7 The Lady Trimates and Feminist Science?: Jane Goodall, Dian Fossey, and Biruté Galdikas

> We think of science as manipulation, experiment, and quantification done by men dressed in white coats, twirling buttons and watching dials in laboratories. When we read about a woman who gives funny names to chimpanzees and then follows them into the bush, meticulously recording their every grunt and groom, we are reluctant to admit such activity into the big leagues. We may admire Goodall's courage, fortitude, and patience but wonder if she represents forefront science or a dying gasp from the old world of romantic exploration. . . . The conventional stereotype is so wrong. . . . Jane Goodall's work with chimpanzees represents one of the Western world's great scientific achievements.
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> —Stephen Jay Gould, Introduction to the revised edition of *In the Shadow of Man*[1]

> Often I think of science in technological terms—of the cold machinery, the devices, and accelerators, the weapons that science makes possible—all the things that modern science creates and utilizes. However, one day, I thought of science and appreciated its intent to look more closely into the beauty and mystery of nature. I had a glimpse of science in a different light, and at that moment the image of the woman in my dream came to mind. In one view of science the image exists of the male scientist exerting power and control over passive female nature. In this view the practice of science is seen as a violation of the natural world. However, my dream image raised the possibility of an alternative view. I began to consider another generative impulse of pure science—one born of curiosity and the love of nature. Then the woman becomes an intriguing symbol of a new way for me to think about the practice of science and its nature. She embodies the sense of science as the desire to understand nature, pursued in a rational and imaginative way. . . . Science is then not about the power of (male) intellect over passive (female) embodied nature. Rather science is a marriage, the relationship between human intellect and the intelligibility of a dynamic nature—nature which is both mysterious and knowable and in whose knowing we learn something about ourselves.
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> —Mary Palevsky, *Atomic Fragments*, April 1997[2]

IN 1982 THREE WOMEN CONVENED AT AN EXPLORERS CLUB RECEPTION in NEW York City. From outward appearances, they were in their thirties and forties. One was a dulling blond, the other two brunettes; one tow-

ered over the other two, who appeared to be of average height. Each wore an informal print cotton dress, though one filled hers out with a clearly pregnant belly. From the pleasant, relaxed expressions on their faces, one might have thought they were wives of important scientists being honored for their research in the field, when in fact the three women were themselves the most famous experts in the world on wild primates. Men in universities on nearly every continent had read as much, if not more, than they on chimpanzees, gorillas, and orangutans; but no one had logged more than a fraction of their hours in live observation of the animals in their natural habitats. Collectively, the women had spent more than forty years in the forest, and they had only just begun.

Jane Goodall, the first of this scientific triumvirate, was a soft-spoken Englishwoman who had studied the chimpanzees of the Gombe River Reserve of Tanzania since 1960. A forty-eight-year-old divorcée and recent widow, she had lost some of the youthful glow that had drawn the attention of more than three million people to pictures of her in *National Geographic* in 1963. Nearly twenty years later, she was still slim and dignified, her hair tied back in the same loose ponytail. Initially, academics had written her off as a *National Geographic* cover girl. She was referred to in newspaper articles as the blonde who "preferred chimps to men," but her life in Africa had not been a publicity stunt after all.

Throughout her girlhood, animals had consumed her interest, and she became inexhaustibly curious and patient observing them. At the age of four she waited for hours to witness chickens laying eggs; by nine she was riding horses, by eleven drawing pictures highlighting the differences between green loopers and caterpillars that turned into lime hawk moths. When most adolescent girls were writing to friends about high school crushes, she sat with her nature log classifying bullfinches and hedge sparrow babies. Her fascination with animals did not lead to formal study at university. Instead she held waitress and secretarial jobs until she had the money in hand to fly to Kenya. The twenty-three-year-old found work in Nairobi as a secretary at the Coryndon Museum, under its illustrious director, paleontologist Louis Leakey. After taking her to assist his wife at their dig site at Olduvai Gorge, he chose Goodall to carry out a long-term study of chimpanzees in Tanzania.[3]

The chair of the National Geographic Society, the organization that became her greatest sponsor, remembered what he thought of the nov-

ice explorer when he first met her: "She was obviously bright, but inexperienced, with a high-school equivalent education. . . . I thought it very unlikely this attractive young woman would devote her life to studying chimpanzees at Gombe Stream, deep in the wild, remote forest of Tanzania." And yet she agreed to go into "the wild," a five days' drive from Nairobi and twelve miles from the nearest town of Kigoma. Only some local fishermen, a native cook, and her mother, Vanne Goodall, accompanied her, since Tanzanian officials refused to let her proceed without a parental chaperone. In the first months at Gombe, she was bedridden with high fever and slowed by malaria, the nearest doctor three hours away by boat. She turned waif thin as she adjusted to the heat and a reduced intake of calories, but she eventually felt well enough to find a lookout point high above the valley. Coffeepot in tow and notebook in hand, she waited patiently for the chimpanzees to make an appearance, even if it meant wrapping blankets around her to endure the night air.[4]

Perched at her post, in October 1960 she observed chimps inserting long twigs into termite mounds to scrape for food; a week later she noted their consumption of baboon babies, bushbuck, and several kinds of monkey. Little did she know that, as she recorded these behaviors, she was cracking evolutionary theory from its foundations, challenging the definition of *Homo sapien* in distinction from other species. The world's leading primatologists had long insisted that chimps were vegetarian and couldn't use tools, but this relative novice quickly proved them wrong. Soon she also reported on the chimps' travel routes and child-rearing practices and claimed to understand the organization of their social structure. Specialists were intrigued by her fortuitous findings and came to see for themselves. By 1975 the Gombe Stream Research Center teemed with graduate students and scholars from Stanford, Cambridge, and the University of Dar es Salaam. Goodall had created a truly international center of research.

In 1986 many of the scholars who once made up the Gombe community came to Chicago to hold a conference marking the publication of *The Chimpanzees of Gombe: Patterns of Behavior*, the most comprehensive compendium of Goodall's research to date. By this time she was no longer merely a leading light in academic circles, but a darling of the American public. Since 1977 an institute bearing her name had advocated for habitat conservation and better treatment of animals in

captivity. Promotional trips to the United States soon required personal assistants to organize her book signings and television spots. By the 1990s Jane Fonda, Johnny Carson, Jimmy Stewart, and Michael Jackson were helping her raise funds for the apes. Her books for laypeople and children turned her into one of the most popular science writers in the world. No man or woman had translated scientific research into accessible language and advocacy so successfully since Rachel Carson wrote on the perils of pesticides in 1962.[5]

Jane Goodall was a tough act to follow when Louis Leakey's second "Lady Trimate," Dian Fossey, embarked on her study of mountain gorillas in the Congo in 1966. A six-foot-two American, she was rougher around the edges than her reserved British counterpart. Fossey looked composed for photographers at the Explorers Club meeting in 1982, but she was anxious to get back to her animals in the Virunga Mountains. It was no secret that she liked gorillas much better than people. Brash, awkward, and, at times, downright hostile to Westerners, she increasingly preferred her own company in her isolated cabin at Camp Karisoke to engaging the egos and curiosities of those from outside.[6]

Dian Fossey grew up in an upper-middle-class family in San Francisco and had been estranged from her mother and stepfather since she was a child; animals had long become surrogates for affection. In high school she rode show horses and decided that her career would be one of caring for them, if only she could make the grades in science. She struggled in chemistry too much to get into a veterinary program and settled instead for courses in animal husbandry, eventually majoring in the occupational therapy of children, but she never relinquished her fantasy of going to Africa to study animals up close. When she read about Jane Goodall in 1963, she took out a loan against three years' salary and set out for Tanzania, hoping that Louis Leakey would lead her to the animals. He put her in contact with photographers who allowed her to accompany them at Kabara, the study site of American gorilla expert George Schaller just three years earlier. It was here that she became enchanted with the mountain gorilla, but also where she first detected her physical limitations. Within seven weeks she had been so debilitated by ankle sprains that she was forced to return to the United States, her dream of studying animals apparently over.

