

proposed by Olivier (1967) and by Ducros, Ducros, and Boulinier (1973), and its use is advisable.

It seems to me that the lateral feature of the torus, the supraorbital ridge, has not been specifically evaluated. It provides the greater contribution to the frontal torus and therefore to the horizontal beam along which the stresses of the masticatory forces concentrate. In this connection, I would point out a measurement I have proposed: the diameter of the basis of the zygomatic process of the frontal bone, defined as the distance between the superior orbital margin and the point of contact of the temporal line with the tangent perpendicular to the margin (Facchini 1979). A survey performed on 42 casts of fossil skulls associating this measurement with eight other metric characters of the calvarium showed its great contribution to the multivariate analysis and greater discriminative power relative to the depth of the superciliary sulcus assessed by Ducros's method (Facchini and Pettener 1982).

It would be of interest to assess the development of the lateral feature of the frontal torus in the Australian sample and

thus to determine whether the presence of the torus in this population has the same significance suggested for fossil man or represents a residual character without adaptive value.

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## On Wealth Finance: Inca and Aztec Empires Compared

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D'Altroy and Earle (CA 26:187-206) are to be commended on their stimulating analysis of Inca political economy. As an archaeologist interested in comparative early states and empires, I am particularly pleased to see a study arguing that the Inca state responded to constraints of cost, distance, and efficiency in a manner comparable to that of the prehistoric states of Mesoamerica and elsewhere. Many Andeanists have tended to emphasize the unique features of Inca political economy (e.g., verticality, the labor tax system, the limited role of markets) to such an extent that it is difficult to make comparisons with other early states (e.g., Murra 1980, La Lone 1982). While these distinctive traits are certainly interesting and important, it is refreshing to a non-Andeanist to see an analysis which employs comparative data and takes a generalizing tone.

Because of D'Altroy and Earle's use of Aztec comparative data and the lack of Mesoamericanist commentators on the article, I would like to explore briefly one point of comparison between Inca and Aztec wealth finance. The authors show convincingly how the Inca state distributed wealth items "to subordinate elites for political services and economic management" (p. 195). They conclude that "control of valuables was of course instrumental in establishing and maintaining vertical ties in the Inka state as it was in the Aztec" (p. 196), citing Brumfiel's important paper (n.d.) on Aztec craft specialization. Like the Inca, the Mexica state employed wealth items (which included both imported raw and manufactured goods and elite craft items produced in the imperial capitals) for both political and economic ends. In their role as "political capital" (Brumfiel's [n.d.] term), wealth items were used to promote solidarity and allegiance among core-area subordinate elites, while as economic factors they stimulated the staple economy in ways beneficial to the Mexica (Brumfiel 1983, n.d.; Blanton and Feinman 1984). These Aztec/Inca similarities pertain primarily to the Aztec core area in the Basin of Mexico. When attention is turned to more distant provinces, some important differences arise in the use of wealth items as political capital. In the Andean case, wealth items were a crucial component of statecraft in areas distant from Cuzco, and their royal distribu-

tion to subordinate curacas was an important means (along with more coercive methods such as the removal of the offspring of curacas to Cuzco) of integrating these local elites into the empire. While in Mesoamerica exchange of wealth items played a role in the integration of exterior elites into the Mexica or Triple Alliance empire, this role was quite limited in comparison with the Andean case.

In considering the administration of external provinces in the Mexica empire (i.e., provinces outside of the Basin of Mexico), the major contrasts with the Inca situation appear to be (1) a very low level of state presence in provincial areas, involving a virtual absence of imperial infrastructure such as the Inca roads, tambos, storehouses, administrative centers, etc.; (2) the existence of a multitude of distributive channels in Mesoamerica, most of which were independent of imperial control; and (3) the considerable strength of many "subordinate" polities relative to the central state (see Smith n.d.a, b). The resulting "looseness" of provincial administration by the Mexica state is commonly acknowledged, but the role of elite interaction in providing the control that did exist is usually overlooked. While most authorities have suggested that in the absence of strong provincial control, the external provinces paid tribute out of fear of the Mexica armies, I have argued (Smith n.d.a) that the cooption of provincial elites was more important than military coercion in binding the provinces to the empire. The Mexica state accomplished this by supporting and strengthening local elites and employing a network of integrative social interaction—marriage alliances, special trade arrangements, elaborate periodic consumption rituals—to promote macro-regional elite solidarity transcending political boundaries.

