

DENTAL TRANSFIGUREMENT AND ITS POTENTIAL FOR EXPLAINING THE EVOLUTION OF POST-ARCHAIC INDIAN CULTURE IN THE AMERICAN SOUTHWEST

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ABSTRACT The term "dental transfigurement" is suggested for the non-therapeutic modification of prehistoric teeth. In North America, prehistoric dental transfigurement was a common practice only in Mesoamerica. Hence, among the few explanations possible for the rare occurrences of dental transfigurement in the prehistoric American Southwest, the most likely one is migration, that is, the actual presence of Mesoamericans who traveled to and subsequently died in the American Southwest. One case, especially, may contribute to understanding the rapid development of the large planned prehistoric towns in and around Chaco Canyon, New Mexico. This case, the oldest example of prehistoric American Southwest dental transfigurement known so far, was part of a mass burial in one of the rooms that N.M. Judd excavated at Pueblo Bonito — a room that Judd believed had been built during the initial phase of construction of this great Chacoan town.

INTRODUCTION

This communication has two purposes. The first is to bring to the attention of this journal's readership the recent suggestion (Turner and Turner, 1999) for using the term "dental transfigurement" (to transform the figure or outward appearance) in preference over the ethnocentric term "dental mutilation." Like terms such as savage, barbaric, and primitive, dental mutilation possesses a racial tone and should probably be abandoned from usage. The second is to illustrate an example of dental transfigurement believed to be the earliest case thus far known in the prehistoric American Southwest. This case has some potential for helping to understand the rapid rise of large towns in the prehistoric American Southwest.

Dental transfigurement and dental mutilation refer to the non-therapeutic modification of the labial and occlusal surfaces of anterior teeth. As is well known, tooth modification involving chipping, filing, incising, inlaying, coloring, ablation, and other forms of socially-prescribed physical treatment have been frequently reported at and following historic contact by European explorers and travelers in many parts of the world (Scott and Turner, 1997). Australasia, Africa, and Mesoamerica were three world centers where dental transfigurement was relatively common, presumably arising in each region as independent innovations.

The purposes and reasons for dental transfigurement told to ethnographers and other early observers of aboriginal cultures include cosmetic beautification, individual and idiosyncratic choice, group and human (to be different from animals) identification, rituals of puberty and entry into adulthood, status indicators, and so forth. For example, el-Hak (1961) said that members of the northern African Dinka tribe extract the lower six anterior teeth and push the upper six forward so that they protrude as a substitution for circumcision.

Du Bois (1960) observed that Alor (southeast of Borneo and north of Australia) boys and girls have their teeth filed and blackened during adolescence as a preliminary to marriage. To have one's tongue showing pinkly between the gaping front teeth was considered attractive. van Reenen (1986) proposed that the type of dental transfigurement was closely linked with tribal affiliation, that is, a form of identification. Dental transfigurement may also have been performed as a posthumous funeral rite according to Campillo (1979).

The full depth of antiquity for dental transfiguration in each of the three main world centers is uncertain, however. At present, the world's oldest possible example, involving bilateral lower central incisor ablation, seems to have been performed on a female whose skull was excavated from the 20,000 year-old Minatogawa site on Okinawa (Hanihara and Ueda, 1982). Various dental transfiguration types are well known later in time in this region and all along the Pacific rim of East Asia from Jomon period Japan to Neolithic Thailand. Kennedy, et al. (1981) reported on an 8,000 year-old burial from Madhya Pradesh, India, that had incised incisors. Ablation may be as old in northwest Africa because Wells (1964) found that dental ablation was practiced by the Upper Paleolithic inhabitants of that region.

My interest in dental transfiguration arises from the long-standing Americanist controversy over the archaeological question of whether or not individuals or groups traveled directly from prehistoric Mesoamerica to the American Southwest, and on their arrival directly and markedly influenced the transformation of the age-old nomadic social and economic American Southwest lifeway to one of centralized sedentism in large villages and towns.

