Multiple Caretaking Among African Pygmies

Barry S. Hewlett

American Anthropologist, New Series, Vol. 91, No. 1. (Mar., 1989), pp. 186-191.

Stable URL:
http://links.jstor.org/sici?sici=0002-7294%28198903%292%3A91%3A1%3C186%3AMCAAP%3E2.0.CO%3B2-1

American Anthropologist is currently published by American Anthropological Association.

Marshall, Fiona B.
1986a Aspects of the Advent of Pastoral Economies in East Africa. Ph.D. dissertation, University of California, Berkeley.
1986b Implications of Bone Modification in a Neolithic Faunal Assemblage for the Study of Early Hominid Subsistence Practices. Journal of Human Evolution 15:661–672.
Shipman, Pat
1984 Scavenger Hunt. Natural History 93(4):20–27.
1986 Studies of Hominid-Faunal Interactions at Olduvai Gorge. Journal of Human Evolution 15:691–706.
Shipman, Pat, and Jennie J. Rose
1983 Early Hominid Hunting, Butchering and Carcass-Processing Behaviors: Approaches to the Fossil Record. Journal of Anthropological Archaeology 2:57–98.
Speth, John D.
1983 Bison Kills and Bone Counts: Decision Making by Ancient Hunters. Chicago: University of Chicago Press.

Multiple Caretaking Among African Pygmies

BARRY S. HEWLETT
Tulane University

Tronick, Morelli, and Winn of the Ituri Project have now published a number of papers (*AA* 89:96–106, 1983; 1985; Winn, Morelli, and Tronick 1987; Morelli and Winn 1987) that identify multiple caretaking as a distinguishing feature of Efe infancy. They found that (1) the mother was often not the first one to nurse her infant, and that during early infancy women other than the mother nursed the infant; (2) four-month-old infants spent only 40% of their time with the mother; (3) infants were transferred frequently—8.3 times per hour on average for four-month olds; and (4) many individuals contributed to the infant's care: an average of 14.2 different people cared for an infant during eight hours of observation.

The researchers hypothesized that multiple caretaking functioned to meet the infant's biological demands for fluids and energy supplies as well as the cultural demands on the infant to develop cooperation, sharing, and group identification. According to the Efe study, Efe birth weights are low—2.4 kg on average—and that another woman nursing the infant before the mother's milk comes in helps to mitigate against fluid imbalance and provides the infant with the calories necessary for increased heat production. The frequent transfers increase the infant's activity level which, in turn, increases heat production. Multiple caretaking also reinforces group identification and attachment necessary for group cooperation and sharing. Tronick, Morelli, and Winn indicate that the Efe caretaking data support their caretaker-child strategy model, where children and caretaker alike "can be viewed as employing strategies that are molded by ecological factors such as low temperature of the forest, the small size of the infants, cultural values including the importance of group identification" (p. 104). They reject hypotheses that suggest human caretaking practices are biologically based (e.g., where mother provides rather continuous care and contact—called the CCC model), and that Efe multiple caretaking is an example of biological variation around this prototypical form.

To test the utility of the Tronick, Winn, and Morelli model, comparative data on the Aka Pygmies of the Central African Republic are considered (see Hewlett [1987a, 1987b] for descriptions of observational and interview data on Aka infants). According to the caretaker-child strategy model, Aka Pygmies should have at least as much multiple infant caretaking as Efe because (1) Aka have as many or more opportunities for multiple caretaking, since men, women, and children are together on the net hunt (Efe women do not hunt and Efe men bow-and-arrow hunt in small groups); (2) Aka infants need to develop skills to interact with many individuals on a fairly regular basis; (3) Aka ideology emphasizes cooperation, mutual support, and gregariousness; and (4) Aka newborns are "small" (2.7 kg) and the mean forest temperatures in the Aka forest are just as "cool" as the Ituri Forest of the Efe (Bahuchet 1982). The following Aka-Efe comparisons on multiple caretaking apply only to four-month-olds. The Efe study included three- and seven-week-olds as well, but I have no comparable data for those ages.