Fossey wrote stories about the gorillas for local newspapers and got engaged to a Rhodesian man who had come to the United States to study and had no intention of returning home. Meanwhile, Louis Leakey was on an American lecture tour and came across her stories and photographs. He asked her if she wanted to study gorillas just as Jane Goodall studied chimps, and her response was immediate. She tabled her wedding and walked away from a career in physical therapy to embark on a life in the field, telling her family and fiancé that she didn't know when she'd be back.[7]

Fossey left her life behind to study a group of gorillas that occupied an area of extinct volcanoes that stretched for twenty-five miles, two-thirds of which belonged to the Democratic Republic of the Congo, and the rest situated in Rwanda's Parc National des Volcans and Uganda's Kigezi Gorilla Sanctuary. It was the site on which legendary naturalist Carl Akeley had convinced King Albert of Belgium to create a national park that would protect gorilla inhabitants. Setting up camp four thousand feet up, Fossey began her life as an observer and ally of mountain gorillas. When civil war broke out in the Congo, rebel soldiers put her under house arrest, but she convinced them to drive her into Uganda. Reports differ about what happened across the border. She told some that she was brutally raped, others that she endured various forms of torture. She emerged from the incident determined to set up a new camp on the Rwandan side of the Virunga Mountains, a camp that she named Karisoke in September 1967.[8]

Ten thousand feet up from the closest neighboring villages, she hired porters to trek up and down the mud-drenched, nettle-laden mountain twice a week to bring food and mail to her camp. Men trained for this work could do it in an hour and a half; with her arthritic legs and emphysemic lungs, she needed the better part of four hours. It's unlikely that a day went by on the mountain that she wasn't in pain. She suffered hemorrhages, near blindness, rotting teeth, broken bones, and diseases likely ranging from tuberculosis to cancer. Before she arrived in Africa she had weak lungs, made worse by the thin air and her smoking of unfiltered cigarettes. The scarcity of fair weather, fresh food, and friends did little to improve her condition. "It was indeed fortunate that I really liked potatoes," she joked, for sometimes the only choice was mashed, baked, or boiled. Students who came to study the gorillas often left as

quickly as they arrived. She thought it just as well: "It never dawned on me that exhausting climbs along ribbons of muddy trail, bedding down in damp sleeping bags, awakening to don wet jeans and soggy boots, and filling up on stale crackers would not be everyone's idea of heaven."[9]

Karisoke was not convenient, but since it was the best place from which to study rare mountain gorillas, that's where she stayed. Her subspecies of interest, *Gorilla gorilla beringei*, had been "discovered" in 1902, but never studied closely, and, Fossey speculated, might be extinct before the end of the century. She was determined to understand and help the gorillas, her attitude raising perpetual conflict with local cattlemen and poachers. Hostilities between Bahutu and Batutsi farmers had long led to the illegal grazing of cattle in zones designated for the gorillas, and Batwa hunters poached gorillas to make novelty items of their hands, feet, and heads. Government officials and researchers wanted to protect the animals and hoped that a regular flow of visitors would bring wealth into the local economy and provide an incentive that would allow for such protection. But Fossey didn't think there was time to wait for the benefits of tourism to kick in—that is, if the tourists themselves did not lead to the destruction of the animals. Regular contact with humans could make the gorillas more vulnerable to diseases and traps. She believed that patrols, if their members were provided adequate salaries and weapons, would pose less of a threat to the animals.[10]

No scientist, farmer, or government official was interested in her approach, so she carried out vigilante justice herself. Leveraging researchers and local tribesmen, she instructed them to cut traps, confiscate weapons, and release animals from snares, regardless of the local tensions they incited. If graduate students wanted to see the animals, they were going to have to take on the dangerous patrolling responsibilities too. Many of them, fresh from the lab, proved unfit for the challenge and watched in horror as she staged sacrificial rituals to scare the locals into compliance. Their belief in black magic proved useful; during trips back home she replenished her supply of Halloween masks for her charades. Researchers reported that she whipped genitals and injected poachers with gorilla dung until septicemia set in. Allegedly, she kidnapped a poacher's son to make him submit. All of it, she insisted, was for "the sake of the remaining gorillas."[11]

Corporate sponsors were not impressed. Whereas Jane Goodall remained the success story of the National Geographic Society (NGS)

and the Wilkie and Leakey Foundations, Fossey became persona non grata in the community of primatologists. Like Goodall, she had come to Africa in search of apes, steady funding, professional affirmation, and perhaps even companionship; but Goodall had been more successful on every count. Goodall's work in Tanzania led her to the men she eventually married: NGS photographer Hugo van Lawick in 1964 and Tanzanian parks director Derek Bryceson in 1975. With van Lawick, Goodall bore a beautiful blond son, known as Grub, much to the fascination of readers who followed the event through the glossy images of *National Geographic*. Life and love were never as easy for Fossey. After years of grueling effort in unbearable conditions, physical contact with the apes was elusive. For years she had to settle for a brief touch of fingertips with the great silverback Peanuts. The pictures that photographer Bob Campbell was able to capture of the event were not nearly as flattering of his human subject as van Lawick's were of his. Fossey, too, fell in love with her photographer, but Campbell left her and went back to his wife. He would not be the last married man to choose his wife over her. Although she wanted children, her unsuccessful love affairs resulted in dangerous abortions performed without the benefits of Western medical equipment. Not a day went by that she did not fear that financial hardships would bring her research to an end. She was bitter and often lashed out at staff and colleagues.[12]

Rwandan locals referred to Fossey as *Nyiramachabelli*, which translates to something like "the woman who lives alone on the mountain." (A British tabloid translated it to mean "the old lady who lives in the forest without a man.") Ann Pierce, who spent fourteen months at Karisoke, described it as "very lonely up there"; students unprepared for the isolation exhibited symptoms of "astronaut blues," a combination of "sweating, uncontrollable shaking, short-term fevers, loss of appetite, and severe depression combined with prolonged crying spells." If students felt this way after only brief stints, one can imagine the extent to which eighteen years at Karisoke plagued Fossey's psyche. Accounts differ, but most corroborate that she grew frighteningly violent and mad. In 1977 the brutal killing of Digit, her most beloved gorilla, seemed to send her over the edge. She was murdered in her bed in December 1985. Two men were convicted of the crime, but in truth no one really knows who killed her, for she had many enemies around her.[13]

The third woman of Leakey's triumvirate, Biruté Galdikas, headed not for Africa but for the rainforests of Kalimantan, Indonesian Borneo. Fossey quarreled with her, never realizing that her fellow "Trimate" would defend Fossey's militant protection of animals more eloquently than anyone else. When others questioned Fossey's sanity, Galdikas credited her with single-handedly converting the public image of the gorilla from "monstrous King Kong to peaceful vegetarian" and for ultimately saving him from extinction.[14]

In high school Galdikas dreamed of going to the Far East to be near the orangutans, but unlike the other Lady Trimates, she had acquired a husband and nearly her doctoral credentials before embarking into the field. She met Louis Leakey during yet another of his American tours: he had just given a lecture to her archaeological-dating-techniques class at the University of California, Los Angeles, when she approached him. His walking cane and nearly toothless smile belied his vigor; his enthusiasm was infectious—nearly "evangelical," as she experienced it. She declared that she was his next lady protégée; she had already written the Malaysian government and planned to be accompanied to the rainforest by her husband, physicist Rod Brindamour. He would double as her photographer and camp manager, much as Hugo van Lawick had for Goodall.[15]

Leakey helped her get funding from NGS and other private foundations, and she arrived in the dense swamps of Borneo in 1971. She named her camp after Leakey and embarked on her "return to nature" in the same idealistic spirit that permeated California campuses at the time. Fossey resented Galdikas's naive idealism as well as her charmed academic career and sex life, for although Galdikas worked in an oppressive rainforest, she seemed never to break a literal or figurative sweat. The pages of *National Geographic* displayed a long-haired beauty, who in no time had adapted to the swamps and had loving orangutan orphans hanging from her limbs. Galdikas admitted later that the appearance of Eden was only appearance: the rainforest was not a picnic site, and marriage in it was hardly idyllic. *National Geographic* had failed to capture her first week at Tanjung Puting, when she first wondered what she had gotten herself into. "I was confined to a tiny, airless hut with five men," she not so fondly recalled. "I had no privacy except after sundown, when oil lamps made from small sardine cans left most of the hut in darkness." The isolation was stifling. She longed for any reminders of her

former existence—a letter, even an old magazine. "At times," she admitted, "we felt as though the rest of the world had abandoned us."[16]

Back home, friends and family feared that she and Rod were forever lost in the jungle, and the truth wasn't far off. For months they trekked with machetes in tow, clearing the thick growth that enveloped them. Avoiding fallen logs, vipers, and leech-infested pools was a treacherous and daily exercise. It was not uncommon for her to wade in swamp water to her armpits and to lose feeling in her frozen extremities. She layered her clothes to keep her notebooks dry but still succumbed to mysterious rashes, fevers, bites, and feelings of perpetual wetness. The orangutans, meanwhile, gave little indication of their presence in the forest other than an occasional brushing of leaves or shower of urine from the canopies overhead. By the time she saw her first animal in the wild, she had lost twenty-five pounds.[17]

