Anthro Notes

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POLITICS AND PROBLEMS OF GORILLA AND CHIMP CONSERVATION IN AFRICA

Of all the world's endangered species, gorillas and chimpanzees possibly receive the most sympathy, and the widest public support for their conservation. In large part, public empathy with these animals stems from the long-term efforts of Jane Goodall, Dian Fossey, and other primatologists who have demonstrated the close kinship between these animals and ourselves and made us aware of the dangers these primates face in a developing Africa. While elephant conservation in Zimbabwe has resulted in large population increases in some areas, the number of apes has not increased despite greater local and worldwide conservation efforts throughout the 1980's. Why are there only 310 mountain gorillas left in the wild? Why is ape conservation so difficult?

Anthropologists are deeply involved in primate conservation efforts. As Vernon Reynolds notes in a recent issue of *Anthropology Today*, we are responsible for the survival of chimpanzees (and other apes) in the wild if only because "they have helped us. Simply by existing, chimpanzees speak to us of our evolution, of our past, a past our ancestors shared with theirs. Thousands of Ph.D. students owe their thinking to chimpanzees. Careers have been, and continue to be, built on chimpanzees....It is time we started to acknowledge the debt, to do something for them in return" (1990:3).

Ape Conservation and Medical Research

Ironically, one of the greatest obstacles to conservation efforts for great apes derives from the very same feature that has brought them within the anthropologist's orbit, namely, their close biological relationship to ourselves (they share 99% of our genes). This relationship ensures their susceptibility to many of the same disease organisms as humans. Not only does this susceptibility make apes harder to protect in the wild, but it makes them commercially valuable in the developed world as subjects for all kinds of experimentation. Geza Teleki, an anthropologist and Chairman of the Committee for Conservation and Care of Chimpanzees, told us that "even though it is illegal to capture and sell wild chimpanzees, the market demand for medical experimentation is so great that a dealer in a developed country can command an asking price of between $10,000 and $25,000 for a single chimpanzee. The African who caught the chimpanzee illegally might receive a payment of $30 to $50, equal to one to two month's wages, so that, even with shipping expenses, the profit margins are in the same league as those of the international trade in illegal drugs. How can African governments defend their endangered wildlife against this overwhelming economic incentive from the developed world?"

The conservation effort for the great apes is two-pronged: protect the remaining populations of wild apes from local encroachment, and at the same time attack the international trade in wild-caught animals. Teleki, who has worked closely for many years with Jane Goodall, is particularly involved in the attack on the international trade. One week he might be testifying in Europe against an illegal dealer caught with a shipment of wild chimpanzees. The next week he might be in Washington testifying before a congressional committee on the relatively small numbers of chimpanzees that remain in the wild and on the need for an international trade ban (Teleki in Heltne and Marquardt, 1989:312-353).

Teleki's work also involves talking with the medical establishment to help ensure that their great apes come from already-established captive breeding colonies and not from wild populations. DNA-"finger-printing" of chimpanzees can demonstrate that particular animals come from a breeding colony and are not "illegal." The high price for chimpanzees also helps in his effort by ensuring that captive animals are housed as humanely as possible, since no one wants to lose a $10,000 item of research "equipment."

In the recent National Geographic Film on Jane Goodall, produced by Judy Dwan Hallet, we see how painful it is for those who have lived with chimpanzees in the wild to visit them in captivity. Yet both Teleki and Goodall believe, for the ultimate conservation of these animals, it is important to work <u>with</u> the medical establishment as much as possible, since medical research drives much of the deliberate poaching of wild chimpanzees.

Forest Conservation in Africa

Human population is expanding in most African countries at rates of between three and four percent per year, doubling the population every generation. The demands of an expanding population for food and fuel are resulting in widespread destruction of wild habitats, particularly those forested habitats that harbor the remaining ape populations. Furthermore, the need to generate hard currency reserves through the export of timber or cash crops has seriously depleted forest areas, thus reducing the land available for local subsistence.

Many African countries inherited from colonialism large tracts of undeveloped land set aside as game reserves. In several cases, notably in the Virunga National Park in Zaire, these tracts were not uninhabited when the reserve was created, but were home to indigenous peoples who were resettled outside their boundaries. When cash-poor African governments succeeded colonial ones, they found themselves in the difficult position of defending these reserves against the legitimate land requirements of their own people. In many cases, the people who run the central government of an African country and those who live in a distant rural area in close

proximity to wild gorillas or chimpanzees do not share the same language or culture. Decisions made in the capital may not take local needs and interests into account and may be difficult to enforce at a distance, across cultural and linguistic boundaries. In order for a conservation effort to succeed, both the national government and the local population must support it.