First, unlike the Efe, Aka mothers are always the first ones to nurse their infants. Seventeen of eighteen mothers who were interviewed within six months after giving birth indicated that they were the first to nurse their infants and that no other woman had ever nursed their infants. A number of them said it took a day for their milk to come in, and that they gave their infant water until they were able to nurse. Mothers did not give their infants the early colostrum—all the mothers reported expressing their first colostrum into the

fire. The women indicated they would not let another woman nurse their infant because another woman could give the infant *ekila* through her milk. The illness is characterized by convulsions and is attributed to eating taboo foods. The one mother who did report letting another woman nurse her newborn indicated that she did so because it took one week for her milk to come in. The interview data are consistent with the observational data: at no time did a woman other than the mother nurse the infant. In contrast to the nursing data, Aka mothers were never the first to touch or hold their infants. Usually an older female in-law cleaned the infant and took the infant to the hut until the mother arrived (Aka women give birth outside of the camp, while Efe usually give birth in the hut).

Second, consistent with the Efe data, Aka mothers are the primary caretakers yet receive a substantial amount of help while they are in the village camp. Aka mothers receive most of their help from their husbands, while Efe mothers receive most of their help from other females. But as Figure 1 indicates, the context of Aka mother caretaking dramatically influences her caretaker role. In the forest camp she does more caretaking, and while out on the net hunt the mother is essentially the sole caretaker. All of the Efe observations were conducted while the mother was in camp.

Third, again like the Efe, Aka infants are frequently transferred in the village camp. Four-month-old Aka infants are transferred 7.3 times per hour while in the village camp, while Efe four-month-olds are transferred 8.3 times. But again, as Figure 2 illustrates, the context or setting substantially influences the transfer rate. While on the net hunt, which lasts six or seven hours per day while in the forest, infants are transferred only two times per hour on average.

Fourth, somewhat like Efe, Aka were cared for by a number of different individuals during the observations. On average, 7.0 different individuals held the infant during all observations. This is substantially lower than the 14.2 different individuals for the Efe.

This Aka-Efe comparison suggests that in two of the four measures, multiple caretaking *in the village camp context* can be considered a feature of Efe and Aka infancy. The compar-

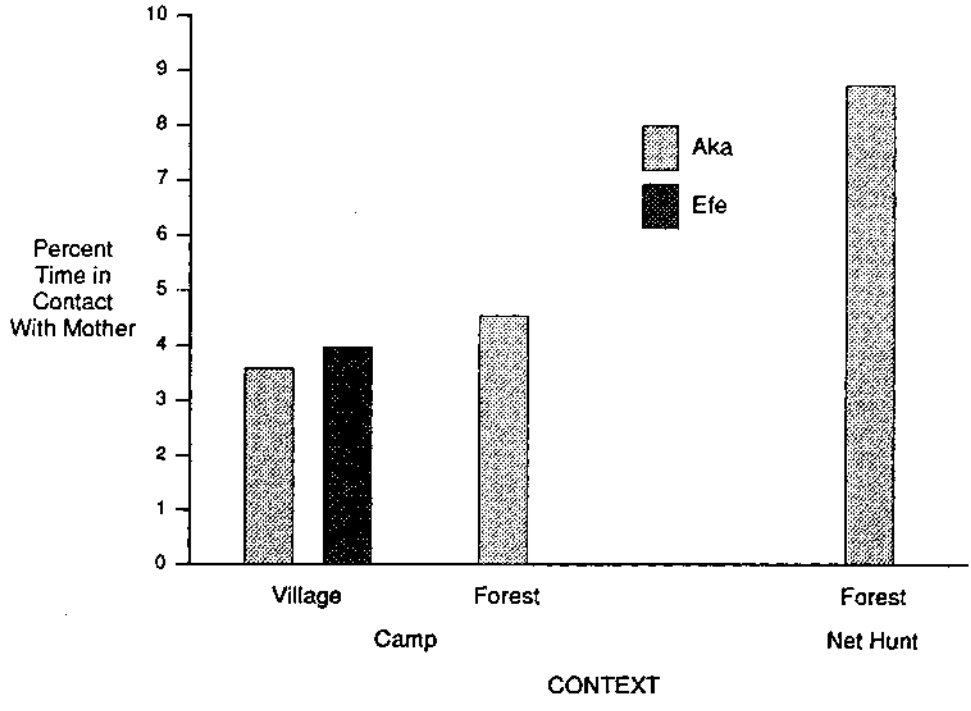

Figure 1
Percentage of time Aka and Efe infants are in contact with mother in three different contexts.