In 1977 Galdikas became pregnant and, to the horror of her family, gave birth to her son without the benefits of modern medicine. She felt pressure to produce a respectable dissertation, and writing and mothering occupied all her time, while the native nanny occupied Rod Brindamour's. He no longer wanted to be with Galdikas, so she divorced him in 1979 as well as the Western existence she once knew. Essentially changing places with the nanny, Galdikas stayed in Indonesia and let her toddler son live with his father and teenaged wife in Canada. Later, she married a young Dayak tracker, a man smaller and less formally educated than the Western men she knew. He did not speak English, nor did he intend to leave the village where he was born. Their children would come to have Western names, Frederick and Jane, her daughter's name inspired by one of the few white women who understood the allure of the wild. But Galdikas eventually considered the Dayaks her people, the orangutans her family, and Borneo her permanent home.[18]

When she arrived in New York in 1982, Galdikas looked as though she had chosen a life of druidism over Western science or domesticity. She wore her signature oversized spectacles and was soon to give birth to another child. Her silky brown hair had become increasingly wild and soon would turn wiry gray. Once slim and voluptuous, with each passing year she gained weight and morphed more fully into a figure indifferent to Western tenets of beauty. Had she been a man, her transformation might have been likened to that of H. G. Wells's ingenious Dr. Moreau or of Conrad's Kurtz in *The Heart of Darkness*. She,

too, had become a demagogue of sorts, assuming the identity of "Ibu," or "Mother Biruté," among the locals, but her succumbing to the wild seemed less romantic than for men. Shedding all the trappings of conventional life to live reclusively with her beloved animals, she appeared to be the proverbial cat lady; she didn't live in a dilapidated house down the street, but rather in a hut in the rainforests of Borneo—ultimately secluded from civilization.[19]

Galdikas transgressed the boundaries of female behavior but also of sound science, to the irritation of her professional peers. In the mid-1970s, primatologists had praised the rigor of her dissertation. Her findings on orangutan food sources supported revolutionary theories about divisions of labor that she extended to human males and females. After 1974 researchers adopted her animal sampling techniques as the most effective for recording behavioral data in the field. But like Fossey, she gradually fell from grace—down a slippery slope, from seeming to be a disinterested scientist to becoming an advocate for the apes. The rate at which she published research trailed off; thousands of pages of handwritten field notes sat in storage, collecting dust. Anthropologist Peter Rodman couldn't bring to mind any original research of hers after 1975. Carey Yeager, who observed proboscis monkeys upriver from Camp Leakey, believed that the ruse of her performing "science" was pretty much up when she started accepting tourists' money to play out fantasies of being scientists in the field. She directed more research in Bahasa Indonesian, rather than English, and admitted having little concern for remaining disinterested in the Western sense.[20]

Signs of her dramatic transformation were present even in 1975, as she lectured to a roomful of scientists in Los Angeles. Standing at the podium barefoot, she had appeared to have "gone native." They could not have known that she was not making a statement, but rather acting out of necessity. The swamps of Kalimantan had swollen her feet to such an extent that her closed-toe shoes didn't fit anymore. She had no need for formal footwear in Borneo and was surprised, when she returned to the West, to find how much her feet had expanded. Her feet are an ideal metaphor for her ideas about the natural world, a physical reflection of interior change that others might never understand unless they, too, had to walk in shoes that no longer fit. "Journal articles and monographs on fieldwork talk about theory, techniques and results," she reflected. "One rarely hears how fieldwork changes people's lives.

The living conditions, the funding difficulties, the practical problems, the highs of discovery, the false starts and dead ends, the drudgery of scientific record-keeping, the learning how to get along with people and societies initially very foreign to you, the learning how to get along without people, places, and things you once took for granted, the feeling of suspension in time as the world spins on without you—all have an impact."[21] Until Western scientists left the lab to live in the field, they couldn't know life in her shoes.

Louis Leakey's "Primitive" Feminism

The Trimates tracked uncharted paths toward communities of apes that were little understood by anyone. One can only wonder what each was thinking; men, let alone women, hadn't spent the intense time they would observing animals in their native habitats. Local officials thought Goodall insane for having no male escorts; colleagues thought Fossey suicidal when she set up camp with no survival training; and Galdikas traveled to areas so remote that her reference guides had been written by turn-of-the-century explorers. Personnel at the Indonesian Embassy could not confirm whether people in her area continued to hunt heads or practice bone-cleansing ceremonies, but she proceeded anyway.[22] Few women raised with the creature comforts of Western life would have surrendered to such unknowns. Their shared love of animals led the Trimates to water, but it was the charismatic Louis Leakey who convinced them to drink.

Like no other field scientist save Margaret Mead, Leakey captured the attention of the American public, with his news of exotic digs and prehistoric finds. By the time he met his lady primatologists, he was already a chubby white-haired man, easily mistaken for a retired weekend golfer rather than an Indiana Jones type who excavated sites throughout the world. It may sound grandiose to describe his life's work as the quest for the physical origins of humans, but that's truly what it was. He grew increasingly convinced that answers to his questions lay in the primates that continued to roam the earth, and he piqued the interest of American sponsors about the need to observe apes in their natural habitats.[23]

But Leakey's physical ailments prevented him from conducting the long-term study of apes he had in mind. He theorized that women

should do this research, for he had long admired their abilities in the field. Women, he decided, read social cues and observed the nature around them differently from men. These abilities were not learned in school, he once told Goodall. University training served only to desensitize intuition, which was why he didn't recruit primatologists from academic faculties. "He wanted someone with a mind uncluttered and unbiased by theory," she recalled, ". . . someone with a sympathetic understanding of animals. I think his reasoning was that, if you look at human mothers, they've got to have patience to be successful. Secondly, any human female must have some kind of programming to be able to understand the wants, the needs of a small creature that can't speak. . . . And thirdly, women traditionally have been responsible for keeping peace within the family. . . . And all that means a lot of patience and ability to just watch for little nonverbal signs. So that may give one an edge on looking at very complex social behavior."[24] Forty years later, Goodall remained convinced of his logic.

Leakey was a great admirer of women, though he rarely observed boundaries with them. Mary Leakey replaced his first wife after she, too, had been recruited for the field. They had three sons, and Louis's willingness to take on child-rearing responsibilities allowed Mary to dig for long stints of uninterrupted time. In 1948 she found a nearly intact skull of the extinct ape *Proconsul*, and she unearthed numbers of prehistoric tools and animals before discovering the jaw of *Zinjanthropus*, the "Nutcracker Man," in 1959. With Mary firmly ensconced at Olduvai, Leakey turned his attention to younger women who could carry out his primate studies in the field. Mary resented his exploits and believed his "primate ladies" were nothing more than dispensers of affirmation for a man sapped of virility. She had seen it all before.

Goodall was only twenty-three when she met Leakey, Fossey was thirty-one, Galdikas twenty-five. "He is *so* sweet, so utterly adorable," Goodall wrote in 1957, though he became less so as she continually rebuffed his romantic overtures. She was able ultimately to channel Leakey's feelings into father-like affection, but Fossey received love letters from him until his death in 1972. Galdikas thought his adolescent crushes harmless, even endearing. "Louis craved female attention and warmth," she explained. He truly loved women, "but it was 'women' in the collective more than the particular."[25]

Regardless of how one might judge him, Leakey's special fondness for women brought them to the field and propelled primatology into public consciousness. The social astuteness he observed in women had little to do with any stereotyped proclivity to make small talk at cocktail parties; it was an ability to notice the smallest details while assessing the larger community or system. He made this observation at the same time that David Botstein was noting similar powers in Barbara McClintock at Cold Spring Harbor. As a roomful of people listened to papers, she quietly observed and decided that Botstein must be hard of hearing. He asked her how on earth she could have known that, to which she told him that she noted his preference for sitting in the back row of the auditorium even though he was talkative. Given the acoustics of the room, she figured he must sit in the back to hear better.[26] McClintock's perceptiveness in the lecture hall was what Leakey appreciated about women in the field. His litmus tests for choosing his researchers were brainteasers from popular magazines and a series of innocuous card games. Placing cards facedown on a coffee table, he asked Galdikas to tell him which cards were red and which were black. Although she couldn't tell him which were which, she noted that about half of them were bent and half were not. Leakey had bent the black ones, a detail noticed by his Lady Trimates but never by a man with scientific credentials. Women, he concluded, were better able to see details that did not yet appear important.[27]

Leakey believed not only that women were better observers, but also that they had more patience for such long-term studies as the ones he envisioned of primates. What required more commitment than nurturing lifelong relationships and rearing children into adulthood—feats that he assumed women accomplished more adeptly than men? He also expected that women would appear less threatening than men to the male-dominated ape communities they observed. His experiences had shown that men in the field would try to do what most had since the beginning of modern times: conquer nature and move on. Henry Nissen had observed chimpanzees in French Guinea only for two and a half months in the 1930s, and his was the longest study in the wild before Goodall's. George Schaller lasted a full year with the gorillas of Zaire, but then he moved on to lions and pandas. Fossey surpassed his logged hours within her first year in Africa, and Galdikas easily eclipsed R. K.

