who envision the origin and evolution of modern humans as the result of "multi-regional gradualism". Part of the lengthy and very productive discussion arose because regional and/or methodological specialists were poorly or completely unaware of each other's databases, accomplishments, and literature. This was perhaps best illustrated in the discussion periods following papers by Brace, Sandra Bowdler (University of Western Australia), Luigi L. Cavalli-Sforza (Stanford University), Michael Pietrusewsky and co-authors (University of Hawaii and elsewhere), Turner, and Ryk Ward (University of Utah). Despite a lack of consensus on how or where anatomically modern humans originated, the multi-disciplinary symposium was a landmark international gathering that brought together physical anthropologists,

archeologists, geneticists, and workers in related fields including zoology, all of whom shared a concern about human evolution and dispersal in Asia. Because of the extraordinary organizational efforts expended on these symposia, it is quite likely that the proceedings of both will be published in 1991.

Christy G. Turner II

DENTAL ANTHRO NEWS BRIEFS

Brian E. Hemphill, of the University of Oregon, successfully defended his Ph.D dissertation on November 15, 1990. The title of his dissertation is Tooth Size Apportionment among Contemporary Indians: An Analysis of Caste, Language, and Geography.

In additional news from the University of Oregon -- Professor JR Lukacs, Dr. BE Hemphill, Dr. SC Radosevich, and Mr. RF Pastor from the UO Anthropology Department attended the 18th Annual Meeting of the Canadian Association for Physical Anthropology in Banff, Alberta. The meeting ran from November 29th through December 1st, 1990. A symposium on Physical Anthropological Aspects of the Harappa Project organized by Dr. Nancy Lovell, University of Alberta, permitted the four to present results of their various dental and dietary research on 5000 year old human skeletons from Harappa, Pakistan -- an urban agricultural center of the Indus Valley Civilization. The results presented at this conference were based on

human skeletons excavated from cemetery R-37 during the 1987 and 1988 fields seasons by Hemphill and Lukacs with support from the National Geographic Society and the Smithsonian Institution.

In news from Moscow, USSR, AM (Sue) Haeussler, who is currently collecting data for her dissertation, described working on odontoglyphic traits with Soviet dental anthropologists Sasha Zubov and Natalaya Khaldeyeva. She reports that the system is quite simple, and is based on the premise that each cusp tends to divide into three. Thus, first order furrows separate the cusps (e.g. protoconid from metaconid). Second order furrows separate the three sections. The position and form of second order furrows and the furrows they contact comprise odontoglyphic traits. Thus, a notation like 2 med (II) means that on the metaconid, furrow 2 (a second order furrow generally located nearer to the center of the mandibular teeth than furrow 1) goes into furrow II (a first order furrow that separates the protoconid from the metaconid).

The placement of the furrows is absolute; they exist or they do not. Thus, there is no need for judgemental ranking. Judgemental differences can occur between individuals, but interobserver studies have shown a high degree of concordance. Furthermore, the odontoglyphic traits are highly visible on the individuals the Soviets study; that is, contemporary youths whose teeth have erupted, but not

worn down. Unfortunately skeletal teeth, especially from hunters and gatherers, are usually too chipped or worn to see the furrows.

Sue also reports that Zubov has redefined the trait of deflecting wrinkle on the basis of odontoglyphics. According to the new definition, the trait is present "when the deflecting wrinkle is formed by the main ridge only and curved at a right angle or near right angle, and when the main ridge is not cut by furrow 4". The main ridge on the metaconid is formed by second order furrows 1 and 2. Furrow 4 is the designation of a furrow that extends completely or partially between furrows 1 and 2.

Zubov additionally re-examined the ASU plaque for deflecting wrinkle and continues to consider that ASU grades 2 and 3 match his definition of trait presence. In addition Haeussler and Zubov reviewed the plaques for protostylid, metacone, and the classification for enamel extensions. Overall, a relatively high degree of concordance exists between the two methods.

Sue will provide us with additional news on Soviet dental anthropology in future issues of DAN.

In news from Fairbanks, AK, G. Richard Scott has just finished a reassessment of the dentition of the Uyak Site skeletal series from Kodiak Island. His analysis supports many of the conclusions reached earlier by CG Turner II, but also suggests possible affinity with Yup'ik Eskimo, as proposed by Nancy Ossenbergs. More analysis

should follow.

The editors of the Dental Anthropology Newsletter invite all members, anthropology departments and other institutions to submit news items pertaining to dental anthropology for possible future inclusion in upcoming DAN issues. Let everyone know what you are doing.

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Anthropology
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Editors:

**AM Haeussler, JD
Irish, DE Hawkey, SR
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y'Edynak, EE Hunt, S
Loth, JR Lukacs, and
CG Turner**

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