Were various elements, undeniably Mesoamerican, carried directly to the American Southwest by Mesoamericans? Such elements include maize, live macaws, copper bells, artifacts of marine shells, and so forth. Or, were these and other Mexican elements introduced over many generations along relatively more indirect lines, such as inter-community trade and exchange networks from the Mesoamerican frontier to and throughout northern Mexico and the American Southwest?

This question is theoretically important and hotly debated, bearing as it does on deciding whether American Southwest Indian culture advanced mainly by local evolution, the view held by many American Southwest archaeologists, or was influenced by actual Mesoamerican migrants who introduced new ways and concepts in addition to the above mentioned trade items, a viewpoint with relatively fewer champions. Patently, a scenario involving direct and indirect exchange is also possible.

Let it be emphatically said that no Americanist denies that some Mexican cultural elements reached the prehistoric American Southwest. The method of transmission and the degree of influence are what make up the core of the debate. For more on this see Schaafsma and Riley (1999).

Ideally, the best evidence for actual Mesoamerican presence would come from some sort of genetic marker trait that had its mutational origin in Mesoamerica. No such morphological or molecular trait has been recognized so far. On the other hand, a number of distinctive Mesoamerican cultural traits, such as those just mentioned, exist. Yet, almost none of these is linked to a given individual. However, one cultural practice is so linked, and it can be viewed as strongly indicative of the presence of actual migrants. This is dental transfiguration. In Mesoamerica, dental transfiguration is relatively common and ancient (Borbolla, 1940; Romero, 1958, 1960, 1970, 1986; Cifuentes Aguirre, 1963; Fastlicht, 1971; Campillo, 1979; Gill, 1985; Serrano and Martinez, 1989; Pompa, 1994 personal communication; Hermann et al., 1999), whereas it is very rare elsewhere in North America (Milner and Larsen, 1991).

The first mention of dental transfiguration for an American Southwest Indian skull was made by Saville (1913). He observed filed anterior teeth in a skull curated in the Smithsonian Institution's National Museum of Natural History. The skull had been excavated in the 1890s by J.W. Fewkes at a prehistoric Hopi Indian ruin in northeastern Arizona named Sikyatki. Oddly, it was sent as an exchange specimen to the South Australian Museum of Adelaide, Australia, where dental anthropologist T.D. Campbell (1944) noticed the dental modification, probably because of his earlier studies on Aborigine teeth and related behavior, including ablation.