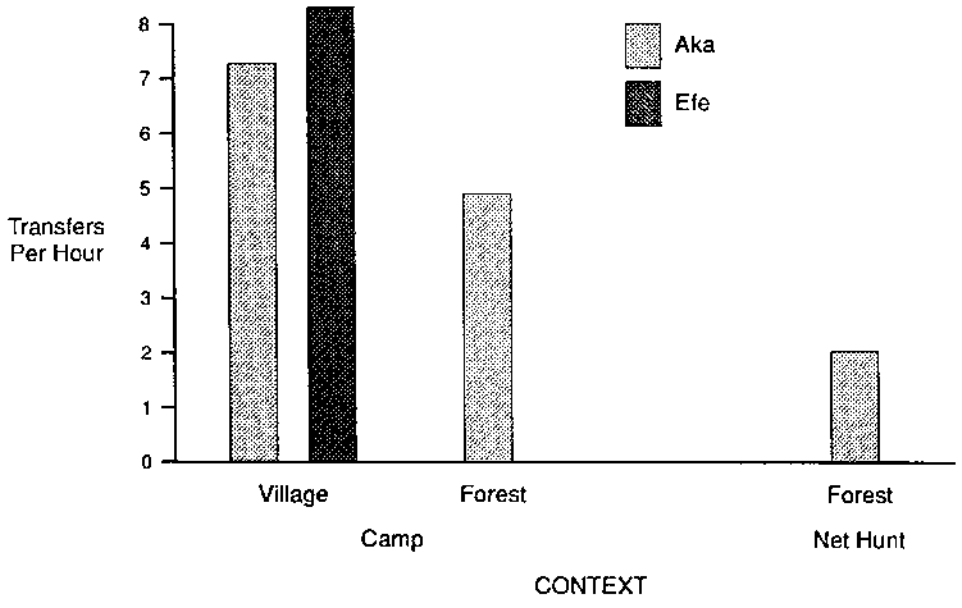

Figure 2
Average number of times per hour that Aka and Efe infants are transferred to other caretakers in three different contexts.

ative data strongly suggest the necessity to unwrap the culture variable, since it is clear that there are settings within the culture that are more conducive to multiple caretaking than others. The comparative data also question the validity of the caretaker-child strategy model. Questions/problems with the caretaker-child strategy model include the following:

1. Tronick, Winn, and Morelli suggest that since Efe infants have relatively low birth weights, that "the high rate of infant transfer increases the infant's activity level which, in turn, increases heat production." If this were so, one would expect smaller Efe newborns to be transferred more and spend less time with mother. In another paper (Winn, Morelli, and Tronick 1987) the same authors cite a strong statistical relationship for just the opposite: the lower the birth weight, the more time the infant stays with mother. Also, there is no indication that populations in dramatically colder climates than that of the Efe practice a similar level of multiple caretaking, and there is no indication of extensive multiple caretaking in ethnic populations in India, New Guinea, and Guatemala, where newborns have relatively low birth weights (2.3–2.6 kg) (Meredith 1981).

2. If multiple caretaking reflects the cultural value and need for group cooperation and identity, one would expect Aka to have greater multiple caretaking than Efe because the Aka men, women, and children need to cooperate daily on the net hunt, whereas Efe men and women go their separate ways during the day. In addition, why is there so much individual variability in all of the multiple caretaking measures? Some Efe average two transfers per hour; others average nine or ten transfers per hour. Will the latter infants be more cooperative than the former? As in (1) above, the factors cited in the caretaker-child strategy model do not help us understand intracultural variability.

