

PRIMATOLOGY

Seeing Nature Through the Lens Of Gender

In 1959, when Irv DeVore, then a doctoral candidate at the University of Chicago, set out to observe olive baboons in Kenya's Nairobi Game Park, primatology was a young field. So young and unformed, in fact, that DeVore's findings from 11 months in the field shaped the entire discipline's direction by establishing the notion that the most important aspect of primate social activity is what the males do.

In the absence of much previous data, says DeVore, "I did the most obvious study, which was on male 'peck-order,' the term that was used then. That's the thing that hits you when you first see baboons: the big, rowdy males. When they move, things happen. They also had shifting coalitions, and this was so new that everyone seized on it as being of the utmost importance. What I didn't see during my time in the field was a single male transfer."

If Irv DeVore, now at Harvard University, had seen a male transfer between groups he might have realized, as primatologists do now, that baboon males aren't

usually stable members of a group at all. Social stability is provided by the females, and the males move from group to group. DeVore calls his failure to witness a male transfer and understand the centrality of baboon females a "bad shake of the dice."

But was it really just bad luck that Irv DeVore failed to perceive the centrality of females in the social structure of the olive baboon? Or was it that he wasn't looking for the female role? Some of DeVore's female colleagues, including his own

students, think he—and other male founders of primatology, such as DeVore's mentor and coauthor on several studies, Sherwood Washburn, professor emeritus at the University of California, Berkeley—went into the field carrying as part of their equipment assumptions that stem from being a male in a male-dominated society. "The early studies mirrored our society's institutions, which were also based on male hierarchies," says Sarah Blaffer Hrdy, an anthropologist at the University of California, Davis, who was a student of DeVore's.

In the past two decades, however, women have poured into primatology, drawn in part by the example of Jane Goodall, Dian Fossey, and Birute Galdikas, the "Trimates" whom Louis Leakey brought into the field in the 1960s (see story on page 420). Over the same period there has been a radical reappraisal of the social organization of baboons and other primate species, as researchers discovered how important bonds between females are for the structure of many primate groups. Was it simply another "shake of the dice" that the

picture changed as female primatologists began to do more field work? Or do female primatologists see things differently than their male colleagues do?

There's no scientific answer to these questions yet, but what has happened in primatology in the past two decades offers plenty of material for thought. The pioneering studies of DeVore and Washburn led to a view centered on a male primate world rich in political intrigue, bravado, and violence, with competitive males muscling their way to power. In contrast, the females took on the look of primate June Cleavers: sexually passive, burdened with the care of their young, and valued primarily as sexual prizes for dominant males. The females, this view held, might squabble among themselves, but their disputes rarely had significance for the larger social order, which was determined by confrontations between primate Ralph Cramdens.

That paradigm spread beyond primatology to influence other fields as well. DeVore's study, and similar reports on other primate species by both male and female researchers, affected disciplines as diverse as paleoanthropology and psychology, leading some researchers to claim that female primates—including human ones—were not biologically adapted for competition. And even though other primatologists of both genders reported that the primates they were watching did not conform to the DeVore/Washburn pattern, male-dominated societies were nevertheless regarded as the rule.

So pervasive was this view, in fact, that female primatologists were reluctant to confront it head-on. In 1966, when Thelma Rowell, then a research associate at Uganda's Makerere University, reported that the olive baboons of Uganda's Queen Elizabeth National Park had a society that was not based on male hierarchies, she felt compelled to construct a narrative that accounted for the discrepancy without calling the male-dominant hypothesis into question. Even though she was studying the olive baboon, "Here I was, a very junior person, who was not seeing anything like what DeVore had seen" says Rowell, now at the University of California, Berkeley. "So I made up this story that these baboons were different because they were living in forests [DeVore's lived on the savanna]....But I didn't believe that for an instant. Now, I'm much more bloody-minded, and I'd just stand up and say, 'Irv, you're wrong.' But I didn't have enough confidence to do that then."

It was only a decade later, in the mid-1970s, that Rowell and others found the confidence needed to speak up. Several factors contributed to that confidence. One was a "gender-free" method for collecting primate field data devised by Jeanne Altmann, an evolutionary biologist at the University of Chicago. In a landmark 1974 paper, Altmann laid out an observational method that entailed spending equal periods on each member of a primate group, overcoming the tendency to concentrate on the males. Another was the increasing number of field studies of primates by women. By the mid-1980s women made up a third of the American Primatological Society; today they constitute 52%.

As female graduate students got their first glimpses of primate societies, many of them were horrified by the savage beatings the males of some species (baboons, common chimpanzees, and langurs, for example) mete out to females and infants, often resulting in the infant's death. Hrdy says that her "emotional involvement with



NANCY DEVORE/ANTHRO-PHOTO

Here, big fella. Irv DeVore among the olive baboons in Kenya—where his research concentrated mainly on the behavior of the males.

the plight of the females"—an involvement she doubts her male colleagues share—became a key reason for asking questions about their role.

