

Leading Ladies

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Three decades after Sherwood Washburn and Irvan DeVore published their landmark study of savanna baboons, Jeanne Altmann wrote this selection, a snapshot of baboon behavior as night falls, predators lurk about, and the troop needs to make its way gingerly toward safe places to sleep. Here in the Amboseli National Park (one of the areas where her predecessors studied common baboons), Altmann conducted her own 20-year investigation of this species.

In both focus and tone, Altmann's narrative differs from the classic article written by Washburn and DeVore. As you read through this selection, pay particular attention to the details of Altmann's description of this encounter. In noting the differences, you'll find important clues about how the field of primatology developed following Washburn's initial investigations. Note also that Altmann's narrative is centered around a research problem—a specific question about baboon behavior—that she explores in her example. Try to identify that research question and state it in your own words. The central issue Altmann is exploring pertains to broader topics, such as social relationships, reproduction, and aging among savanna baboons. It points to some intriguing differences in sex roles among male and female baboons.

*Some six years after Altmann recorded this scene, she published an update on this troop of Amboseli baboons (see "Leading Ladies." In *The Primate Anthology: Essays on Primate Behavior, Ecology, and Conservation from Natural History*, edited by Russell L. Ciochon and Richard A. Nisbett, 27. Upper Saddle River, NJ: Prentice Hall, 1998). Handle, the "leading lady" of this episode, had died, leaving behind some of her adult female offspring. According to Altmann, Handle's death signaled the "end of an era," for she had been the last of the Amboseli baboons to have been born before Altmann's work commenced in the 1970s. Most sobering of all, Altmann noted that the landscape of the park had been dramatically altered by the effects of global warming. Rising temperatures had radically transformed the landscape into more of an open savanna with fewer trees. She saw signs of the baboons adjusting to these environmental changes by spending more time looking for food, moving into more tree-filled niches to the south, and splitting up into smaller groups. Had she lived longer, would Handle's role as "leading lady" have been affected by the dramatically changing world of the Amboseli baboons? Hopefully, the devastating crisis of global warming will one day be met with as much human bravery and determination as our cousins the baboons have already demonstrated.*

As her young infant alternately suckled and dozed in the shelter of her lap, the elderly baboon, known to us as Handle, stared intently toward the distant grove of trees. The five dozen members of her group sat tensely in clusters nearby. Indecision was in the air, and even the playful juveniles seemed to sense it, staying closer to their older relatives than they had all day. A short while before, as they were heading southward toward a grove of trees in which to spend the night, the group had spotted a leopard—the baboons' major predator. Although the leopard was no longer visible, the chatter of vervet monkeys in the distance, near the intended sleeping trees, confirmed that danger would await the baboons if they continued as planned. The sun was dropping rapidly now, and the short equatorial dusk would give the baboons little time to make a decision: stick to the original plan or strike out for one of the other groves—all farther away—scattered across their East African savanna home. If they didn't act fast, darkness would overtake them far from the safety of tall trees.

Occasionally, one young adult or another gave rapid, soft vocalizations and started moving tentatively toward the original grove or in another direction, but the other baboons remained in place and the initiator soon sat again. After ten long minutes, in a single, smooth motion, Handle stood, her infant still clutching her sides but now riding under her, and began to move decisively westward toward a grove still hidden in the dusty, dry-season haze. Barely a few seconds later, her daughter Heko followed with her own infant on her back. Handle paused as she looked back; throughout the group, baboons responded with soft grunts and moved to follow her. The rippling motion rapidly grew into a wave, and soon, all the baboons followed, silent except for the protests of tired youngsters for whom first the tension and now the sudden rapid pace were too much. By the time the baboons reached the grove, the light was nearly gone, and the animals were little more than silhouettes as they ascended the trees. I just barely made out Handle as, hunched stiffly over her sleeping infant, she settled onto a comfortable branch for the night.

During more than twenty years observing baboons in Amboseli National Park in southern Kenya, my colleagues and I have seen one elderly female after another serve as leaders at critical times in group movements. Actual fights with predators or other baboon groups usually involve many troop members; then, adult males are often in the forefront but each animal seems to know or decide for itself whether to flee, hang back, or threaten the intruders. In contrast, the decisive role of elderly females more often is seen at "controversial" moments in group movements, when all will take the same route, but just which route is not clear or agreed upon. At those times, elderly females (those over about fifteen years of age) seem to make the choices that are followed. We don't know for sure why the "opinions" of these females carry so much weight. Social rank is not the answer, for we have seen high-, low-, and mid-ranking individuals (such as Handle) lead the group. The permanent members of baboon society are the females, and many older females tend to have several daughters and other descendants in the group. Could the most influential females simply have the most descendants? Certain evidence seems to support this. Like Handle, elderly Alto had many offspring and she, too, was a leader at times. In contrast, we have never observed eighteen-year-old Dotty, who has few offspring, or Dotty's age-mate Janet, who has none, assume leadership roles.

