



## DENTAL ANTHROPOLOGY NEWSLETTER

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### PRESIDENTIAL ADDRESS

The visible manifestation of your peripatetic president can once again be seen on exhibit, as it were, in the Museum of Anthropology at the University of Michigan. During the last three months, however, I have been in and out of more than ten different countries and over twice as many collections of prehistoric and recent human skeletal remains. The itinerary quite literally took me around the globe, and left me with a kaleidoscope of impressions that has yet to gel. A part of my mind still remains in each of the nearly two dozen collections in which I gathered cranial and dental metrics. Consequently, although the sightings of my presence in its accustomed haunts are valid enough, there is a sense in which I'm really not all there. I know full well that many have felt that this has been true all along, but it has to be clearly more evident if I get such strong feelings myself of being not quite all collected and at hand.

While my efforts were concentrated on the acquisition of metric data, it was inevitable that I gained a series of nonquantitative impressions, and I would like to pass a couple of these along to the DAA membership in the hopes that some may take up the challenge of putting them to the test. The material on which I worked ranged from nearly 200,000 years ago right on up to the current century. Obviously the more recent specimens are vastly more numerous than the older ones. In fact, beyond 10,000 years, there are precious few examples of the human condition, and I emphasize the "precious" as well as the "few."

For more than twenty years I have been interested in the role that reductions, particularly manifestations of dental reduction, have played in the production of modern human form. Furthermore, I have tried to deal with the particular circumstances that led to those dental reductions. In my efforts to grapple with these problems, I have never been happy with the minimalist interpretations of what Stephen Jay Gould has called the "hyperselectionists," the biological counterparts of the Bauhaus school whose slogan, "less is more," finds a kind of equivalent in the idea that smaller is somehow better. I have just never been able to accept the idea that it is somehow advantageous to have smaller, weaker and ultimately fewer teeth even if we cannot see what that advantage might be.

Some of course have claimed that the reduction in crown pattern complexity is a response to caries. Fissures and crevices are more likely to collect food particles which produce cariogenic conditions. Caries then have been suggested as the selective force that produces crown simplification.

Others have said that smaller teeth are less likely to be crowded into ineffective occlusions with their frequently accompanying and potentially dangerous impactions. Crowding then has been offered as one of the selective forces that have led to dental reduction.

In regard to these two matters, however, my recent trip has reinforced the feelings that have grown from previous similar grinds through these and other collections. I am struck by the impression that caries and crowding are virtually nonexistent until the past several centuries. Certainly through the Middle and Late Pleistocene they are so rare that it is hard to see how they could have played any role at all. Tooth loss due to periodontal disease or perforation of the pulp cavity by extreme and rapid wear do occur, but crowding and caries not so. Even in the Mesolithic, Neolithic, Bronze and Iron Ages, crowding and tooth displacement are almost impossible to find, and caries is rare indeed. Caries does begin to increase in frequency with the advent of agriculture in the Neolithic as John Mummery observed over a century ago, but the full-scale double-digit frequency of rotten teeth does not become apparent until after the use of cane sugar in the sixteenth century and subsequently. More than 99% of crown simplification had already taken place before the phenomenon of caries had gotten up to the level where one could regard it as a valid selective force.

All of this just reinforces my conviction that the mechanics of dental reduction, whether pattern complexity or sheer tooth size, is more likely to be as I have suggested in the past. That is, the accumulation of disruptive mutations has produced the manifestations of dental reduction when the selective forces previously maintaining the dentition were themselves reduced, (i.e.) the action of the Probable Mutation Effect as I described it twenty-five years ago. But then, I am not a clinician and, although while I am struck by the appearance of what I judge to be splendid dental health as the rule in prehistoric human populations, what the business needs is for an appropriately qualified dentist to collaborate with an evolutionary biologist/anthropologist and really make a proper study of whether caries and crowding really could have played a role in the process by which the observed dental reductions came about.

As I ponder what I have seen in the collections I have visited and consider what people have said about what we now call dental anthropology in the past, I have the distinct and uneasy feeling that, in spite of major advances in dentistry as well as in evolutionary biology, our basic understanding of the circumstances under which human dental evolution took place has not advanced very much beyond where it was when Mummery followed up on the pioneering observations made by Georg Carabelli over one-hundred and fifty years ago. I think it probable that no one scholar has the breadth of expertise necessary to go it alone.

Instead, it would seem to be a situation where further progress will require the collaboration between clinical dentistry and biological anthropology. In its fullest sense, this is what "dental anthropology" should be. The challenge is there, and I hope that the future will see the rise of the kind of teamwork that can meet it.

C. Loring Brace

#### A NOTE FROM THE EDITOR

This issue of the Dental Anthropology Newsletter gives us a glimpse of the potential it has to become an instrument of international communication, ideas, and information. Our distinguished President, Loring Brace, shared the thoughts and experiences gleaned from his latest travels. There is also a very interesting contribution on "Taboo Teeth in Yoruba Culture" from one of our sponsored members in Nigeria. Alan Goodman sent an announcement of a research project underway that will interest many of you. This is a good start, but I'm sure the rest of you are involved in projects and fieldwork that would be of interest.