Hrdy says she became interested in female reproductive strategies and female-infant bonds when her study of infanticide among Indian langurs in 1970 revealed that every 27 months, on average, a female langur in the relatively small population she studied lost an infant to such an attack. According to the hypothesis of sexual selection, a male animal commits infanticide in order to bring the female into heat, increasing his potential reproductive success. "It suits the male imagination," says Hrdy, "to think about how the dominant male can get the maximum number of copulations." But she thought that view was incomplete, because the male primatologists never considered the question of infanticide "from a female viewpoint."

Believing females must be doing something to protect their young, Hrdy expanded her research, eventually demonstrating that the females were not passive objects in males' reproductive strategies. Contrary to the prevailing sexual selection theories, Hrdy found that the females had sophisticated reproductive strategies of their own. Instead of choosing the single best male to father their young (as the prevailing hypothesis held), females were engaging in sex, even when pregnant, with numerous males—in essence using promiscuity to confuse paternity. Hrdy theorized that these promiscuous matings widened the group of males with an investment in a female's infants and deflected future attacks.

With that study, Hrdy opened a new avenue of research that helped alter the focus of primatology as other female researchers took up related subjects. Suddenly, female primates were endowed with sexual strategies of their own—an insight that prompted questions about topics such as female-female competition and the friendships primatologists noticed in some species between males and females (which can help to assure the female a male protector for her young).

By the mid-1980s, the pendulum had swung to the opposite extreme. Female primates were the hot research topic; books and articles on the subject poured forth. "The females are there for the long term," explains Linda Fedigan, a primatologist at the University of Alberta in Edmonton, "while the males often play only cameo roles, staying with a group for maybe 5 years, then moving on." In 1980, a study by Richard Wrangham of Harvard University indicated that 25 of 29 primate species are female-bonded.

In fact, the pendulum has swung so far that some researchers argue a new orthodoxy has been created—and it's time for the pendulum to begin swinging back. "We need to pay more attention to what's going on with the males, particularly all-male groups," says Jim Moore, a primatologist at the University of California, San Diego. Moore also notes that in some recent papers researchers have claimed that "all primate societies are female-bonded, just as people used to

claim that they were all male-bonded. But the reality is probably 50-50—that is, half of the species are female-bonded, while the others are not rigidly bound by kinship ties, male or female." Indeed, only a few species are male-bonded.

Primatologists disagree sharply about whether these swings reflect the gender of the researchers involved. To some, Irv Devore is right when he says bad luck got the field off on the wrong foot and the only thing needed to correct its course was more data collection—by male or female researchers. They point out that even in the 1950s an all-male team of Japanese primatologists created a social model for the rhesus macaques they were studying that was just the opposite of the male-dominated one. Those studies didn't have much effect on the field, because they weren't translated into English until 1965—and then they were regarded as "anthropomorphic."

Phyllis Jay Dolhinow, a biological anthropologist at the University of California, Berkeley, agrees that "real knowledge, real science doesn't have a gender. I don't think I have any special skills because I have two Xs, and I think we [women] do ourselves a disservice to claim that." Nor does it take a female researcher to consider female-related questions, says Harvard's Wrangham, who is credited by women in the field with helping overturn the male bias. "I'm a man," he notes, "who sometimes thinks about female primates from a female perspective. And I'm not the only male in the field who is doing this."

But many primatologists agree that gender influences their work. Even Devore concedes men may be less likely to study female/infant strategies. "I don't think that it took more women to bring about this change," he says, "but it did take pointed questions from women to reshape my thinking." Adds Geza Teleki, a primatologist and chairman of the Committee for the Care and Conservation of Chimpanzees: "Of course men and women see things differently. I know it's not politically correct to say that, but there are things—gender, ethnicity, nationality—that we all come burdened with and these affect our science."

Whether it was specifically gender-based or not, most primatologists think the entire process of vision and revision has been tremendously creative, opening new vistas of primate behavior that might otherwise have been overlooked. They view their field as a sterling example for other sciences—not because one gender-based view or the other has prevailed, but because their discipline has become more inclusive. "To me, it's not a question of whether women do science one way and men another," says Barbara Smuts, a primatologist at the University of Michigan, Ann Arbor. "Rather, our field shows what can happen when a science is more inclusive. The greater diversity we have, the more we are able to see. And that has been the critical contribution of women. We are a much more diverse field today, and therefore a stronger science."

—V.M.



Female bonding. Unlike males, females are members of primate groups "for the long term," says primatologist Linda Fedigan.



Balancing the ledger. Primatologist Sarah Blaffer Hrdy signs in as a new member of the National Academy of Sciences in 1991. Peter Raven of the Missouri Botanical Garden holds the book.