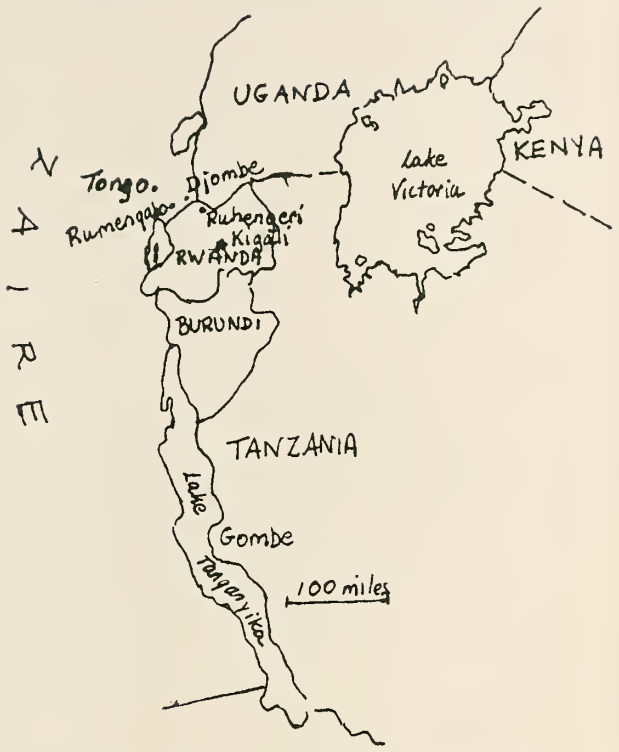
For many Africans the special land rights demanded for endangered species by western conservationists have sometimes been seen as a new form of imperialism, in which Africa will continue to supply the raw material for western needs, albeit spiritual in nature rather than material. The western search for self-renewal in a pristine wilderness, the quest for a deeper knowledge of the self in a confrontation with the primitive or animal "other" is not universally shared (see Haraway, 1989). How, then, can conserving apes benefit Africans and African countries directly?

Over the last decade most primatologists have come to accept that conservation efforts will succeed only if such efforts provide direct and visible economic benefits to both the local people and the national government. How can wild apes replace local food and fuel or hard currency earned from timber operations? The answer has been tourism. For some African countries (Zimbabwe, Botswana, Kenya, Tanzania), with large, easily accessible and relatively well-maintained savanna game reserves, tourism is the second or even the first source of foreign currency. In some cases, such as at Amboseli Park in Kenya, the cooperation of local people, in this case the Maasai, has been ensured, or at least made likely, through their direct participation in providing housing, food, and guides for foreign tourists. Can this model be applied to forest reserves and their elusive animals?

Gorillas: Tourism and Conservation

Rwanda

The most financially successful and well-known tourist experience in an African forest is the mountain gorilla project in the Parc National des Volcans, Rwanda. Last year about 6500 tourists climbed the steep slopes of the Virunga volcanoes in search of



a one-hour encounter with our largest relative. Each of the four habituated gorilla groups is visited by up to five tourists daily. Gorilla tourism is not for the tourist on a shoestring but is designed to extract the maximum foreign currency from each visitor. Local people may have cornered some jobs as guards and guides, but the tourist dollars appeared to be flowing primarily to the capital. First, the tourist pays $160 in entrance and gorilla visit fees directly to the park office. The base of the nearest gorilla visit site is at least two to three hours drive from the Kigali, the capital, in an expensive private taxi or rental car; inexpensive local busses drop you about ten miles from the mountain in the nearest town of Ruhengeri.

Since tours leave early in the morning to catch the gorillas during their most active period, most tourists also end up paying, in the requisite foreign currency, for at least two nights lodging in Rwanda. The total tab is usually about $400-$500 each; even the most determined French-speaking tourist in good physical shape is unlikely to get away for less than $300. If 6500 tourists spend at

least $500 each in Rwanda, the total foreign currency revenue generated by gorilla tourism is more than $3.2 million dollars. This represents a minimum of $10,000 per "wild" gorilla. Gorilla tourist dollars, moreover, are a perennial resource rather than a one-time windfall. Not surprisingly, the government of Rwanda has strongly supported the development of gorilla tourism, accompanied by anti-poaching and education measures.

The popularity of gorilla tourism is extraordinary given its physical demands. Visitors to the clouded forest of the Virungas cannot experience the landscape or its animals from the comfort of a zebra-striped safari van. Instead the trip is exhausting and often uncomfortable, and the contact with the forest and its inhabitants far more direct than the usual savanna bus ride, but perhaps, for that very reason, more rewarding for the nature pilgrim.

