## The Formation of Political Hierarchies and the Loss of Autonomy

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Over the last few decades, archaeology has provided us with the data to generate new evolutionary models and evaluate those proposed by Robert L. Carneiro. It is now clear that societies in many parts of the ancient world arrived at similar solutions to the same problems. Unfortunately, some crucial changes took place so rapidly as to be virtually unrecognizable at the scale of most archaeological chronologies. Most of the chronological periods used by archaeologists are ten to twenty times the length of a typical human agent's life. This forces archaeologists to refer not to agents, but to *processes*. At the same time, common sense tells us that processes represent the amalgamated behaviors of multiple agents.

A crucial turning point in social evolution was the replacement of egalitarian societies (in which prestige was based on achievement) by societies with hereditary rank. Archaeological evidence for hereditary rank often takes the form of sumptuary ornaments whose use is restricted to elite. Unfortunately for archaeologists, egalitarian societies accumulate exotic goods for brideprice, or through entrepreneurial exchange or status competition. This fact forces archaeologists to concentrate on sumptuary goods buried with infants or children, who – since they are too young to have achieved the right to possess such things – are likely to have inherited rank.

Archaeologists working in Mexico have assembled 10 lines of evidence to infer the emergence of rank (Marcus and Flannery 1996). For 1200 to 850 BC in Oaxaca, we have detected the deliberate cranial deformation of elite children; differential access to jade ornaments and iron-ore mirrors; differential access to venison,

Social Evolution & History, Vol. 11 No. 2, September 2012 74–78 © 2012 'Uchitel' Publishing House

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mother-of-pearl, and *Spondylus* shell; a dichotomy between seated (elite) burials and prone (lower-status) burials; figurines showing individuals in contrasting positions of authority and obeisance; four-legged stools resembling those carried by chiefly attendants in ethnographically-documented rank societies; and so on.

For more than 40 years, Robert Carneiro has been working to develop a processual model that explains the emergence of rank societies and states. Having singled out warfare as one of the proximate causes, he has sought to identify the variables leading to warfare. Among the variables he has isolated are differential resource concentration, population pressure, and circumscription (whether social or physical). His paper in this volume concludes that:

a heightened incidence of conquest warfare, due largely to an increase in population pressure, gave rise to the formation of successively larger political units, with autonomous villages being followed by chiefdoms, the process culminating in certain areas with the emergence of the state.

Our archaeological data from Mexico (coupled with others' data from the Near East, Peru, Egypt, and elsewhere) encourage us to substitute '*competitive interaction*' for population pressure. Even when population pressure seems too low to constitute 'pressure', competitive interaction is often present. Such competition can be documented in a variety of ways, including raiding, defensive walls or palisades, burned houses and villages, head-taking, and skeletons showing trauma (Flannery and Marcus 2003). Many of us suspect that competitive interaction was the social engine that ultimately led to the loss of community autonomy and the emergence of political hierarchies.

Carneiro's 1970 *Science* article changed the minds of many archaeologists who had formerly adopted voluntaristic models for the origins of the state. Those models usually focused on two variables – differential resource concentration and population pressure. While resource concentration can lead to differential population densities, we suspect that the fear of attack may have been an even more powerful force in encouraging populations to nucleate. When we see local populations leave desirable areas of resource concentration, move to defensible locations far from water sources and good agricultural land and invest in walls or moats, it is a good bet that safety is their main concern. Both Mexico and Peru provide prehistoric examples.

Now let us turn to loss of political autonomy. Carneiro (1991) has drawn a useful distinction between (1) rank societies (like those of the Pacific Northwest) in which every village remained politically autonomous, and (2) rank societies (like those of Colombia's Cauca Valley) where the chief's authority extended to smaller villages in the region. In his view, only the cases where smaller villages lose their political autonomy warrant the term chiefdom, which has territorial implications.

In their efforts to detect such loss of autonomy, archaeologists often turn to settlement patterns. Hijara's (1980) surveys of Halafian settlements in northern Iraq, for example, show that the region's largest villages (8 hectares) are surrounded by 1-3 ha satellite villages. In the Valley of Oaxaca, Mexico, the largest chiefly village (60-70 ha) had public buildings of stone masonry, many of whose stones were from quarries on the lands of satellite villages 5 km distant (Marcus and Flannery 1996). This strongly suggests that satellite communities could be required to supply labor and building material to the chief's village. In addition, the satellite villages subject to that chiefly center tended to share more ceramic design elements with the latter than would be predicted by models that take intervillage distance into account (Plog 1976). At some of the satellite villages the most elite burials are those of women whose cranial deformation and sumptuary goods suggest that they are hypogamous brides from the chiefly center (Marcus and Flannery 1996).

The earliest Zapotec state emerged in the context of competing chiefly centers in the Valley of Oaxaca. Thanks to work by Spencer and Redmond (2003) we know that between 700 and 100 BC, the valley featured three competing rank societies whose paramount centers were located at San José Mogote, Yegüih, and San Martín Tilcajete. Rivalry between these three rank societies was intense, with San José Mogote first suffering the burning of its major temple and later carving a stone monument to depict the sacrifice of a chiefly rival (Marcus and Flannery 1996). Finally, at 500 BC the leaders of San José Mogote moved 2,000 of their followers from the valley floor to a more defensible location – the summit of a 400-meter-high mountain called Monte Albán, where they began building 3 km of defensive wall. Between 500 and 300 BC, nearly a third of the valley's population lived at Monte Albán. They had the support of the entire northern and central valley, the region from which their founders had come. Less than a day's journey to the south, however, lay Tilcajete, an unyielding rival. Tilcajete's response to the founding of Monte Albán was to double its own size. Its elite also laid out a plaza with an astronomical orientation deliberately chosen to contrast with Monte Albán's.

At 330 BC, Tilcajete was attacked by Monte Albán and some of its major buildings burned. Tilcajete refused to capitulate; instead, it drew in supporters and doubled its size. Its leaders moved their public buildings to a more defensible ridge, defiantly retained the same astronomical orientation, and erected defensive walls. Meanwhile, Monte Albán readied itself for a long campaign by concentrating thousands of farmers, artisans, and warriors in 155 satellite villages nearby. At 30 BC, Monte Albán attacked Tilcajete again, burning its ruler's palace and a nearby temple. Tilcajete did not recover from this attack. It was abandoned, and on a mountaintop nearby, the victorious rulers of Monte Albán built an administrative center subordinate to them (Elson 2007). What resulted from this and other military victories was a unified Zapotec state with a 2150 km<sup>2</sup> heartland, palaces, royal tombs, standardized state temples, and hieroglyphic references to distant places over which Monte Albán claimed hegemony.

Recently, Stanish and Levine (2011) have shown that Peru's northern Titicaca state arose through a similar set of processes. Two chiefly centers – Taraco and Pukara – competed for control in the 1<sup>st</sup> century AD. Eventually, Taraco was destroyed by fire and Pukara went on to be the capital of a first-generation state.

I agree with Carneiro that warfare played a role in the formation of ranked and stratified societies. I am not as convinced that the necessary cause of that warfare was population growth. Many of my Latin American colleagues and I have detected many cases where chiefly rivalries led to warfare before population growth would seem to be implicated.

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