The equation cannot be a simple one, however, for another elderly female, low-ranking Este, had few offspring and yet was often a leader at critical junctures in the troop's life. Perhaps the explanation lies in the extent to which the leaders are enmeshed in a longstanding, complex network of social relationships. Unlike males, who change group membership when they mature, females spend their whole lives in the group in which they are born. Certainly, twenty-three-year-old Handle has had a long time to build up a social network. Although none of her elders and few of her peers are still alive, all of the group's youngsters have grown up knowing her.

Few baboons live long enough to develop the kind of rich social network Handle enjoys. Less than half the baboons in the population survive in-

fancy, and once they reach adulthood (at age six for females and eight for males) the annual death rate is about 10 percent. The rare elderly survivors like Handle usually seem somewhat slow and stiff. They sometimes drop to the rear of the group, especially in the morning cold, as the baboons set off for the day's six-mile foraging trek, and in the late afternoon, when the fatigued animals move to a sleeping grove. Although Handle actually still seems fairly spry, her teeth are very worn, and her weight seems to have declined in recent years, suggesting that she may need to spend more time feeding to obtain enough digestible food.

Not surprisingly, perhaps, Handle, like other elderly females, often seems to be somewhat separate from younger members of the group and to have less time to interact with them. And yet she is undeniably an active group member. Several factors of baboon life help keep it that way. Baboon females continue to bear young throughout their lives (although slightly less frequently), and when infants are born, relatives, friends, and just plain curious acquaintances cluster about the infant and its mother. Motherhood is a way of renewing and reinforcing social ties. These ties are further cemented by grooming, the baboons' way of keeping in close touch—calming one another down, sharing messages. Females groom their grown daughters, special unrelated male friends, and others in the troop. We think it significant that Handle has long been one of the group's most frequent, and most thorough, groomers.

The life of male baboons follows [a] quite different path. Even as two- or three-year-olds, they begin to move away from their mothers' world. Young females increasingly reciprocate their mothers' grooming; young males do not, and their mothers soon discontinue grooming them. In addition, the young males' social interactions involve more partners outside their maternal lineage, so that by the

time males leave their birth group, at eight or nine years of age, they have experienced a broader range of social relationships than have their female peers. This is probably of great value, considering the tasks they face: those males that survive to immigrate into another group must deal with a hostile reception by the resident males. They must also develop all new relationships with both males and females, including potential sexual partners. And unlike females (who inherit their mother's social rank and retain it throughout adulthood), males must compete for the rank they attain and cannot expect to keep it: for males, status peaks in young adulthood and declines more or less rapidly soon thereafter. Social relationships may change even more for those males who, like Handle's firstborn son, Hans, switch groups several times. Moreover, males do much less grooming than females and, at least as young adults, do so primarily with potential sexual partners.

For all these reasons, we might expect to find that aging males are less socially integrated and have fewer social resources. However, studies increasingly document long-term friendships, involving grooming and some infant care, between mature males and females. Sometimes older males in these relationships have even greater success sexually than do dominant, younger males. Newly weaned youngsters may also benefit from the protective friendship of older males, who occasionally perform acts of heroism—defending the youngsters from injury by other adult males or rescuing and carrying them to safety when they cannot keep up with the group's rapid flight from predators.

Reaching old age may be rare in savanna baboon society, but those individuals that do survive are much more than decrepit hangers-on. As fellow primates, they suggest some of the many ways of growing old and contributing to a complex social world.

DISCUSSION QUESTIONS

1. How does this description of baboons differ from that provided in Washburn and DeVore's article (see Chapter 9)? What topics

or behaviors did you see discussed in this reading that were not in the Washburn and DeVore article?

2. Do you see Altmann's observations as being relevant to the understanding of human evolution? In what ways might this study shed light on the origins of human behavior?
3. What is the central research problem that Altmann is addressing in this article? What are some observations that she draws upon to address this issue?



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You can find many other readings pertinent to this topic by consulting online databases including InfoTrac College Edition. Some suggested search terms

for this article are as follows.

- Vervet monkey
- Nonhuman primate sex roles
- Female-dominated species
- Global warming