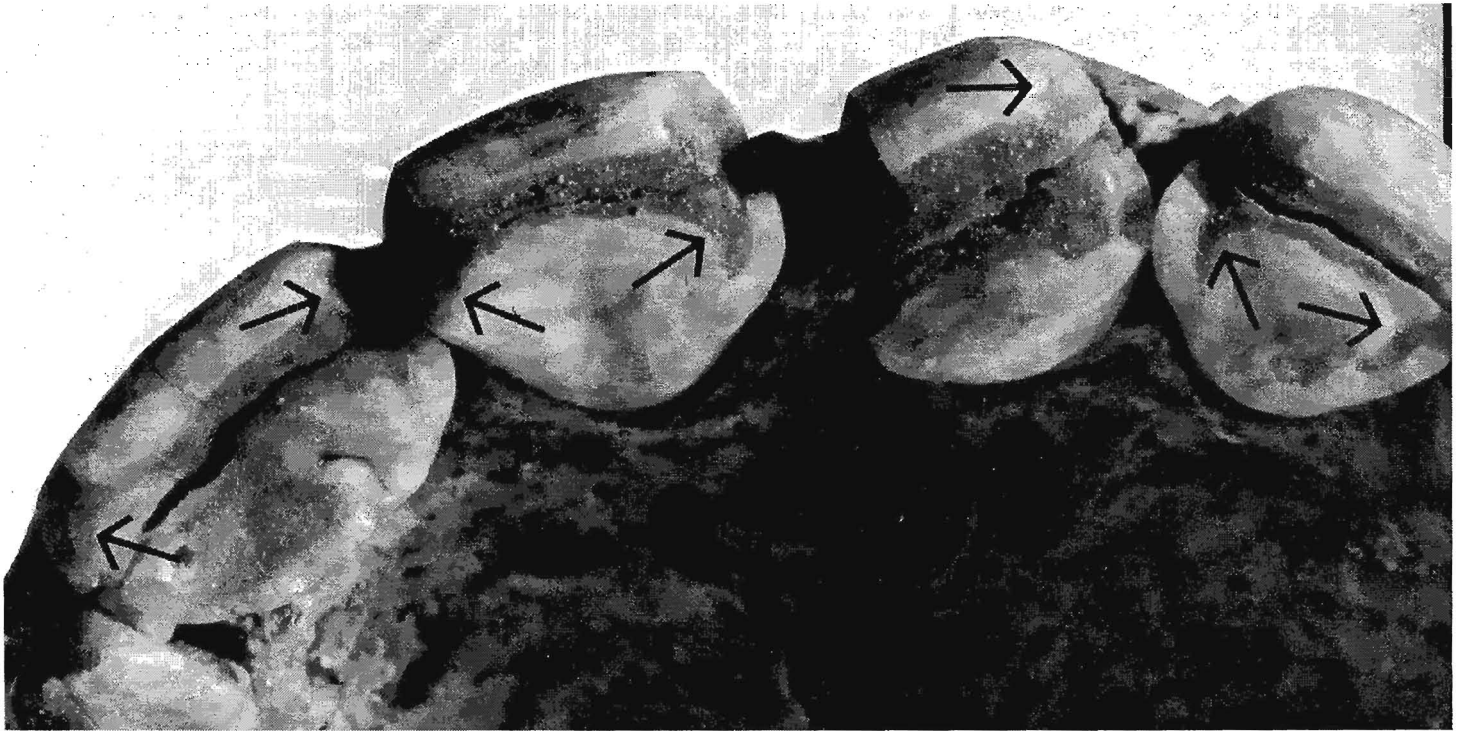


Fig. 1. Mesoamerican dental transfigurement in an old adult male (45 to 60 years) (NMNH 327099) recovered by N.M. Judd (1954) in July, 1924, from Pueblo Bonito room 330, Chaco Canyon, northwestern New Mexico. This room, along with several others was believed by Judd to have been built during the first construction phase of Pueblo Bonito (A.D. 900-1100). As such, this presumed Mesoamerican was directly associated with the rise of the Chaco Anasazi great houses and extensive road complex. He was found with at least 31 other men and women (Palkovich, 1984) strewn wildly on the floor. One possible explanation for this remarkable interment, among other extraordinary features, is that some or all may have been sacrificed upon his death (Turner and Turner, 1999:129). Such practices occurred throughout Mesoamerica, even in northern frontier sites such as Alta Vista, approximately 900 air miles south of Pueblo Bonito, or roughly a 30 to 40 day walk (CGT neg. 6-3-97:36).

While the nearly exact geographic origin of this skull is known, its precise antiquity is not, a circumstance which reduces its usefulness as an indicator of prehistoric Mesoamericans in the American Southwest. The Sikyatki skull could date to either prehistoric or historic times, that is, before or after AD 1539. However, the Sikyatki site seems to have been abandoned following a deadly and ruinous raid by Hopi Indians from other villages at about the time that the Spanish arrived in New Mexico, but before they ventured westward to Arizona (Turner and Turner, 1999).

Since Fewkes did not record the exact location in the ruin that he found the skull, we must allow that it could represent an individual who was a member of the small Indian army that the Spanish conquistadors put together in Mexico and led to the American Southwest. This adult male could have deserted and fled westward, subsequently dying and being buried by chance in the ruins of Sikyatki. As far-fetched as this scenario seems to me, it should not be outrightly dismissed in light of the frequency that intrusive burials have foiled ostensibly simple stratigraphic associations in many parts of the world. Still, the skull very likely dates to the late prehistoric period of American Southwest culture history.