3. !Kung San four-month-old infants spend more than 60% of their time with their mothers, and there is no indication in the literature that their transfer rate comes close to that of Efe. Does this mean they are not as cooperative and sharing as Efe? A subjective comparison of the ethnographies of Bailey (1985) and Peacock (1985) on the Efe with those by Lee (1984) and others on the !Kung San, suggests the opposite. On the other hand, the Leidermans (1974) and the Monroes (1971) have described the "polymatric" Gusii and Logoli, and there is no indication that they are as egalitarian or sharing as Efe.

4. The Tronick, Winn, and Morelli model indicates that Efe infant caretaking practices are consistent with Efe values of group iden-

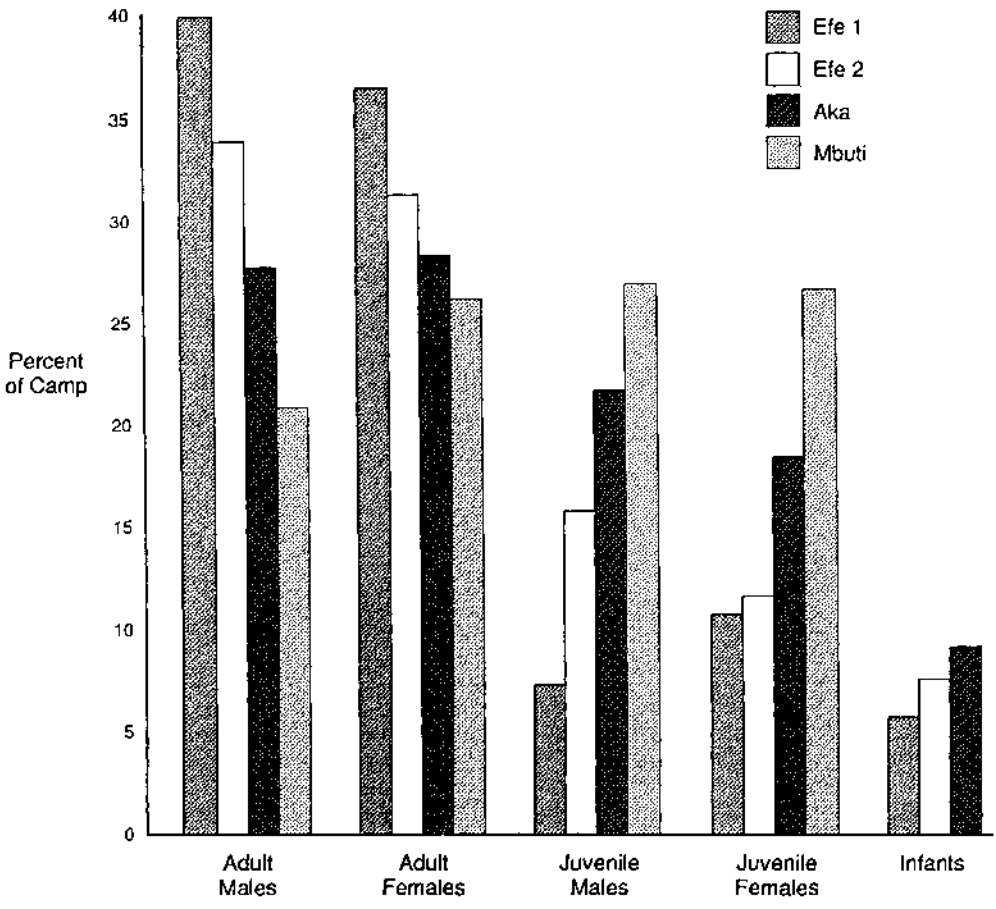

Figure 3
Sex and age (adult and juvenile) composition of four African Pygmy populations.

tification, sharing, and cooperation, but the researchers have not provided emic data to support this contention. What is the Efe parenting ideology? How do Efe explain multiple caretaking?