Davenport's eleven months with orangutans in Malaysia. By 1975 she had surpassed John MacKinnon, who had logged more field hours than anyone in the world. When she wrote up her dissertation she had more than sixty-eight hundred hours of field observation to draw from.[28]

In the lab, scientists felt pressure to produce data quickly, to be in the vanguard of theoretical and technological advancement. In the field, however, slow and steady finished the race; persistence and dedication were key qualities. Leakey knew from the start that his Trimates were committed people, and he was careful about helping them prepare for the fieldwork. When he discussed the logistics of Fossey's study with her in 1966, for example, he warned her to remove her appendix ahead of time, since no one would be able to save her if it burst in the field. He was pleased to discover that she arranged for the surgery, undaunted by his warning. Similarly, in the interest of avoiding all medical emergencies, Galdikas agreed to have her tonsils removed if such action would get her to Borneo.[29] She endured the initial years of physical discomfort and frustrating results, while her husband, Rod Brindamour, left, as Leakey predicted all men would. Although Brindamour had endured in Borneo for seven years, he couldn't help feeling like a "displaced housewife," with no career or paycheck of his own. He had been stripped of his virility in the Western sense. "Our divorce was as much a reflection of our culture and of the different ways Western men and women view the world," Galdikas later reflected:

> The archetypal Western male, Rod went to Borneo in search of adventure. . . . He was the Marlboro Man with a mission, saving the forest and the orangutans. But when you have the same adventure day after day, the exhilaration and the feeling of triumph fade. After seven and a half years, Rod felt that the laws protecting orangutans were being enforced and the reserve boundaries were secure. The job was done and it was time to move on, time to go back to "real life." I went to Indonesia for so-called "female" reasons: I wanted to help. If I had to take risks, I did. But I wasn't interested in adventure for adventure's sake. My triumph came from feeling at one with the orangutans and the forest; I exulted in the peace and the quiet. Because I wasn't looking for thrills, I never got bored. The more I knew about orangutans, the more I would be able to learn. After seven and a half years I felt even more committed than when I arrived.[30]

Galdikas believed that her accomplishments could be attributed to maternal persistence, albeit socially conditioned, not biologically

based. Leakey, however, believed that such persistence was as innate as a mother orang's when protecting her young. On the one hand, he opened doors for women to experience the exotic adventures of virile turn-of-the-century naturalists. On the other, he based his beliefs in women's natural proclivities as mothers and nurturers, and feminists who believed in "difference" came to agree with him in the 1980s. Perhaps he was enlightened in the Western sense, or simply non-Western altogether. One need only be reminded of his advice to Galdikas to understand the difference: She recalled that he approved of her practicing birth control in the field, but insisted that in his Kikuyu experience painful clitorectomy proved the surest form—it had deterred women from engaging in sexual activity for centuries.[31]

James Krasner argued, more skeptically, that Leakey's choice of women over men in the field was gimmick more than anything else: "Leakey no doubt understood that readers [of *National Geographic*] who would not be interested in evolutionary theory or animal behavior would be arrested by photographs of middle-class white women embracing apes."[32] Regardless of motives to innovate or titillate, it's remarkable that Leakey acted to appoint women, given the potential risks at stake. What if his Trimates reported observations that the scientific establishment considered highly improbable? What if, in their propensities as feeling women, they committed the most heinous crime of all by growing attached to the animals?

In the end, most of the dire predictions came to pass. When Jane Goodall told the primatological community in 1960 that chimps were entirely habituated to her presence, it was more than most could swallow. That same year, leading expert Vernon Reynolds, who had just returned from Uganda, had concluded it couldn't be done. Before the 1950s primatologists caught no more than brief glimpses of the animals they studied; most refused to attempt habituation altogether, shooting the animals and studying their remains back in the lab. One need only know of the experiments performed in American labs to see how unorthodox Goodall appeared. Harry Harlow, a researcher of rhesus monkeys at the University of Wisconsin, ironically designed artificial conditions in the late 1950s and early 1960s to elicit animals' most natural responses. To prove the importance of the mother-child bond, for instance, he isolated babies from the mothers to whom they instinctually clung in the wild, putting them in cages with "surrogate" parents made of terrycloth and

wire or with no surrogates at all. He left monkeys alone, devoid of social interaction, in darkness in his "pit of despair" for six-week stints, to note the depression and dysfunctional behavior that resulted. Somehow his man-made experiments were supposed to provide more accurate truths than what Goodall humanely determined in the forest.[33]

Professional peers approved because the role of master controller was unquestioned in Western science. Goodall, the novice, knew no better than to proceed with a different approach, letting chimps grab food from her hand and wander into camp. "Ah-ha," her detractors exclaimed, "then her data must be tainted." Touching animals in the field was tantamount to spitting into urine samples in a biomedical lab. Goodall thought just the opposite. She blended in, wearing the drab colors of the forest and making no effort to interact with animals who didn't approach her first. She viewed her dealings with the chimps not as manipulative, but rather as being on their terms. A sympathetic colleague called Goodall's "a humble science": "She asks the animals to tell her about themselves." Others were less generous, at which point Leakey defended his protégée as a lion defends her cubs—or, as Goodall observed, as a mother chimp defended her babes.[34]

Fossey's habituation of mountain gorillas took much longer, and the awaited point of contact was too monumental for her to remain detached in the way field texts advised. "One of my first rules to visitors was 'Never touch the gorillas,'" she recalled. "This rule was occasionally broken once I learned how much gorillas loved to be tickled." Before long she belched with them, groomed their fur, and cuddled their infants like her own. Torn by heart and head, she rationalized her methods as a balance between "open" and "obscured" contacts: "Obscured contacts were especially valuable in revealing behavior that otherwise would have been inhibited by my presence. The drawback to this method was that it contributed nothing toward the habituation process. Open contacts, however, slowly helped me win the animals' acceptance. This was especially true when I learned that imitation of some of their ordinary activities such as scratching and feeding or copying their contentment vocalizations tended to put the animals at ease more rapidly than if I simply looked at them through binoculars in an attempt to disguise the potentially threatening glass eyes from the shy animals."[35]

In 1960 George Schaller had been the only researcher to glimpse mountain gorillas in their habitat; twenty years later Fossey compiled

the most complete set of data in existence on wild gorillas. From nose print sketches; to spectrograms of vocalizations; to studies of diet, birthing patterns, and anatomical proportions, she left few stones unturned. Ian Redmond, her most devoted assistant, took on the unpleasant task of heading up a parasitological study, classifying and drawing the organisms found in gorilla stool samples. Colleagues approved of his empirical data but criticized Fossey's subjective analysis of gorilla behavior. She was unmoved, believing that she had to proceed as an altogether different kind of scientist, one who wore the hat of behaviorist and genealogist in addition to the traditional primatologist who brought specimens back to the lab. She trusted the knowledge she gained by observing the animals in their natural habitat and believed that her persistence bestowed continuity on her observations; in eighteen years she followed four extended families of animals over three generations, charting births, deaths, relocations, bouts of disease, and feuds among clans. She was essentially a Margaret Mead of the apes.[36]

Schaller, too, observed primate behavior in the wild, but his impulse as a Western scientist was to limit contact before immersion tainted his objectivity. As a policy, he took notes at least 150 feet away from the animals. When Fossey, however, let the animals crawl all over her, peers feared it was for her own emotional needs rather than the good of objective science. Sandy Harcourt, a primatologist at Karisoke until 1974, thought that Fossey's relations with the gorillas were inappropriate, sometimes pathetic. As poachers, scientists, and sponsors threatened to remove Fossey from her mountain, she took solace in what she interpreted as the apes' unconditional acceptance. She was known to wander alone to lookout points with no equipment. Harcourt believed that even if Fossey did witness "natural" behavior, she couldn't record anything beyond anecdote since she didn't have her charts.[37]