There is a question I would like some feedback on - namely the name of this organization. We are officially the Dental Anthropological Association. However, it seems that many of you refer to us as the "Dental Anthropology Association." While that former is grammatically correct, the latter seems more "comfortable". Should there be an official name change? Please send me your thoughts on this, or for that matter, any other aspect of the DAA that you think can be improved.

Finally, I'd like to wish all of you a very happy holiday season and success in 1989.

Susan R. Loth

#### 1989 AAPA AND DAA ANNUAL MEETING

As I'm sure you know by now, the next meeting of the Dental Anthropological Association will take place at the Omni - San Diego Hotel. For those of you who are interested, the Paleopathology Association (April 4-5) and the Human Biology Council (April 5) meet immediately prior to the start of the AAPA meeting. This year's DAA meeting facilitator, Mark Skinner, will be able to provide any information you might need.

If a non-AAPA member or European member wishes to attend the Dental Anthropology meetings, you may contact either of the Local Arrangements Chairs: Dr. Lois K. Lippold, Dept. of Anthropology, San Diego State University, San Diego, CA 92182, tel. (619) 265-5452 and Ms. Rose A. Tyson, San Diego Museum of Man, 1350 El Prado, San Diego, CA 92101, tel (619) 239 239-2001.

## 1989 DENTAL ANTHROPOLOGY SESSIONS AND SYMPOSIA

As usual, the DAA meeting and symposia will be part of the American Association of Physical Anthropologists (AAPA) meetings on April 5-8, 1989. Our very conscientious program chair, Gloria y'Edynak, has managed to get an advance schedule of symposia of interest to the DAA membership. On April 6, 1989 the DAA will sponsor a full day consisting of two symposia. The morning session presents 12 speakers on "Primate Tooth Formation" organized by Dr. Daris Swindler. The afternoon session offers 8 papers and a distinguished panel of discussants who will deal with "The Genetic and Environmental Components of Tooth size and Morphology" organized by Drs. Gloria y'Edynak and Michael Mahaney. We are proud to announce that all submitted abstracts were accepted for presentation in these symposia.

Because of Gloria's strong "lobbying" efforts, there will also be a contributed session containing 15 papers in Dental Anthropology on the afternoon of Friday, April 12th. In addition, several dental anthropology papers will be presented in the Paleopathology session on Saturday morning, April 8th. They will also appear in the Poster Sessions on skeletal biology, primate biology, and craniofacial growth. Furthermore, dental topics will be included in the Paleontology sessions, which Mike Little indicates will dominate the AAPA program this year.

The annual DAA business meeting will be held from 5:00-6:00 PM April 6th following the DAA sponsored afternoon session. The entire dental program will be published in the next issue of DAN.

### COMMENTS AND CORRESPONDENCE

At last year's meetings we discussed the idea of collecting teeth with dental defects of various types and varieties in order to construct a standard. This project is now underway with Alan Goodman in charge of casting teeth for possible inclusion. If you have specimens that you feel could be used to illustrate a type or severity of defect then please, if possible, send them to Alan Goodman, Box NS, Hampshire College, Amherst, MA 01002.

### TABOO TEETH IN YORUBA CULTURE

Among the Yoruba, an ethnic group of people found mainly in the West African sub-region (especially in Western Nigeria), certain tradocultural beliefs persist of witches as causes of misfortune believed to afflict human society. Since witches are believed by them to manifest themselves on earth at birth or shortly thereafter. Children born under such circumstances were believed to bring disaster, illness or death to the families into which they were born. They were apprehended as witches and dealt with accordingly.

Certain signs prominently ascribed to these "newborn witches" include the presence of natal teeth and the incidence of maxillary teeth commencing eruption of the deciduous dentition. Other signs are breech birth, eighth month or later parturition and an extra digit (six fingers or toes).

In the past, babies with such signs at birth or during teething were customarily killed or abandoned to die from exposure and starvation. Their families were sometimes not spared, some were stoned dead with their babies, while the few luckier ones were ostracized from the society, banished forever to the jungles.

More recently, purification rituals and/or animal sacrifices continue, even now, to be performed in certain parts of Yorubaland. Sometimes, mothers (very rarely, fathers) present such newborn babies at Dental Centres where they demand invariably that the "offending" teeth be extracted.

While I respond favorably to their requests with regards to natal teeth (since most make breast feeding traumatic and painful), I reassure parents of children erupting maxillary teeth first, warning them of the unfavorable sequelae (e.g., malocclusion, etc.) that can result from unnecessary extraction.

This therapy is sometimes taken with grudging silence, and a follow-up of ten such cases showed two infant deaths resulting from subsequent secret extractions by quacks - native doctors "babalawos" or even blacksmiths - under the most unbelievably septic conditions. Unfortunately, such deaths are unintentional, but avoidable.

Ajibola A. Adegboye  
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Nigeria

#### DAA BUSINESS

We encourage the membership to contribute not only to DAN, but also to contact the appropriate executive Board member with any suggestions or questions you might have. They can be reached as follows:

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