Efe multiple caretaking appears to be considerably more pervasive than that of the Aka—Efe women other than the mother nurse the infant and the Efe infants have a greater number of different caretakers. While Tronick, Winn, and Morelli are interested in identifying ecological variables that influence caretaker-child interactions, they fail to mention one factor that might explain the especially pervasive multiple caretaking pattern found among the Efe. Rather than adapting to the need for group identification, Efe multiple caretaking may be more of a response to unique demographic patterns: 47% of postmenopausal women have had either no live births or one (Peacock 1985), and only one-fourth to one-third of the population is children (Bailey and Peacock 1987). Figure 3 illustrates four demographic studies of African Pygmy populations. The Efe studies by Bailey and Peacock (1987) and Morelli (1987) clearly indicate that there are more adults than children in the camp, while among the Aka and Mbuti net hunters it is just the reverse. Table 1 identifies some of the other distinguishing demographic features. There are simply more Efe adults, especially women without infants, to help out. Efe infant mortality may be lower because there are so many others to help out. Peacock (1985) indicates that women without dependent children spend about 6% of their time in child care (compared to 16% of time for mothers with dependent children). This means that nearly half of the Efe adult females in camp are available and active in child care.

Table 1
Demographic features of four African Pygmy populations.

	Efe 1[a]	Efe 2[b]	Aka[c]	Mbuti[d]
Adult male/female ratio	110	109	80	88
Percentage adults	76.0	65.1	52.0	47.1
Percentage children (<15 years old)	24.0	34.9	48.0	52.9
Total fertility rate (mean number of live births)	2.6	nd	6.2	8.0
Infant mortality	12.0	nd	20.0	33.0
Polygyny rate (%)	3.0	nd	17.5	14.0
% of Pygmy females marry village males	13.0	nd	rare	nd
Mean camp size	17.8	29.2	25.5	37.4

[a]From Bailey (1985).
[b]From Morelli (1987).
[c]From Hewlett (1987b).
[d]From Ichikawa (1978).

In contrast, all Aka females in camp usually have a nursing infant, and would have a difficult time helping out another woman regardless of the cultural values of sharing and cooperation.

Table 1 also identifies another demographic feature that probably influences Efe multiple caretaking: the mean size of the camps utilized for the Efe infant study (29.2) is approximately 65% larger than most Efe camps (Bailey 1985). In a recent article that examines intracultural variability in Efe infant caretaking (Winn, Morelli, and Tronick 1987), the Tronick, Winn, and Morelli team indicates that there is a significant relationship between camp size and transfer rate: larger camps have a higher transfer rate. The extraordinary aspects of Efe multiple caretaking (i.e., females other than mother nursing infant and total number of different caretakers) described by these researchers may be a consequence of the large Efe camps selected for observation, since there would be more adult women without children available to help out in the larger Efe camps.

While the basic tenets of the caretaker-child strategy model sound reasonable—infant caretaking patterns are a result of infants and caretakers employing strategies that are molded by ecological factors—the authors omit two unique features of the physical and social setting and reject evolutionary factors in their articulation of the model. My major criticisms are summarized below.

1. Infant caretaking practices take place within a demographic context. Efe women have very few children, and consequently, adult females are available to help other females with infants. The relatively large size of Efe camps selected for study also increases the number of available adult women without infants.

2. One must be cautious in making statements about the infant caretaking practices of a population based upon behavioral observations in the camp only. Konner and Worthman (1980), for instance, indicate that !Kung infants nurse an average of four times an hour, and one gets the impression this happens all day. But one must realize that all observations were conducted in the camp, which raises the question: Does this pattern exist when women are out gathering? The Tronick, Winn, and Morelli data on Efe infants have the same limitation. Efe multiple caretaking does occur in the camp, but comparative data on the Aka questions whether or not it occurs outside of camp while subsistence activity is going on.

3. Infant care patterns are influenced by biological and cultural factors, and they are not mutually exclusive. This comparison of Aka and Efe multiple caretaking has indicated that there are serious problems with the caretaker-child strategy model, which emphasizes cultural-environmental factors and rejects evolutionary/biological factors (i.e., that the Efe are an example of biological variation around a prototypical form [the CCC model]). While

Efe and Aka Pygmy mothers may do less direct caretaking than mothers in most human populations, Efe and Aka mothers are still by far the primary caretakers of their infants. This is consistent with cross-cultural patterns, and does suggest an evolutionary constraint on human behavior. This biological predisposition interacts with and influences cultural behavior and ideology.