In 1985, Alison Brooks and Catherine Smith (wife of the co-author) visited the gorillas of Mt. Visoke. Although we had spent the previous two months excavating various levels of 100 foot cliffs, at an altitude of 3000 feet, we were quite unprepared for four or more hours of extreme physical exertion at 9000 ft. During the climb to the nests where our gorilla group had spent the previous night, we began to understand why gorillas have such strong arms. For the most part, we progressed by pulling ourselves upwards and forward over a tangled wet and slippery mass of tree roots, vines and stinging nettles. In about three hours of constant motion, our feet almost never touched the ground. Once we located the nests, distinguished by the piles of feces gorillas always deposit in their nests before moving on, Catherine Smith immediately slipped on the wet leaves and fell in. From the nests, the trail was much clearer, although still covered in stinging nettles and definitely not designed for hairless bipeds. About an hour later, we finally made contact with the gorilla group.

Mountain gorillas are ideal subjects for forest tourism, since they are very large, live in groups, spend most of their time on the ground, move slowly, and rarely travel more than a few miles per day. Their energy budget dictates that they spend most of the day lying around digesting their relatively low-quality diet of leaves and shoots. Many tourists have made arduous climbs of five or more hours only to watch gorillas sleep. We were lucky; ours were just finishing off their morning meal of stinging nettle tops.

Gorilla Conservation in Zaire

Zaire

In Zaire, a country 90 times the size of Rwanda, conservation efforts are strongly supported at the national level, but the local people charged with carrying out the government's edicts are much further removed, culturally, linguistically, and physically, from the government seat in Kinshasa 1500 km. west of the Virungas.

Four habituated gorilla groups at two sites in the Parc National des Virungas (Djombe and Rumangabo), which abuts Rwanda's Parc des Volcans, are visited by up to six tourists daily for one hour. At $150 apiece in park fees, plus substantial costs for transportation by a tour operator, gorilla tourists in Zaire provide a significant source of foreign income to the national government.

When we visited habituated groups in Zaire in 1986, 1988, and 1990, the park guards were increasingly proud of their conservation efforts as well as of their roles as brokers between gorillas and western tourists. Over the years, the gorillas became increasingly "habituated," rarely charging or fleeing from the daily scrutiny of strangers, while the tourists were taught how to behave like submissive gorillas, moving only slowly and quietly, hunched down and grunting. The EEC and Frankfurt Zoological Society provided incentives directly to local personnel, both in bonuses and in durable equipment (vehicles, two-way radios, on-site office buildings, etc.). In addition, the largest tour operator at Djombe was a local Zairois.

As in Rwanda, however, the rich volcanic soils immediately surrounding the small gorilla refuges in Zaire are farmed

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("Ape Conservation" continued from p.4)

intensively by both commercial (tea and coffee) and subsistence (manioc, bananas, potatoes) farmers. The human population density here approaches 300 people per square mile. Protein- and cash-poor farmers and BaTwa pygmies in close reciprocal relationships with farmers continue to set wire snares for small game inside the forest reserve, snares that occasionally maim or kill gorillas. For the landless pygmies, whose traditional life is tied to the forest, life outside the declining forest areas holds few possibilities. In Rwanda, the number of snares discovered by the anti-poaching patrols did decline from 2500 in 1988 to 1500-1600 in 1989.

Since gorillas (unlike the tourists) can travel freely across the Zaire-Rwanda border, anti-poaching efforts need to be coordinated internationally, but are hampered by political instability and armed insurrection in both countries. In the summer of 1990, an armed Tutsi force invaded Rwanda from Uganda across the eastern part of the Virunga range. As of February 1991, all conservation and tourist activities in the Parc des Volcans had been abandoned and the research facilities at Karisoke (established by the late Dian Fossey) burned to the ground. The effect on the small gorilla population confined in the Virungas could be devastating.

Tourism and Gorilla Health: A Vet's Dilemma

Is tourism succeeding as a conservation strategy? Are mountain gorilla numbers at least stable, if not increasing, and does the commitment of the governments and wildlife organizations involved appear solid? In early September 1990, we shared a flight from Nairobi to Frankfurt with Liz MacFie, a veterinarian with the Virunga Veterinary Center in Ruhengeri, and Jeff Seed, of the Karisoke Research Center. MacFie's organization, funded by the Morris Animal Foundation, is responsible for the surveillance and care of mountain gorilla health, while Seed oversees the anti-poaching patrols. From them we learned a great deal.

