

## A Test of the “Showing-Off” Hypothesis with Ache Hunters<sup>1</sup>

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Hawkes (1991) hypothesizes that the main foraging goal of Ache hunters is to “show off.” Rather than maximizing the food intake of their spouses and children, she argues, Ache males hunt in order to share food with the widest possible number of individuals and as a consequence receive social attention and increased mating opportunities. She suggests that important benefits accrue to the man who obtains the most food in his social group on any given day. Thus, men avoid consistent food-production strategies and seek high-variance production strategies in order to show off by excessive production relative to other men (and subsequent redistribution of their kill) on some days. She argues that the strategies men choose when hunting, such as targeting resources which are widely shared, are evidence of the showing-off foraging goal (1991:34).

Hawkes has also suggested that the showing-off goal explains the behavior of men in other hunter-gatherer groups. For example, despite the fact that experimental data showed that Hadza men would get ten times more meat by concentrating on large game rather than small game, Hawkes suggests that because a high proportion of large game is shared “acquiring food for the hunter or his offspring cannot be the adaptive function of big game specialization” (Hawkes et al. 1991:89).

In contrast, Hill and Kaplan (1993) have suggested that Ache men hunt in order to acquire valuable macronutrients which are shared with family and kin and/or traded for future shares of game as well as a variety of other goods and services including sexual access to females. Hill and Kaplan assume that Ache hunters focus on these resources in order to maximize the average valuable nutrient production rate rather than occasionally to be the highest producers in their social group. While Kaplan and Hill (1985) agree that mating display is one goal of hunters and that meat may be traded for sexual access, they reject Hawkes’s claim that the data show that men sacrifice their food-intake rates and those of their families in order to obtain occasional high daily production and the rewards associated with it.

This research was designed to determine from a simulated realistic decision situation whether Ache men show more concern for relative hunting status within a band or the food intake rates of themselves and their families. We presented Ache hunters with two hypothetical options: (1) an excellent opportunity for showing

off to potential mating partners with lower expected nutritional benefits for a hunter and his family and (2) an opportunity for high nutritional benefits in a situation in which showing off would be more difficult.

### METHODS

Hand-drawn color illustrations of two Ache bands were used to elicit a decision response from each of the adult men in the Arroyo Bandera Ache settlement. Each story board showed a foraging band with three hunters, the wife and children of one hunter, and two sexually mature but unmarried young women (*daregi*). Hill told men (in the Ache language) that they were foraging in the forest alone (or with their families) and simultaneously encountered two bands camped several hundred meters apart. The two bands were to move in different directions on the following day, and the men had to decide which band to join for a six-month period.

The game killed by each band on the day of encounter was shown in the foreground of the drawing. Band A had killed two armadillos, one collared peccary, and one monkey. Band B had killed only one armadillo. This was meant to imply that the hunters in band A were better than those in band B, but Hill did not make this explicit. All informants drew that conclusion immediately, and most said so before proceeding with their decision. Thus, the only difference between the two bands was the implied hunting ability of their men. Both bands offered excellent mating opportunities for males, and, again, many informants commented on that fact. At the end of the story each man (interviewed privately) was asked to place a drawing of himself (and his wife and children, if any) in the band that he would join. Once he had made a decision he was asked to explain it and sometimes debriefed about the purpose of the study.

### RESULTS

With this interview, we used the hunting ability of the men in the party as an independent variable by which we could predict a showing-off strategy or a provisioning strategy. To maximize showing off, a hunter should join group B, where the chance of out-hunting other hunters and supplying the most meat is greatest—or, as Hawkes has put it, where hunters will “increas[e] their disproportionate contribution to others’ consumption” (1991: 41) and according to the hypothesis become the object of social attention. In contrast, to maximize family provisioning, a hunter should join group A, where the hunter and his family will receive portions of the successful hunter’s kills and will in turn consume more meat (Kaplan et al. 1984, Kaplan and Hill 1985). Of the 17 men who had dependent offspring, 16 chose the provisioning strategy and joined the group with the large kills. Of the 7 men without dependent offspring, 6 chose the showing off strategy and joined the group with the small kill.

Comments made by the group were confirmed for us that they were receiving the interview as we intended and that our independent variable was the variable which

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determined their decisions. Time and time again those with dependent offspring told us that the reason they would join the group with the big kills was that the men of this group were *panella* (good hunters). One man with several children told us, "This is what it is like in the forest—I always choose to live with the good hunters." Yet an old man whose children were all in their 30s and independent told us that he would join the camp of the poor hunters because of the unmarried young women. Likewise, when a young unmarried man told us that he would join the group of poor hunters, we had this exchange:

*What is good about that group?*

The *daregi*.

*What would you do in this group?*

I would go to hunt [implying that he would bring in a lot of meat].

#### DISCUSSION

We believe that this study provides a test of one implication of the showing-off hypothesis, namely, that a man should be willing to sacrifice own and familial food consumption in order to increase the chance that he will be the highest food-producer in his band on some days. That prediction is not supported in this study.

The hunting ability of individuals in a foraging group is clearly an important aspect of group composition which affects the strategies of men. In this study, it was apparent that men were "sizing up" the men they would be living with (or competing with) while on this foraging trip in making their decisions.

One interesting aspect of our results is that the men without dependent offspring who chose the showing-off strategy included both young unmarried men (4) and older men with spouses who had either not produced children (1) or whose children were grown and independent (2). This finding may reflect a scenario in which young men start their reproductive careers as show-offs to acquire mates but once having produced offspring begin strategizing to provision. Then, when their children are grown or their spouses cannot produce children, they return to the mating effort of a showing-off strategy.

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## Structure of the Prehistoric Population of San Pedro de Atacama<sup>1</sup>

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The culture history of San Pedro de Atacama was developed approximately between 500 B.C. and A.D. 1500, covering the Early Intermediate, Middle, and Late periods of the Central Andes sequence (fig. 1). The Early Intermediate period (500 B.C.–A.D. 400) corresponds to the Toconao and Sequitor phases of this site and the last stage of the Formative period of northern Chile, characterized by the emergence of agricultural societies. The Middle period (A.D. 400–1000) is represented at San Pedro de Atacama by the Quito and Coyo phases, identified by the influence of the Tiwanaku culture of the Bolivian high plateau. The Late period corresponds to the Regional Development period of northern Chile and the Solor phases (A.D. 1000–1470) of the Oasis of Atacama, characterized by the Tiwanaku decline, the beginning of local cultures, and the arrival of new groups from the high plateau. From A.D. 1470 until contact with the Spanish, the rule of the Inca empire prevailed in the region (Muñoz 1989, Berenguer and Dauelsberg 1989, Schiapacasse, Castro, and Niemeyer 1989, Berenguer et al. 1986).

Until now there has been no study of the genetic structure and the microevolution of the population of this region during this period. Evidence of the probable biological effect produced by the dynamic of the high-plateau groups on the structure of the local population has also been lacking.

Following Morton et al. (1971), Morton (1973a, 1975), Relethford (1980), and Relethford and Blangero (1990), it is possible to apply population-genetic models and estimate parameters that define the structure of a population in terms of metric data. The advantages and problems of the use of these traits have been critically evaluated by Chakraborty (1990).

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