References Cited

Bahuchet, Serge
1982 Une Société de Chasseurs-Cuelleurs et son Milieu de Vie: Les Pygmees Aka de la Forêt Centrafricaine. Thèse de Troise Cycle. Paris: École des Hautes Études en Sciences Sociales.

Bailey, Robert C.
1985 The Socio-Ecology of Efe Pygmy Men in the Ituri Forest, Zaire. Ph.D. dissertation, Anthropology Department, Harvard University.

Bailey, Robert C., and Nadine R. Peacock
1988 Efe Pygmies of Northeast Zaire: Subsistence Strategies in the Ituri Forest. *In* Uncertainty in Food Supply. I. de Garine and G. A. Harrison, eds. Pp. 88–117. London: Oxford University Press.

Hewlett, Barry S.
1987a Intimate Fathers: Patterns of Paternal Holding Among Aka Pygmies. *In* The Father's Role: Cross-Cultural Perspectives. M. A. Lamb, ed. Pp. 295–333. Hillsdale, NJ: Erlbaum.
1987b The Father-Infant Relationship Among Aka Pygmies. Ph.D. dissertation, Anthropology Department, University of California at Santa Barbara.

Ichikawa, Mitsuo
1978 The Residential Groups of the Mbuti Pygmies. Senri Ethnological Studies 1:131–188.

Konner, M., and C. Worthman
1980 Nursing Frequency, Gonadal Function, and Birth Spacing Among !Kung Hunter-Gatherers. Science 207:788–791.

Lee, Richard B.
1984 The Dobe !Kung. New York: Holt, Rinehart and Winston

Leiderman, P. H., and Gloria F. Leiderman
1974 Affective and Cognitive Consequences of Polymatric Infant Care in the East African Highlands. *In* Minnesota Symposia on Child Psychology, Vol. 8. Pp. 81–110. Minneapolis: University of Minnesota Press.

Meredith, Howard V.
1981 Body Size and Form Among Ethnic Groups of Infants, Children, Youths, and Adults. *In* Handbook of Cross-Cultural Human Development. R. H. Monroe, R. L. Monroe, and B. B. Whiting, eds. P. 273. New York: Garland.

Monroe, R. H., and R. L. Monroe
1971 Household Density and Infant Care in an East African Society. Journal of Social Psychology 83:3–13.

Morelli, Gilda A.
1987 The Comparative Study of Efe (Pygmy) and Lese One-, Two- and Three-Year-Olds of the Ituri Forest of Northeastern Zaire: The Influence of Subsistence-Related Variables and Children's Age and Gender on Social-Emotional Development. Ph.D. dissertation, Department of Psychology, University of Massachusetts.

Morelli, Gilda A., and Steve Winn
1987 Perinatal Practices: A Biosocial Perspective. *In* Psychobiology and Early Development. H. Rauh and H. C. Steinhausen, eds. Pp. 13–22. New York: Elsevier.

Peacock, Nadine R.
1985 Time Allocation, Work and Fertility Among Efe Pygmy Women of Northeast Zaire. Ph.D. dissertation, Department of Anthropology, Harvard University.

Tronick, E. Z., S. Winn, and G. A. Morelli
1983 Multiple Caretaking and Personality Formation in an Environment of Human Adaptiveness. Paper presented at the Boston Institute for the Development of Infants and Parents.
1985 Multiple Caretaking in the Context of Human Evolution: Why Don't the Efe Know the Western Prescription for Child Care? *In* Psychobiology of Attachment. M. Reite and T. Field, eds. New York: Academic Press.

Winn, S., G. A. Morelli, and E. Z. Tronick
1988 The Infant and the Group: A Look at Efe Caretaking Practices. *In* The Cultural Context of Infancy. J. K. Nugent, B. M. Lester, and T. E. Brazelton, eds. Norwood, NJ: Ablex. (In press.)