Leakey would have ignored the criticism were Fossey's funding not in jeopardy. Although he never intended to alter their field techniques, he made arrangements that allowed Goodall and Fossey to gain appropriate scientific certification, a kind of "union card," enrolling them in graduate programs at Cambridge University, under the renowned Sir Robert Hinde. Hinde's New Ethology was based on statistical measurements, maps, and charts, not the free-flowing description of behavior that Goodall and Fossey spoke into tape players and transcribed into their logs. It's in the numbers, he told them, not the narration; his sci-

ence was, in a nutshell, without context of any kind. Fossey reluctantly kept tabs of animals' age, sex, and corresponding dung size and used the computers on campus to work up her data. Invariably, however, she settled into her own methods when she got back into the field. Goodall fell into bouts of depression as each semester began and she had to leave Tanzania for England. She was the first woman admitted to a Cambridge doctoral program without a bachelor's degree, but by the time she earned her PhD she was not convinced that formal training had informed her work for the better. Galdikas had come to the same conclusion: "In the classes I had taken at UCLA in the mid- to late sixties, budding anthropologists and primatologists learned to put their emotions aside, observe, and not interfere." This advice fell on deaf ears once she got to Borneo, for it didn't account for how she would be moved and her instincts heightened by what she observed.[38]

In the end, Leakey's Trimates turned into "professionals": he saw to it that all earned doctorates and eventually academic positions. Goodall and Galdikas spent several semesters in the 1970s as visiting professors at Stanford and Simon Fraser universities, and in 1980 Fossey left Karisoke to teach at Cornell. Still, they had their academic detractors who believed that their field methods tainted the purity of their observations. Zoologists, ethologists, primatologists, and animal behaviorists accused them of a crime more heinous to professional sensibilities than poaching for sport: anthropomorphizing their apes. They thought it inappropriate that Goodall gave chimps names rather than numbers for identification, for this practice seemed to value intimacy over emotional distance. The controversy was ironic, for famed baboon expert Irven DeVore had named his animals in 1958. Moreover, Goodall demonstrated that the practice served pragmatic needs. She differentiated between families of animals through the first letters of names. Flo's offspring, for example, were Flint, Figan, and Fifi; visitors to Gombe knew, if nothing else, that Pom and Passion were related. Graduate students also traced genealogical histories through the names of orangutans near Camp Leakey. Galdikas named the first wild animal she recognized Alice, followed by her son Andy, and then Beth, Cara, Carl, Cindy . . . Martha, Merv, and so on. Fossey designated gorilla groups with numbers, but within them animals had names like Peanuts and Icarus.[39]

The practice of naming betrayed a wholly different orientation to subject than that of gentleman behaviorists who had studied primate

"types"—the chimp male, the gorilla female, the orangutan infant—earlier in the century. The Trimates sought to understand animals as individuals with unique traits within a larger system, much as McClintock studied her strains of corn. The psychoanalyst Nancy Chodorow has theorized that women's viewing of the world from the perspective of connection, men's from detachment, may be the inherent consequence of early identity formation: girls ultimately identify with their mothers, their primary love-objects, while men grow detached from them. Carol Gilligan also uses psychological theory to explain women's tendency to individuate. Women are holistic and integrative thinkers, according to Gilligan, but they also particularize as they carry out their ethic of care; men generalize and sort into categories, imposing laws on nature so that it can be easily controlled. But names not only particularize; they open doors to infused meanings. Was it an objective practice to label animals according to physical traits, as in the case of Goodall's Throat Pouch or David Greybeard? What of labels bearing symbolic significance? When Passion bore a baby in 1977, it put an end to her killing of other females' offspring, and thus Goodall named her newborn Pax. Fossey named a gorilla in memory of her uncle Bert; one can only begin to speculate about the emotional baggage attached to that decision.[40]

Goodall recalled that when she began her study in 1960, "it was not permissible—at least not in ethological circles—to talk about an animal's mind. Only humans had minds." She was referring to an animal's emotions as well as intellect, and yet years of observation led her to conclude that chimps were nearly human emotionally, if less so intellectually. "I have often felt like an anthropologist taking notes on a tribe of people," she explained. They had thoughts, imaginations, feelings—all of which were understandable so long as one learned how to bridge the gulf in communication. It was vindicating when university labs confirmed that, genetically, chimps and humans were nearly 99 percent alike. The data made sense, given the parallels Goodall had noted in the field: "the long period of childhood dependency, the importance of learning, non-verbal communication patterns, tool-using and tool-making, cooperation in hunting, sophisticated social manipulations, aggressive territoriality, and a variety of helping behaviours, to name a few." Galdikas also viewed orangutans as "our relatives . . . our kin." Their only difference, she thought, was that they had never left the "Garden of Eden" and thus had never lost their innocence.[41]

The Trimates were so moved by the tightness of the mother-child bond in primates that they modeled primate mothers in rehabilitating orphaned apes and raising their infant boys. Much the same way in which Flint clung to Flo, Grub clung to Goodall and grew accustomed to constant cradling and caressing. Photos in *National Geographic* revealed a virtual interchangeability between infant human and primate at Gombe, Karisoke, and Camp Leakey: Binti Brindamour, Galdikas's son, took baths with primate orphans; Goodall and Grub posed in ways identical to Flo and Fifi; Fossey graced a magazine cover cradling baby apes much as Galdikas did five years later. Her instinct to mother was not Brindamour's instinct to father in the nuclear sense, but she explained that it wasn't the orangutan male's either. When it became clear that the orphaned orangutan Sugito had chosen her to become his adoptive mother, Brindamour's knee-jerk reaction was to insist on differentiation, while Sugito's was to bite and urinate on his male competition. Galdikas's response was to become the perfect primate mother, patient and protective. Despite her husband's objections, she conceded her supper to the orphan and let him accompany her in the tub. "Under Rod's suspicious gaze, Sugito became my infant. . . . There were moments when I glanced down at Sugito holding on to me, and for a split second I forgot that he wasn't human and wasn't my biological child."[42]

In this moment Galdikas felt much as McClintock had when McClintock "got down in there" to study her corn: she achieved a feeling for her organism and had been forever changed by it. Critics believed that her emotional attachment made her blind to the ways in which apes actually differed from human beings. Sometimes she agreed: "I could rattle off a list of the differences. But I had lost that gut feeling of separation, which is an integral part of Western intellectual consciousness." Asymmetries did strike her once she observed her own son playing with infant orangs. Binti had come to climb trees and gesticulate like baby Tarzan, and for a time it seemed that distinctions between primate and human infants had "virtually disappeared." But then Binti's physical and emotional development diverged from his primate friends'. She eventually banned his playmates from camp, fearing that their nearly human feelings of sibling rivalry would result in a nonhuman display of physical strength against him.[43]

Goodall thought that there was a fine line between observer and observed but that her close proximity to the chimps gave her more in-

sight in the end. "We are not, as once we believed, separated from the rest of the animal kingdom by an unbridgeable chasm," she wrote in 1990. "Nevertheless, we must not forget, not for an instant, that even if we do not differ from the apes in kind, but only in degree, that degree is still overwhelmingly large." It was large enough for her, too, to limit the chimps' interactions with Grub, who never entered the forest without a parent. Although he had lived at Gombe since four months of age, it was increasingly clear that if given the opportunity, the chimps would likely devour him. In her efforts to study apes outside captivity, Goodall caged her son as he slept. To her horror, the chimps Pom and Passion had posed a threat to their own, killing others' chimp babies and eating them. Her descriptions of the unexplainable violence took experts aback at a UNESCO conference in Paris; many wanted to believe that violence was peculiar to the human species, that it was a result of culture, not nature. Goodall left the door open to wonder if the nature of apes was in fact the nature of humans.[44]

Women in the Wild: Changing the Culture of Western Science

Consider popular images of women's close associations with apes—real and fictitious, in the wild and in captivity—from Digit, to Koko, to King Kong. Images of the Trimates and their animals may have had the greatest impact on how Americans imagine this relationship. Donna Haraway called it "the *National Geographic* effect." Starting in the 1960s, film crews documented the movements of Leakey's protégées, who would have otherwise worked in virtual obscurity. The popularity of NGS publications and films grew out of the lay public's desire for "naked eye science"—the yearning to experience science as adventure rather than classroom fare. The family sagas between Flo and Flint in Goodall's television specials enraptured the young Biruté Galdikas long before *Dallas* or *Dynasty* captured public attention. Vicariously, women experienced science as a hands-on practice performed outside the lab or the purview of men. On the heels of the countercultural, feminist, and antiwar movements, the Jane Goodall of film represented peace and love and seemed to be Mother Nature in the flesh. She gracefully evolved from the virginal girl next door, as seen in *Miss Goodall and the Wild Chimpanzees* (1965), to the matronly advocate for primates in captivity in *My Life with the*

Chimpanzees (1990) and in films that continue to be shown on Animal Planet in the twenty-first century. In documentaries, the Gombe River Reserve appears timeless and serene and Goodall at peace with her life of limited human contact and competition. She speaks in lay terms and evinces maternal compassion for all nature's creatures. Hers appears a humane and accessible science.[45]

