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Sacrificing Reality for the Primitive Accumulation of Models: A Comment on Bell and Song

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Although I am pleased that my publications have provided sufficient data for Bell and Song's re-analysis, their model suffers from a series of unrealistic assumptions that vitiate their conclusions regarding the causes and consequences of female-biased parental investment among the Mukogodo.

Before I enumerate the problems I find in Bell and Song's article, I will briefly explain the argument I made in my original paper on female-biased parental investment among the Mukogodo (1989). The Mukogodo are a small group of Maa-speaking pastoralists who find themselves at the bottom of a regional socioeconomic hierarchy in terms of wealth, ethnic status, and reproductive opportunities for males. An important outcome of that is that male Mukogodo have worse reproductive prospects than female Mukogodo. While many male Mukogodo must either delay marriage or even go without marrying, all female Mukogodo are able to find husbands, either among the Mukogodo themselves or among a neighboring group. They thus fulfill the preconditions of the Trivers-Willard model of sex-biased parental investment (Trivers and Willard 1973). In its broadest formulation, the Trivers-Willard model predicts that when sons and daughters differ in terms of their probable reproductive success, parents will favor the sex of offspring with the best reproductive prospects. Judging from dispensary and clinic records and from data on nursing, Mukogodo parents fulfill the predictions of the model by investing more in daughters than in sons. The rest of this comment will explain my reasons for rejecting Bell and Song's alternative analysis of my data on the Mukogodo.

Female-biased parental investment does increase the reproductive success of Mukogodo parents.

Bell and Song's argument that the observed pattern of female-biased parental investment among the Mukogodo does not increase the genetic representation of Mukogodo parents in future generations is apparently based on an assumption that male survivorship would increase and female survivorship would remain the same in the absence of such a bias. This is

unlikely to be the case. Given a limited amount of time and resources to invest in sons and daughters, the Mukogodo are investing more in daughters. In addition to lowering the survivorship of male offspring, such a pattern is likely to increase the survivorship of female offspring. They are thus sacrificing a certain number of sons for a certain number of daughters. Given the fact that daughters have better reproductive prospects than sons, this strategy does in all probability increase the genetic representation of Mukogodo parents in future generations.

There is no reason to think that an increase in the number of Mukogodo young men would reduce the polygyny rate among older men.

Bell and Song argue that an increase in the number of young men among the Mukogodo would decrease the number of wives for older Mukogodo men, and that this competition between fathers and sons may explain the neglect of sons. This is essentially the local resource or mate competition model of sex-biased parental investment (Hamilton 1967; Clark 1978; Cronk 1991b: 390—393), and does not explain the bias in Mukogodo parental investment as well as the Trivers-Willard model (Trivers and Willard 1973). Assuming that the additional young men would be able to ohbtain the livestock needed for bridewealth payments themsevles through wage labor, which most young Mukogodo men already must do, then there is no reason to think that there would be any such effect on the marital success of older Mukogodo men. The Mukogodo are but a small part of a large regional mating system which would have no trouble accommodating the small increase in demand for women. The problem for Mukogodo parents comes not when their sons are grown and in need of bridewealth. It comes when their children are young, and they must divide their limited time and resources among them. In other words, the key competition for parental resources is between young siblings, not between fathers and sons, and Mukogodo parents respond to the situation by favoring the sex with the best reproductive prospects.

Mukogodo agnatic groups are not corporate.

Bell and Song assume that there is a group, not necessarily coinciding with the named patrilineages of the Mukogodo but still having some corporate identity, that "actively pursues a self-interested strategy for obtaining resources (wives and cattle) in an effort to replicate the characteristics of the Samburu or the Maasai." No such group actually exists in Mukogodo society. Neither the socially recognized and named Mukogodo patrilineages nor any other agnatic kin groups among the Mukogodo have any corporate identity. Herds are owned and managed by individuals, and

decisions about marriage are made by individual men and women and their parents.

The assumption that all cattle are owned by men over age 43 is unrealistic.

Cattle are owned by Mukogodo men of all ages, even by some in their teens. It is unclear why Bell and Song found it necessary to make such an unrealistic assumption.

Neighboring groups falsify Bell and Song's model.

It is possible to test Bell and Song's model by applying it to other groups in the Mukogodo area that fit their criteria but that does not fit the preconditions for the application of the Trivers-Willard model. The Mumonyot, Ilng'wesi, and Digirri are small groups that neighbor the Mukogodo and that share with them the same basic language, culture, and subsistence economy. Like Mukogodo men, men in these non-Mukogodo groups are usually poorer than Maasai and Samburu men (Cronk 1990; Herren 1990). They thus fulfill the conditions of Bell and Song's model. They do not, however, fulfill the conditions of the Trivers-Willard model since there appears to be no difference in the reproductive prospects of sons and daughters in any of these groups (Cronk 1990).

Bell and Song's model makes two predictions about these groups. First, they should exhibit female-biased parental investment because of the presumed competition between fathers and sons. Second, they should be following the cattle accumulation strategy claimed for the Mukogodo, i.e., marrying fewer wives than possible in an effort to build up their herds to the levels of the Samburu and Maasai. Neither prediction is fulfilled. The same dispensary and clinic data that show a female bias in Mukogodo parental investment show no such bias for non-Mukogodo parental investment. Although complete information on marriage for these groups is unavailable, data I collected on one Mumonyot lineage suggests that more women have married into them than have married out (Cronk 1990). Bell and Song's model is falsified on both counts.

Wealth and reproductive success usually do correlate in pre-demographic transition societies.

Bell and Song argue that their model challenges the "sociobiological presumption" that wealth and reproductive success correlate in traditional, pre-demographic transition societies. The idea that culturally defined success, which may be wealth, hunting success, or other things depending on the society in question, and reproductive success are likely to correlate

in traditional societies is a hypothesis, not a presumption, and it has been supported with data from a wide variety of societies (Irons 1976, 1979; Barkow 1977; Chagnon 1979, 1988; Essock-Vitale 1984; Faux and Miller 1984; J. Hill 1984; Kaplan and Hill 1985; Mealey 1985; Turke and Betzig 1985; Betzig 1986; Flinn 1986; Hughes 1986; Borgerhoff Mulder 1987; Low 1990; Voland 1990; see also Cronk 1991a: 29), including the Mukogodo (Cronk 1991c) and their neighbors (Cronk 1990). It is now quite clear that a positive correlation between reproductive success and not only wealth but also other culturally defined forms of success is routine in pre-demographic transition societies.

On one point, Bell and Song and I do agree: the current Mukogodo situation is, in all likelihood, transitional. I have documented some aspects of this transition, including recent improvements in Mukogodo wealth and status (Cronk 1990). Eventually Mukogodo women may lose their reproductive advantage, and parental investment in the sexes may equalize. Such a change would provide further support for the Trivers-Willard hypothesis that parents may be able to facultatively adjust their investment in the sexes according to current conditions.

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