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among populations, living as well as archaeological, use of these traits in a forensic context to identify race appears to have progressed little beyond the stage of "incisor shoveling equals Asiatic" versus "Carabelli's cusp equals European."

The potential exists for using dental change to reconstruct behavioral patterns based on occupation or other activities, including individual idiosyncracies, that can aid in personal identification. Teeth have already proven to be excellent sources of DNA, and it may even be

possible to identify signatory chemicals from water or soil in teeth to determine where a person lived while his or her teeth were developing. This book could serve as a stimulus to get dental anthropologists interested in forensic work to organize and update their techniques, preferably in cooperation with other researchers interested in the dentition, presenting the results in a volume similar to that edited by İşcan and Helmer, thus making them generally available to the forensic profession.

Readers may note an interesting personal feature on page 64 (Fig. 3). Here the facial development of the first editor can be followed through nine photographs for nearly 40 years of his life, from an 11-year-old youth with prominent ears and a "widow's peak" to the distinguished-looking, bearded colleague we recognize today.

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CULTURE, ECOLOGY AND DENTAL ANTHROPOLOGY. Edited by J.R. Lukacs. Journal of Human Ecology Special Issue No. 2. Delhi: Kamla-Raj Enterprises. 1992. ISBN 81-85264-00-9. 314 pp. Rs 550, US \$60.00.

BIOLOGICAL ADAPTATIONS IN HUMAN DENTITION: AN ODONTOMETRIC STUDY ON LIVING AND ARCHAEOLOGICAL POPULATIONS IN INDIA. By S.R. Walimbe and S.S. Kulkarni. Monograph Series on Biological Anthropology, Volume 1. Deccan College PostGraduate Research Institute: Pune. 1993. 139 pp. Price: US \$15.00 (cloth), US \$14.00 (paper) Plus US \$2.00 surface mail, US \$4.00 first-class mail.

Until recent years, the role of South Asian populations in world prehistory has been neglected. Inattention to the region is surprising, since South Asia is a geographic crossroads between other key areas of study, namely, Southeast Asia, Africa and Eurasia. Two new publications from India provide an excellent overview of the current status of dental anthropological research in this important region of the world.

The main objective of *Culture, Ecology and Dental Anthropology*, edited by JR Lukacs, is "to bring current research in the dental anthropology of South Asians to the attention of a wider audience, while simultaneously bringing to the Indian subcontinent a sample of research in dental anthropology being conducted throughout the world" (p. 2). While the volume contains articles that span a wide geographic area, including Africa, Australia, Central Asia, North Asia, Europe, and North America, the majority of articles concern living and prehistoric populations of South Asia, and how cultural and ecological factors



Mehmet Yaşar İşcan (right), editor of *Forensic Analysis of the Skull* and founding president of the DAA, with Stanley Garn (left) and Susan Loth (center), former editor of DAN, at the AAPA meetings. Photo by A.M. Haeussler.



John R. Lukacs (left), President of the Dental Anthropology Association and editor of *Culture, Ecology, and Dental Anthropology*, and Robert F. Pastor (right) at the AAPA Meetings. Photo by A.M. Haeussler.

Population Comparisons (B.E. Hemphill et al., M.K. Bhasin and S.L. Malik, A.M. Haeussler and C.G. Turner II, N. Ohno). Within the first three sections, there are articles that deal with specific problems in methodology such as age determination from crown and root data (Hillson), alveolar bone loss quantification (Hildebolt et al.), odontometric directional asymmetry (Harris), and statistical methods to record developmental asymmetries (Boklage).

Lukacs provides a strong, cohesive approach to the often undervalued role of editor. Although most edited volumes have an Editor's Introduction, Lukacs also contributes prologues for each of the five sections. These prologues introduce the particular topic to the reader in a clear, comprehensive manner, and summarize key points of agreement/disagreement between the authors. More importantly, the prologues supply cross-references to other work that either supplement or dispute a particular author's point-of-view. This volume is a classic example of how valuable an editor's contribution can be, and Lukacs' extensive background in South Asian dental anthropology will enable even a casual reader to gain insight into the role of culture and ecology on the human dentition.

Biological Adaptations in Human Dentition: An Odontometric Study on Living and Archaeological Populations in India is an intriguing study by S.R. Walimbe and S.S. Kulkarni of Deccan College Research Institute, Pune. Initially the authors use dental metric data to examine dental reduction and its correlation with the introduction of agriculture in India. They then take the research a step farther to investigate the sociological implications of their findings on the prehistoric record.

Theories advanced by anthropologists suggest the origins of Hinduism can be traced back to the agricultural societies, particularly the early civilizations of the Indus Valley. The process of "Hinduization" or assimilation of nearby hunter-gatherer populations into these agricultural groups is often thought to be the initial stages of the caste system in India. Walimbe and Kulkarni first examine four carefully selected living populations of varying social stratification and subsistence practices, then compare the data to 20 prehistoric South Asian groups to determine if the "Hinduization" process can be supported by the dental data.

Biological Adaptations in Human Dentition contains concise, detailed information concerning methodology, provides ample tabular data, and includes an excellent section describing field techniques for making dental impressions of live subjects. Data on dental morphological traits are supplied as well. It is a fascinating example of how dental data can help resolve questions that are not always answerable by the archaeological record alone.

One thought is apparent from a reading of the two works currently reviewed: South Asia has never been static, either genetically or culturally. The words that Walt Whitman once penned remain true today - the subcontinent contains "doubts to be solv'd/ the map incognita/ blanks to be fill'd."