NGS documentaries presented all three Trimates as "one with nature," and primatological work as blissfully maternal. Like depictions of Nobel Prize scientists as loners, these images are manipulations of sorts. Those who held the camera for the Trimates were men—ones who created facades of women's closer connection to primates and the natural world they observed. Haraway suggests that NGS portrayed a convincing reunification of Western culture—the lady Trimates, with nature—the apes and their forests, at a time when it served capitalist ends to eliminate the appearance of schisms of race, class, gender, and colonialism in third-world areas. We know from the writings of the Trimates themselves, however, that such schisms shaped their daily lives and that their maternal mystique was overblown. While such movies as *Project X* and *Gorillas in the Mist* romanticized the study of apes and anointed the women who studied them, the reality was hardly the stuff of Hollywood. Fossey scared off many graduate students by putting them on "dung duty," which some might call "diaper duty" if it weren't such a stretch. Linda Fedigan, a practicing primatologist, has dismissed "the big brown eyes hypothesis," the biological explanation for the high percentage of women in her field. Although she doesn't doubt that values defined culturally as maternal made many women the patient observers who could hear the natural world "speak to them," she believes that the media has inaccurately perpetuated the idea that women study apes out of a need to mother living things.[46]

Accurate or not, such appearances are still significant for their impact. Leakey and the Trimates understood that their fate in the field depended on popular attention to them as iconic figures, though not necessarily as scientists. That they appeared in ways that were not only distorted but also nearly contradictory suggests yet again that consumers of their stories shared no consensus about what women in the field should represent. Often they appeared to be women of fortitude and compassion, but sometimes at the expense of their personae as legitimate scientists. Biographers found it impossible to cast Dian Fossey

as both a competent scientist and appealing woman. Farley Mowat's *Woman in the Mist* (1987), Alex Shoumatoff's *African Madness* (1988), and Harold T. P. Hayes's *The Dark Romance of Dian Fossey* (1990), reveal, as their titles suggest, a woman confused about her appropriate "place," hence falling into proverbial darkness. Indeed she was complex, but in the hands of men the complexity always turned tragic. "Fossey emerges as a social outcast—an irrational eccentric, a street person, an animal," James Krasner laments. "While a certain amount of antisocial eccentricity is expected from male scientists. . . . one of the crueler truths about the way in which Fossey's story has played itself out in popular media is that her status as a scientist has been eclipsed by her role as heroic madwoman confronting the primitive."[47]

The Trimates were the objects of sexist stereotypes, and yet they also featured in ways that inverted assumptions about women and Western science. One might have expected that in the 1978 *National Geographic* spread on Galdikas's work, Binti Brindamour, the baby son of Western-educated parents, would have represented the idea of "culture," and Princess, the orphan of a poached ape, the perils of "nature." And yet in this spread both babies stand together, side by side, in a tub in which they are both similarly being cleansed of dirt and conventional meanings. The accompanying text reveals that the process of "cultured man" imposing order on "nature" has been reversed. Princess, who had been acculturated by Galdikas, learned sign language and even taught baby Binti his first sign word. In fact Princess had been acculturated so deeply inside the human camp that her rehabilitation required her to forget human culture entirely before she could return to the wild. So who represented "culture" or "nature"? At Camp Leakey such dualities simply didn't apply.[48]

Galdikas described her "laboratory" as "the living one that has existed for millennia"; it had no boundaries or procedural rules. There was no commute back to the domicile at the end of the day; entire ecosystems, bodies of water, and rainforests became places and subjects of research. Fossey, too, differentiated little between work and domestic space; her seven- by ten-foot tent was a bedroom, office, bath, and drying area for clothes. She took notes on the apes as well as "everything from weather to bird and plant life," "poacher activities," and anything else that provided context. Nothing in the natural environment lay outside the parameters of observation.[49]

Without the normalizing rhythms of the laboratory, women in the field worked after hours, sometimes days at a time if that is what nature allowed. Goodall commented in her notes that day felt like night and night like day. After long stints in the trees she would return to her cabin, where assistants, usually women, typed up the observations she recorded on tape. Her mother suggested she take off one night a week to do something unrelated to research. "Even on these nights our conversation was almost entirely 'chimp,'" Jane recalled. "If our work had not also been our pleasure it is doubtful whether we would have been able to keep up the pace." At her wedding to van Lawick, Goodall viewed wildlife photographs and cut a cake with a model of David Greybeard on top of it. She returned after only three days of honeymooning to monitor the development of a newborn baby chimp. Her domestic and observational space became one when she began feeding the chimps at the provisioning station next to her marital tent. The boundaries of Western science had been eroded in almost every sense.[50]

Like the first women to enter "domestic science" programs at the turn of the century, Goodall applied lessons learned "in the lab"—in this case, the forest—to her "home" life. The transfer of knowledge was not a one-way street in the field: mother chimps were teachers as well as objects of study. Once Jane had Grub, he, too, became an object to be observed, and she documented his development, as Margaret Mead had of her daughter in the 1930s and 1940s. For both scientists home and the field were not inherently oppositional spaces, and objects of study in them might amplify the commonalities between animals, "primitive" peoples, and Westerners. Connectedness characterized their brand of observation.

In the wild Goodall didn't need to hide her pregnancy or make superhuman claims. When her infant demanded attention, she scaled down her field observation: "He still wakes early," she wrote in the summer of 1967. "I mess around with him till about 10 & then he sleeps & I do chimps until he wakes about 1.30."[51] She spent the better part of 1968 taking care of her baby, observing the chimps, and revising her dissertation. This fluidity was not achievable for women working in laboratories back in the United States; their pregnancies and children underscored boundaries separating home life and work life, domesticity and science. The decision to take family leave after the birth of a child—the decision to have a child—were gambles that could cost a career.

The sexual trysts of all three Trimates also suggest that the blurring of personal and professional relationships was inevitable in the permeable space of the field. Hugo van Lawick, whom Goodall divorced in 1974, was one of the few eligible bachelors she was in contact with, since she spent every waking moment logging hours in the forest. Leakey introduced the pair, understanding better than anyone that life in the field, with its intensity and isolation, bred instant intimacy between people already connected by common interest. It was the same intimacy that led to the engagement of several field researchers at Gombe and two of Fossey's best researchers at Karisoke, much to her resentment. In the field the social protocol of the lab went out the window. Native-born trackers and credentialed scientists stood virtually on equal footing with each other and the animals. At Camp Leakey the punishing conditions of the rainforest required the unique skill set of Galdikas's second husband, Pak Bohap. He won her admiration because of his intuitive sense of the animals; his lack of formal education was irrelevant. Goodall and Fossey maintained loose pecking orders between senior scientists, junior managers, graduate students, trackers, camp and field staff, and assistants, but they often ignored seniority based on academic degrees. Jane believed that her native field assistants knew "more about following the chimpanzees through the forest, and . . . more about their behavior, than most university students."[52]

Hence the camps of the Trimates were unique meritocracies, in which intuition and intimate knowledge of subject were valued over distanced and impersonal study. Formal education, professional connections, fast-track promotions—all things men achieved more successfully than women in the lab—held no currency in the field. Individualist ambition, the mark of Anne Roe's elite scientist in the 1950s, seemed to dissolve in the trees. One need only look at the acknowledgments in the Trimates' books to understand what they valued most; they didn't thank academic mentors, but domestic workers, nannies, assistants, secretaries, and data collectors, who would have been grunts back in the lab. Gombe was a nearly classless and collaborative space, where one's hard-earned data was shared in another's dissertation research. One woman recalled with fondness the cooperative feeling of research meetings and the dinners that preceded them; no one ate until everyone had showered, dressed, and come to the table. The mood was familial, the work interdisciplinary. Zoologists, anthropologists, ethologists, ecologists,

psychiatrists, and psychologists broke down disciplinary boundaries to come to an integrated understanding of primate and human.[53]

Was the Trimates' a feminist science? The question is not necessarily the same as whether or not the Trimates were feminists themselves. Dale Peterson, editor of Goodall's published letters, noted that at any given time since she had first come to Tanzania Goodall had been seen "as the little girl who thought she could; the sweet Ophelia who dreamed of animals; the feisty feminist in a man's world; the ironic traditionalist in a woman's world; the inspired nurturer; Mother Teresa of the apes; Tarzan's better half; and so on." Most of these characterizations were ones that Goodall herself had rejected. She told a reporter in 1972 that if he wanted to find evidence of women's liberation at the Gombe Reserve, he had better keep looking. Her chimps had convinced her that the traditional gender roles of the 1950s were most natural: if women had children, they belonged with them in the home. Why was she the exception, then? She wasn't, she reasoned, since her home and work were both in the forest. She portrayed herself as a sort of stay-at-home mom, who breast-fed her son on demand, since mother chimps had shown that hands-on parenting fostered self-assurance in their young.[54]