MATERIALS

More than 30 years would pass after Campbell's (1944) report before another example of American Southwest dental transfigurement would be recognized. This I did in July, 1978, when studying the dentition of Pecos Pueblo, New Mexico, curated in the Peabody Museum, Harvard University. The individual (59987) was a male with an incised left upper first incisor. I was never certain whether the

individual (59987) was a male with an incised left upper first incisor. I was never certain whether the incising was intentional or the result of some sort of task activity. In any event, Pecos Pueblo was occupied into historic times, and the man could have lived after the Spanish arrived.

However, in September, 1988, I found a case of unquestionably deliberate dental transfiguration in the dentition of a skeletal assemblage excavated at a Classic period Hohokam village called Grand Canal, situated within the city limits of Phoenix, Arizona (Turner and Turner, 1995; Bair et al., n.d.). This burial and many other inhumations and cremations were excavated under the field supervision of G.A. Bair for Soil Systems, Inc. The individual, identified by T.M. Fink (1989) as having been a male aged 25 to 35 years, was buried with some exceptional mortuary goods that suggest that he had social or economic status above many if not most other individuals laid to rest in this large cemetery.

Soon after the publication of the Grand Canal find, announcements of other examples of dental transfiguration began to appear (Turner et al., 1997; Burnett, 1997; Minturn and Lincoln-Babb, 1998; Turner and Turner, 1999). In addition, Lincoln-Babb reported in Flagstaff, Arizona, at the 1996 Pecos Conference, that she had found two prehistoric southern Arizona Hohokam males (Features 110 and 156), excavated at the Las Acequias site near Phoenix, to have dentally transfigured teeth.

As of this writing, the dozen or so examples of American Southwest dental transfiguration include mesial and distal edge notching, filed labial-occlusal notching at the crown midpoint, and two cases of labial surface polishing — the latter practice known elsewhere only in the Valley of Mexico. One of these two examples of labial polishing is illustrated in Regan et al. (1996:836). It was recovered by archaeologists working under the directorship of G.E. Rice from a pit in a Salado platform mound site called Schoolhouse Point Mound located near Lake Roosevelt in central Arizona. The site dates between AD 1150 and 1450.

The highly parallel polishing striations cover the labial surface and run from the occlusal border to the crown-root junction. What is remarkable about the cultural implications of the fragmentary remains of this young adult is that they were found in a pit containing the incomplete remains of another adult (male) with the notched border variant of intentional dental transfiguration.

My first discovery of prehistoric American Southwest incisor labial polishing happened during a routine dental study of Hohokam and Mogollon remains at the Museum of Northern Arizona in June, 1988. This example occurred in an adult female from a southern Arizona Hohokam site (NA 18,003) dating between AD 1280 and 1400. The woman had been buried on her back in an extended position. Like the Salado case, she too was associated spatially with a platform mound (R. Ciolek-Torrello, 1988, personal communication). Studies on tooth surface striations have been reviewed by Lalueza Fox (1992), who attributes labial polishing mainly to oral hygiene practices.

Most of the presently known American Southwest examples of dental transfiguration probably belong to the late prehistoric and early historic time periods. As such, they would, on the one hand, be largely irrelevant to the question of Mesoamerican influence on the evolution of American Southwest Indian culture. On the other hand, their presence in the American Southwest might well be looked upon as late examples of a long-standing custom of actual Mexican visitors (e.g., opportunists, traders, wanderers, even warrior-priest cultists and followers). In either case, archaeologically-derived American Southwest crania with dental transfiguration are the best currently available biocultural evidence to argue for an actual presence of Mesoamerican Indians in prehistoric Arizona and New Mexico. While their number is presently few, the amount and types of influence they may have introduced could have been highly significant, given that an analogy can be made with the immense influence the few early Spanish missionaries had on many groups of American Southwest Indians (Spicer, 1962).