Many unanswered questions in this complex and important region of the world are being clarified by research such as presented in *The People of South Asia: The Biological Anthropology of India, Pakistan and Nepal* (J.R. Lukacs, editor, 1984), *Dental Anthropology: Methods and Applications* (V. Rami Reddy,

are intimately correlated with dental data.

Examining key issues that remain unsolved in dental anthropology, the volume is divided into five sections: (1) Growth and Development of the Dentition (with articles by S.W. Hillson, K. Visweswara Rao, P. Banerjee et al., V. Kaul, J.C. Sharma, G.C. Townsend, T. Brown); (2) Dental Pathology: Past and Present (C.F. Hildebolt et al., V. Rami Reddy et al., J. Maunders et al., S.R. Walimbe and J.R. Lukacs, G. y'Edynak); (3) Odontometric Variation and Evolution (C.E. Boklage, E.F. Harris, K.A.R. Kennedy, P.W. Sciulli); (4) Patterns of Dental Attrition (S.S. Kaul and R.S. Corruccini, J.F. Van Reenen, R.F. Pastor); and (5) Morphometric Dental Variations:

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editor, 1985), and K.A.R. Kennedy's monograph on South Asian paleoanthropology (in preparation). The two new volumes discussed in this review add substantially to an understanding of one of the most challenging areas of the world for anthropological study.

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International Workshop: *Dental Anthropology, Weimar, October, 1993*

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An international meeting of physical anthropologists interested in the problems of dental anthropology was held in the historic German town of Weimar during the end of October, 1993. The sponsor was the Section for Paleoanthropology and Historical Anthropology of the *Anthropologische Gesellschaft* (Anthropological Association). Professor Dr. M. Teschler-Nicola of Vienna University and the Department of Anthropology of the Austrian Museum of Natural History in Vienna directed the scientific program. The workshop was attended by some 60 colleagues from Germany, Austria, the Czech Republic, Switzerland, and Norway.

The workshop consisted of 26 plenary session lectures with discussion, poster exhibitions, and practical demonstrations of interesting material findings, such as caries, periodontal pathology, and dental wear. The initial session, chaired by Alfred Czarnetzki (University of Tübingen), dealt with dental anatomy.

The first paper was presented by Jens C. Türp (Department of Dentistry, Albert Ludwigs University, Freiburg, Germany) who spoke on Dental Anatomy. Then Jens C. Türp and Kurt W. Alt (Department of Forensic Medicine, Heinrich-Heine University, Dusseldorf, Germany) talked on the Morphology of the Human Dentition. Micromorphology of the Tooth Enamel was the topic discussed by Ralf J. Radlanski (Section of Micromorphology, Department of Dentistry, Free University, Berlin, Germany). The final lecture was presented by M. Bujatti-Narbeshuber (Department of Anthropology, Austrian Museum of Natural Sciences, Vienna, and Department of Human Biology, University of Vienna, Austria) on Taxonomical Analysis of the Enamel Prisms in Hominoid-Hominid Evolutionary Studies.

Jens C. Türp chaired the second session, a lecture on the Evolutionary Disorders of the Teeth given by Kurt W. Alt. The third session consisted of a paper presented by W. Henke (Department of Anthropology, Johannes Gutenberg University, Mainz, Germany) on the Paleoanthropology of Dentition.

A pathology and epidemiology session was chaired by Kurt W. Alt, who also presented a paper on Granulomas and Cysts as a Sequence of Dental Decay. Three other lectures were given: (1) Dental Decay — An Interdisciplinary Problem by Dr. Norbert Baum (Langenzenn, Germany), (2) Periodontal Pathology by Thomas F. Strohm (Department of Dentistry, University, Freiburg, Germany), and (3) Jaw Tumors in Paleoanthropological Materials by Eugen Strouhal (Department of the History of Medicine, Charles University, Prague, Czech Republic).

M. Kunter chaired the fifth plenary session, covering nutrition, age, and dental wear. Five lecturers in this section were: (1) Ch. Willms (Gross-Gerau, Germany) who discussed Nutrition in Prehistory, (2) Gisela Grupe (Department of Anthropology, Munich University, Germany) who addressed Trace Element Analysis of Dental Enamel, (3) Alfred Czarnetzki (Osteological Collection, University Tübingen, Germany) who covered Dental Wear, (4) Tilmann Knoll and Manfred Kunter (Department of Anthropology, University Giessen, Germany) who presented a paper on Dental Wear in Deciduous Dentition, and (5) Jens C. Türp who spoke on The Temporomandibular Joint: Anatomy, Function and Pathology. Kurt W. Alt presented two papers, Artificial Changes in the Human Dentition and Unusual Attrition.

Friedrich W. Rösing and Maria Teschler-Nicola each headed a division of the sixth plenary session. The first part consisted of five presentations: (1) Maria Teschler-Nicola, Karin Wiltchke-Schrotta, and Margit Berner (Department of Anthropology, Austrian Museum of Natural History, Vienna, and Department of Human Biology, University of Vienna, Austria) on Sexual Diagnosis of the Teeth: Odontometry, (2) Hermann Prossinger (Department of Anthropology, Austrian Museum of Natural History, Vienna, Austria) on Methodology of the Sexual Diagnosis of the Teeth of Non-adult Individuals on the Basis of Odontometrical Data, (3) Ralf J. Radlanski on Age Assessment of the Basis of Dental Evolution and Eruption, (4) Milan Dokládál (Section of Medical Anthropology, Department of Anatomy, Masaryk University, Brno, Czech Republic) on New Data on Tooth Eruption/Emergence and Their Practical