But that's not how American women generally saw her. The timing of her celebrity coincided with their growing desire to see models of female careerism and autonomy. She set off for Tanzania on the eve of President Kennedy's convening of the Commission on the Status of Women; "Jungle Jane" seemed very much the antidote to the misery Betty Friedan had exposed in suburban homes. She looked like the mom next door, but instead of driving children to school she appeared to live alone in the wild without a safety net. Dian Fossey's public image, too, took on a life of its own. A *New Yorker* staff writer referred to her as "the prototypical gutsy lady doing her thing." By virtue of living and working in the harsh Virunga Mountains, she was presumably acting in defiance of convention.[55] It was perhaps no coincidence that filmmakers chose Sigourney Weaver to play Fossey in the 1988 film adaptation of *Gorillas in the Mist*, for in *Alien* and *Working Girl* the actress had played a headstrong, independent woman as competent as any man, if not more so. It was easy to envision Weaver among the gorillas of Africa, after watching her bust proverbial balls in boardrooms and monsters' heads on other planets.

Biruté Galdikas didn't seem to mind the feminist label: "My personal decisions to get my Ph.D., to go to Southeast Asia, to spend my life studying and rescuing orangutans, and to postpone having children were all part of a wave of the future," she reflected in 1995. She had read Germaine Greer's *The Female Eunuch* before heading to the field, and it was a great disappointment when she discovered that "orangutans were decidedly sexist," as she or Greer would have defined the term. "I had come of age during the 1960s, the decade when women in North America began saying for the first time that they were no different from men," she explained. And yet the more she tried to find similarities between male and female orangutans, the more she came up short.[56]

Women primatologists have been reluctant to accept essentialist conclusions about alleged distinctions between male and female "nature," but in the past three decades they have been thoughtful about the historical and social factors that have helped to shape their field into a women-centered science. Leakey's promotion of the Trimates attracted women to the field, but older woman scientists also provided inspiration as role models. Ruth Benedict and Margaret Mead had paved the way earlier in the twentieth century for women to imagine traveling to exotic places to observe, but a tradition of fieldwork with apes in particular also persisted through the work of Frances Burton, Suzanne Ripley, Alison Richard, Barbara Harrisson, Cheryl Knott, Penny Patterson, and Jane Lancaster. Adrienne Zihlman recalled reading Mead's *Coming of Age in Samoa* and Benedict's *Patterns of Culture* in the 1950s and finding inspiration in graduate mentor Laura Nader, who taught as she nursed a young child. Younger women could envision themselves assuming roles as scientists, wives, and mothers simultaneously, since they had seen it done before. Linda Fedigan believes that women primatologists have consciously chosen a field they perceive as an "equal opportunity science." Here they have found professional camaraderie and opportunities to conduct research with feminist implications, which is often the case in newer and marginalized specialties. Fifty years ago there was not a single woman who held a primatology PhD; in 2000, women received 78 percent of the PhDs in the field.[57]

As women observed apes in their natural habitats, they amassed evidence to refute essentialist ideas validating men's dominance over women. Jane Lancaster, for example, rejected the stereotype of the passive, dependent female in 1973, and others have supported her claims

by studying matrilineal networks in which estrous females, too, show competitiveness in the realm of reproduction. "No single pattern of aggressivity, dominance, troop defense, sexual dimorphism, territoriality, competition, or any other social behaviors exist across or even within primate species," Ruth Bleir concluded in 1978, "—except in the wishful thinking of male investigators." The very use of the term "harem" in describing congregates of female animals she called "androcentric fantasy." Traditionally men studied primates according to categories of "dominant males," "peripheral males," and the reproductive unit "females and young," but women have refigured social categories and documented evidence of matrilineal and female-bonded primate societies.[58]

The constructs of male breadwinner and female homemaker had been outgrowths of "man the hunter" and "woman the gatherer," but they belied women's primatological findings too. Early hominid studies decentered home and family in explanations of human evolution; domesticity as we know it has never been an organizing principle in the life of an ape. Sally Linton urged her colleagues in the 1970s to challenge the notion that human beings' "first tools" presupposed the primacy of the technology of weapons over baby slings, containers, and other inventions that females developed as nurturers and gatherers of food. Sarah Hrdy offered similar challenges to Irven DeVore's widely accepted interpretations of baboons. His description of a central hierarchy of males competing for power and access to fertile females, she concluded, "was a more accurate portrayal of what goes on in American graduate schools, with the big man bringing up his protégés and sleeping with impressionable undergraduates, than of anything that goes on in baboon society."[59]

Through the 1960s, the Trimates' unique relationships to their subjects of study continued to raise eyebrows. Robert Hinde, for example, had encouraged his pupils to embrace a detached, empirical approach, although a decade or more later, he accepted and even championed their observational science. The Trimates, it seems clear now, told larger-than-life stories about their beloved animals, thus inspiring idealistic men and women to leave the West for work with the apes. Readers of their books cried at the deaths of Greybeard and Digit; theirs was science made popular both by their social purpose and their ethics. Critics worried that in narrating the lives of apes the Trimates incorrectly as-

sumed that animals and humans could make sense of the world in the same ways. Galdikas, for instance, told a *New York Times* reporter that female orangs screamed only when being raped. Her characterization seemed to project human sensibility on animal behavior, but she argued that she saw orangs as individually distinctive, if not equal, in the natural order.[60]

By the 1970s scientists and laypeople were more amenable to Galdikas's perspective, with some qualifications. Critical of the masculine bravado of the atomic age and the technical proliferation that had followed, some were ready to accept kinder, gentler scientific models, which connected to nature and which valued culturally female abilities to observe and raise questions about the natural world. Alison Jolly, whose graduate training in primatology coincided with Goodall's, agrees that paradigms changed significantly between the 1960s and the 1990s. Primatology, like science in general, accounts increasingly for individual difference, but it has also become more collaborative, integrated, and environmentally conscious. Some might describe this as a turn toward feminist science, others, a turn toward science that is more humane. Why not view both brands of science as indelibly one and the same?[61]

Notes

1. Jane Goodall, *In the Shadow of Man* (Boston: Houghton Mifflin, 1971), 5.

2. Mary Palevsky, *Atomic Fragments: A Daughter's Questions* (Berkeley: University of California Press, 2000), 238.

3. Jane Goodall, *Africa in My Blood: An Autobiography in Letters: The Early Years*, ed. Dale Peterson (Boston: Houghton Mifflin, 2000), 12–25; National Geographic Video, *Jane Goodall: My Life with the Chimpanzees* (Washington, DC: National Geographic Society, 1990); Goodall, *In the Shadow of Man*, 3–4.

4. Jennifer Lindsay, *Jane Goodall: 40 Years at Gombe; A Tribute to Four Decades of Wildlife Research, Education, and Conservation* (New York: Stewart, Tabori, and Chang, 1999), 8; Jane Goodall, *Through a Window: My Thirty Years with the Chimpanzees of Gombe* (Boston: Houghton Mifflin, 1990), 5; Goodall, *In the Shadow of Man*, 40–62.

5. Jane Goodall, *Beyond Innocence: An Autobiography in Letters: The Later Years*, ed. Dale Peterson (Boston: Houghton Mifflin, 2001), 355–56; Sy Montgomery, *Walking with the Great Apes* (Boston: Houghton Mifflin, 1991), 205–6.

6. Fossey felt overshadowed by Goodall and joked that her eventual book, *Gorillas in the Mist*, should be called "In the Shadow of *In the Shadow of Man*." See Montgomery, *Walking with the Great Apes*, 149.

7. Dian Fossey, *Gorillas in the Mist* (Boston: Houghton Mifflin, 1983), 1–4; Montgomery, *Walking with the Great Apes*, 49–52; Alex Shoumatoff, *African Madness* (New York: Alfred

A. Knopf, 1988), 11–13; Farley Mowat, *Woman in the Mist: The Story of Dian Fossey and the Mountain Gorillas of Africa* (New York: Warner Books, 1987), 2–23; Harold T. P. Hayes, *The Dark Romance of Dian Fossey* (New York: Simon and Schuster, 1990), 38, 58, 114, 121–22.