While ceremonial exchange of wealth items among politically separate local elite groups was carried out at the frequent consumption rituals (Brumfiel n.d.), the role of these goods in binding external elites to the Mexica state appears to have been quite limited for two reasons. First, the Mexica did not have a monopoly (or anything close to one) on wealth items as the Inca did. Provincial elites had access to the same exotic and costly goods through their own independent tribute and trade institutions (which continued to operate under imperial control), leaving the central Mexica state with no unique items to distribute (Smith n.d.b). This is of course related to the lower overall level of state control over production and distribution in Mesoamerica relative to the Andes. Second, the Mexica relied more heavily on direct social interaction involving frequent travel of elites between states (at least for the exterior provinces within 100 km or so of the Basin of Mexico) and thus had less need of transportable goods of high material and sym-

bolic value. Such continual travel of elites between the provinces and the capital was not feasible in the Inca case because of the huge distances involved.

In summary, wealth items were of great political and economic importance in the operation of both Mexica and Inca states. D'Altroy and Earle's article highlights the Inca wealth finance system and its significance, while Brumfiel's (n.d.) work performs a similar role for the Mexica core area in the Basin of Mexico. However the significance of wealth items in the administration of distant provinces was quite different in the Mesoamerican and Andean cases, and a consideration of these contrasts highlights some of the major features of Inca and Mexica imperial administration. While focused comparisons of these two imperial systems offer great promise for increasing our understanding of each system and of preindustrial political economy in general, very little has been accomplished in this area to date (in spite of several recent volumes including Collier, Rosaldo, and Wirth 1982 and Conrad and Demarest 1984). D'Altroy and Earle show some of the potential of this approach both in their use of Aztec material and in their discussion of Inca political economy in terms that promote further comparisons.

## On Undernutrition among the Unacculturated

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In his article on health and acculturation (CA 26:303-15), Wirsing mistakes the meaning and the intent of the Recommended Dietary Allowances of the Food and Nutrition Board, National Academy of Sciences, and similar recommended "allowances" given by the World Health Organization and other governmental agencies. These caloric allowances are allowances, not requirements, and they are deliberately set high to accommodate active individuals and those with large body masses. In contrast, sedentary graduate students eat far less

## On Wife-beating and Intervention<sup>1</sup>

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Erchak (CA 25:331-32) and Gibbs (CA 25:533) have recently reported on the relationship between the frequency and severity of wife-beating and intervention by kin and neighbors to halt beatings. On the basis of their independent field research among the Kpelle and Erchak's subsequent work on Yap, both conclude that intervention by kin or neighbors or the threat of such intervention tends to make wife-beating less common and less severe. I shall present some additional cross-cultural data bearing on this issue. Although the notion that outside intervention will prevent wife-beating might seem self-evident, it should be noted that many researchers suggest that it is ab-

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than the allowances and—indeed—often far less than the average for active adults in Third World countries.

Wirsing also has a problem with the definition of malnutrition. He writes, "The Bushmen, for instance, show no signs of clinical malnutrition. They are short and thin and have low weights for their ages" (p. 309). But these are exactly the signs of chronic caloric malnutrition! At low levels of fatness the adult (and especially the child) is apt to be thrown into negative nitrogen balance by even common "childhood" diseases, with the further development of protein-calorie malnutrition with all of its classical symptoms.

There may be clinically well-nourished "unacculturated" groups out there, still on "traditional" diets. However, the anthropometric and clinical indications, the low hemoglobins, hematocrits, and albumins but high globulins, suggest undernutrition and concomitant infections for most of the ones we know of, scarcely confirmatory of the 19th-century notion of the healthy noble savage.

sence of such intervention that contributes to the high rates of wife-beating and family violence found in many societies around the world (Pizzey 1974, Spiegel 1981, Straus, Gelles, and Steinmetz 1980, Whitehurst 1974, Whiting and Whiting 1976).

The data presented below pertain to a sample of 90 nonliterate and peasant societies representing all major geographical and cultural regions of the world. As part of a broader holocultural study of family violence, data were collected from ethnographic reports in the Human Relations Area Files on the three variables of interest here—frequency of wife-beating, severity of wife-beating, and immediacy of outside intervention in beating situations. Wife-beating is defined as the use of physical force by a husband against his wife. Frequency is measured on a four-point scale ranging from wife-beating absent to wife-beating present in all or nearly all marriages in a society. Severity is measured on a four-point scale ranging from no injuries to injuries serious enough to cause death. Immediacy of outside intervention on behalf of the wife is measured on a six-point scale: (1) kin, neighbors, or socially designated mediators immediately intervene; (2) the wife flees and obtains temporary shelter in the dwelling of kin or neigh-