A case of dental transfiguration temporally earlier than the Southern Arizona Hohokam example was present in a skull found a number of years ago, but unrecognized until recently (Fig. 1). This specimen is in the physical anthropology collections of the Smithsonian Institution's Natural History Museum,

Washington, D.C. The mostly complete skeleton is that of an old adult male. It was recovered by N.M. Judd as part of his National Geographic Society-sponsored Pueblo Bonito excavations in Chaco Canyon, New Mexico. Judd (1954) firmly believed that the above ground masonry room where he found several skeletons (Room 330) was built by the Indians he referred to as the "Old Bonitians early in the construction sequence of this Great House, namely in Pueblo II times (AD 900 to 1100)."

DISCUSSION

Mechanisms, processes, agents, conditions, migrations, and historical pressure are among the many factors that need to be considered in any study of cultural evolution or change. Heretofore, American Southwest archaeologists have generally recognized that external influences from Mexico have played a significant role in changing the economy and related considerations of prehistoric American Southwest culture(s) from nomadic hunting and gathering to sedentary village agriculturalists. The primary mechanism was the introduction of maize that had been domesticated earlier in central Mexico. With maize must have also come some of the fertility ritual and ceremony associated with the growing of this valuable cereal. Later, other cultural elements were introduced, some of which have been previously noted.

Saying this leads to the aforementioned long-standing debate in Americanist archaeology on just how these Mesoamerican elements reached the American Southwest. On the one hand, some archaeologists envision a slow village-to-village exchange process, without any direct migration (regardless of size) of Mesoamerican carriers of these elements. On the other hand, a few archaeologists see the need for some degree of direct contact, that is, actual Mesoamericans in the American Southwest.

Heretofore, the argument against actual presence has rested on two facts. (1) The architecture, pottery styles, settlement patterns, and other physical features and stylistic considerations show no strong integrated resemblances with those of Mexico. For example, no pyramids, temples, or other forms of major public architectural complexes have been found in the American Southwest. Metallurgy is absent, as is evidence of trade or craft specializations, and so forth. (2) No actual Mesoamericans have been identified in the American Southwest. In a sense, the argument against a Mesoamerican presence has rested on negative evidence, which is not the best sort of evidence to rely upon in any debate, let alone in a context such as occurs in archaeology where so very little of any culture preserves. Still, the few resemblances between the American Southwest and Mesoamerica are more of a mosaic than an integrated complex, so the anti-migrationists have a reasonable argument.

Now, however, dental anthropological evidence in the form of dental transfiguration is accumulating. This new information points to the possibility of actual Mesoamerican migrants having traveled to the American Southwest or, and very unlikely in my view, some American Southwest Indians traveled to Mesoamerica, had their teeth fixed, and returned afterwards. While most of the cases of dental transfiguration are too late to have had any thing to do with the earlier settlement pattern changes in American Southwest culture, one seems to be early enough to be linked to the first stage of construction at Pueblo Bonito — the architectural icon of prehistoric American Southwest culture, and one of the major sites that migrationists or "fast diffusionists" hold up as an example of direct Mesoamerican influence. While this one possible Mesoamerican may not convince hard core anti-migrationists that even if Mesoamericans had been in the American Southwest early enough to have influenced the rise of the Chacoan way of life, we have no indication that their numbers were large enough to have had much influence. Patently, adherence to this argument ignores the question: how many individuals does it take to stimulate major changes in a culture? The answer is, of course, that the number can vary depending on circumstances.

CONCLUSION

In conclusion, this note draws attention to the term, dental transfiguration. It also illustrates how dental anthropology can be of potential help to areas of research completely removed from the realm most of us think about as the domain of dental anthropology.

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