8. Fossey, *Gorillas in the Mist*, xv, 2, 6; Shoumatoff, *African Madness*, 8–10, 13–14.

9. Fossey, *Gorillas in the Mist*, x, 10, 159.

10. Fossey, *Gorillas in the Mist*, 20–21, 57–58, 154–55; Shoumatoff, *African Madness*, 7, 16; Hayes, *Dark Romance*, 124–29; Mowat, *Woman in the Mist*, 58–60.

11. Shoumatoff, *African Madness*, 20–21; Fossey, *Gorillas in the Mist*, 27–28; Hayes, *Dark Romance*, 182–83, 207, 233, 295–97, 301; Mowat, *Woman in the Mist*, 59–60, 82, 90, 94, 104–5, 125, 193.

12. Hayes, *Dark Romance*, 200, 213, 216–17, 225, 229, 258; Mowat, *Woman in the Mist*, 85, 89–90, 93–94, 124, 200–1, 217, 253, 369–70; Shoumatoff, *African Madness*, 24–25, 33; Montgomery, *Walking with the Great Apes*, 53, 64–65, 133, 154, 160.

13. Fossey, *Gorillas in the Mist*, 156; Hayes, *Dark Romance*, 29; Shoumatoff, *African Madness*, 19; Mowat, *Woman in the Mist*, 155.

14. Biruté M. F. Galdikas, *Reflections of Eden: My Years with the Orangutans of Borneo* (Boston: Little, Brown, 1995), 385, 392–95.

15. Galdikas, *Reflections of Eden*, 39–43, 46–48; Evelyn Gallardo, *Among the Orangutans: The Biruté Galdikas Story* (San Francisco: Chronicle Books, 1993), 9–10; CBC Television Network, *The Third Angel* (Eugene, OR: New Dimensions Media, 1992), videocassette; Linda Spaulding, *A Dark Place in the Jungle* (Chapel Hill, NC: Algonquin Books, 1999), 65; National Geographic Video, *Search for the Great Apes* (Washington, DC: National Geographic Society, 1995), videocassette; Bettyann Kevles, *Watching the Wild Apes: The Primate Studies of Goodall, Fossey, and Galdikas* (New York: E. P. Dutton, 1976), 111–12; Montgomery, *Walking with the Great Apes*, 166–67.

16. Galdikas, *Reflections of Eden*, 83, 164.

17. Galdikas, *Reflections of Eden*, 83, 87, 90, 105–6; Gallardo, *Among the Orangutans*, 27.

18. Galdikas, *Reflections of Eden*, 300–305, 320–24, 382–84; Montgomery, *Walking with the Great Apes*, 7.

19. Spaulding, *A Dark Place in the Jungle*, 233–34.

20. Carleen Hawn, "Please Feedback the Animals," *Forbes* 170 (October 28, 2002), 168–70; Spaulding, *A Dark Place in the Jungle*, 76–77; Montgomery, *Walking with the Great Apes*, 176, 182–83.

21. Galdikas, *Reflections of Eden*, 281, 336–37.

22. Hayes, *Dark Romance*, 124–25; Galdikas, *Reflections of Eden*, 72.

23. Mary Leakey, *Disclosing the Past* (Garden City, NY: Doubleday, 1984); Montgomery, *Walking with the Great Apes*, 70–75.

24. Goodall, *In the Shadow of Man*, 6; Jocelyn Selim, "Why Chimps Still Deserve Our Respect," *Discover* 25 (May 2004), 18–19.

25. Leakey, *Disclosing the Past*, 46, 80–81, 122, 156; Goodall, *Africa in My Blood*, 109; Galdikas, *Reflections of Eden*, 65; Montgomery, *Walking with the Great Apes*, 86–87; Mowat, *Woman in the Mist*, 80–81.

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27. Galdikas, *Reflections of Eden*, 49; Spaulding, *A Dark Place in the Jungle*, 65; Montgomery, *Walking with the Great Apes*, 78.

28. Fossey, *Gorillas in the Mist*, 2; Hayes, *Dark Romance*, 189; Galdikas, *Reflections of Eden*, 32, 277; Montgomery, *Walking with the Great Apes*, 80–81.

29. Fossey, *Gorillas in the Mist*, 4; Mowat, *Woman in the Mist*, 23; Gallardo, *Among the Orangutans*, 10; Montgomery, *Walking with the Great Apes*, 80.

30. Galdikas, *Reflections of Eden*, 309, 330.

31. Galdikas, *Reflections of Eden*, 300.

32. James Krasner, "'Ape Ladies' and Cultural Politics: Dian Fossey and Biruté Galdikas," in *Natural Eloquence: Women Reinscribe Science*, ed. Barbara T. Gates and Ann B. Shteir (Madison: University of Wisconsin Press, 1997), 239.

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34. Goodall, *Africa in My Blood*, 156, 190; Montgomery, *Walking with the Great Apes*, 111, 127.

35. Fossey, *Gorillas in the Mist*, 11.

36. See statistical appendices in Fossey, *Gorillas in the Mist*, 245–86.

37. Hayes, *Dark Romance*, 138–39, 198, 292–94.

38. Mowat, *Woman in the Mist*, 85–86, 88; Goodall, *Africa in My Blood*, 190–91; Montgomery, *Walking with the Great Apes*, 101–2, 105–6, 143, 147–48; Galdikas, *Reflections of Eden*, 246–47.

39. Hayes, *Dark Romance*, 140.

40. Nancy Chodorow, "Family Structure and Feminine Personality," in *Women, Culture, and Society*, ed. M. Z. Rosaldo and Louise Lamphere (Stanford: Stanford University Press, 1974), 43–66; *The Reproduction of Mothering* (Berkeley, CA: University of California Press, 1978); Carol Gilligan, *In a Different Voice: Psychological Theory and Women's Development* (Cambridge, MA: Harvard University Press, 1982); Montgomery, *Walking with the Great Apes*, 104.

41. Goodall, *Through a Window*, 14, 206; *Africa in My Blood*, 231–32; Galdikas, *Reflections of Eden*, 19.

42. Galdikas, *Reflections of Eden*, 131, 139–40, 316; Montgomery, *Walking with the Great Apes*, 35.

43. Galdikas, *Reflections of Eden*, 311–15.

44. Goodall, *Through a Window*, 207; *In the Shadow of Man*, 258–59; *Beyond Innocence*, 192.

45. Linda Marie Fedigan, "Science and the Successful Female: Why There Are So Many Women Primatologists," *American Anthropologist*, new series, 96, no. 3 (1994): 536; Donna Haraway, *Primate Visions: Gender, Race, and Nature in the World of Modern Science* (New York: Routledge, 1989), 156–60; Galdikas, *Reflections of Eden*, 30.

46. Haraway, *Primate Visions*, 150, 166, 169; Fedigan, "Science and the Successful Female," 533, 529–40; Krasner, "Ape Ladies," 237–39; Schiebinger, *Has Feminism Changed Science*? 6.

47. Krasner, "'Ape Ladies,'" 245.

48. Galdikas, "Living with Orangutans," *National Geographic*, (June 1980): 853.

49. Galdikas, *Reflections of Eden*, 20; Fossey, *Gorillas in the Mist*, 9.

50. Goodall, *In the Shadow of Man*, 132–33; *Africa in My Blood*, 271, 282.

51. Goodall, *Beyond Innocence*, 52, 73.

52. Emelie Bergman and David Riss and Geza Teleki and Ruth Davis were researchers who got engaged at Gombe. Sandy Harcourt and Kelly Stewart, daughter of actor Jimmy Stewart, got engaged at Karisoke and later married. Kevles, *Watching the Wild Apes*, 56;

Lindsay, *Jane Goodall*, 35; Goodall, *Beyond Innocence*, 2.

53. Goodall, *In the Shadow of Man*, xv–xvii; *Through a Window*, 25; *Beyond Innocence*, 145.

54. Peterson in Goodall, *Africa in My Blood*, 2; Montgomery, *Walking with the Great Apes*, 34, 40.

55. Shoumatoff, *African Madness*, 9.

56. Galdikas, *Reflections of Eden*, 330, 205.

57. Haraway, *Primate Visions*, 333; Fedigan, "Science and the Successful Female," 530–35; Schiebinger, *Has Feminism Changed Science*? 91, 127.

58. Ruth Bleier, "Bias in Biological and Human Sciences: Some Comments," *Signs* 4, no. 1 (1978): 161–62.

59. Linda Fedigan, *Primate Paradigms: Sex Roles and Social Bonds* (Montreal: Eden Press, 1982); Haraway, *Primate Visions*, 334. Hrdy quoted in Shoumatoff, *African Madness*, 19; Schiebinger, *Has Feminism Changed Science*? 127–38.

60. Mowat, *Woman in the Mist*, 269–70.

61. Montgomery, *Walking with the Great Apes*, 104.