The November 1989 gorilla census indicated a total population of at least 310 animals in about 30 groups, up about 20% from 1981. But with such a small total population, extinction is possible at any moment. Gorillas, like chimps, are close enough to humans to catch their diseases. The small size of the reserves, the large numbers of humans on their peripheries, and the close daily contact of gorillas with tourists, guards, and others makes it almost impossible to isolate the gorilla population from human disease organisms. Even though regulations stipulate that humans must keep at least a one-meter distance between themselves and the gorillas in

Zaire, more in Rwanda, gorillas can and do initiate direct physical contact across these distances. A severe epidemic or an infection centered in one of the larger groups could easily disrupt the population and tip the balance towards rapid extinction.

What can or should a vet do about a sick or injured gorilla living in the "wild" in its natural habitat? After all, should not natural selection be allowed to weed out less fit or weaker individuals? If humans intervene, will they not be condemning future generations descended from weak or sickly individuals to constant veterinary intervention? Should MacFie attempt to save the life of a subordinate male injured by another male? Last year a respiratory epidemic struck one group of 34 animals, representing 11% of the entire population of mountain gorillas. The dominant silverback male died in April. At this point, a decision was made to treat the seriously ill animals with long-acting and broad-spectrum antibiotics. The gorilla veterinarian faces a constant dilemma: too much intervention will create a weakened, medically dependent population, while lack of intervention will almost surely lead to rapid extinction.

Chimpanzees: Tourism and Conservation

Could the gorilla model of forest tourism be used to set aside and patrol forest reserves for the common chimpanzee, and to mobilize local governments to support conservation measures more effectively? This possibility is currently being explored by several countries including Tanzania, Burundi and Zaire. Gombe National Park in Tanzania, the locus of most of Jane Goodall's studies has been inundated by the most intrepid tourists who find their own way there, on foot or by water taxi, camp on the beach, and attempt to make their own arrangements with the underpaid park staff. This situation compromises the research program at Gombe and also endangers the chimpanzees, who are even more susceptible than gorillas to human diseases. In 1966, a polio epidemic that began among the human population in Kigoma district killed about 10-15% of the Gombe chimpanzee population in one year, and in 1988, an additional 14 animals died from an introduced respiratory infection. Bacteria, parasites, and other infectious organisms can be transmitted both by tourists and by resident staff.

In Burundi, Jane Goodall has been working to help set up a tourism program in a small vestige of forest that has been turned into a sanctuary for chimpanzees confiscated from poachers and dealers. Given the demand for chimpanzees as medical research subjects, the threat of illegal recapture is constant. One group of 30 vagabond animals is followed around full-time by ten armed guards. Goodall and others involved in this conservation effort hope that the greater visibility of the chimpanzees and daily contact with tourists when the program is well-established will help deter poachers.

One of the greatest problems with marketing chimpanzee tourism is delivering the chimpanzee experience on a predictable daily schedule. Chimpanzees are much more mobile than gorillas, and unlike gorillas, live in fluid social groupings whose membership is changing constantly. Not only do individuals move up to 25 km. per day, but they often travel above ground level, leaving little or no trail for an earthbound tourist to follow. The chimpanzee tourism project set up by Conrad Aveling and Annette Lanjoua in Zaire illustrates how chimpanzee tourism differs from gorilla tourism.

Chimpanzee poaching was relatively common in eastern Zaire when our archaeological research there began. In 1987, Conrad Aveling, who had just set up the gorilla tourism site at Djombe, heard about a group of chimpanzees in Tongo, a small salient area of the Par National des Virungas, that were threatened with total destruction of their habitat from charcoal cutting. In a country where almost everyone cooks their food with wood or charcoal, and where the basic staples (manioc, and plantains) are inedible unless they are cooked for a considerable time, the pressure on the remaining forest areas is enormous, even if people are not allowed to farm there. Aveling and Lanjoua had to provide alternate firewood/charcoal sources before the Tongo chimpanzees could be protected and developed as tourism subjects. The

funding agencies involved, World Wildlife Fund and the Frankfurt Zoological Society, were persuaded to support two reforestation projects outside the park area at Tongo. In addition to a continuing source of firewood, these projects also yielded both fruit for immediate human consumption and exotic wood species for commercial sale.

As a result, the local people appear very supportive of the chimpanzee project at Tongo, which began to accept tourist groups at the end of 1989. Twenty-six villagers are directly employed as guides and project staff, others as construction workers and staff for a new hotel recently developed there by a local Zairois contractor. When tourists arrive, they are asked if they have come to see "our chimps". Few other wildlife conservation projects in Africa are "owned" by the local community to this degree.

Initially, one trail was cut into the forest to aid in tracking the chimps; this was soon followed by a cross-cutting network of trails at 200-meter intervals, which provide human trackers rapid access to all parts of the chimpanzees' range. Trackers fan out in the early morning before the tourists arrive, following the chimpanzees by their calls. When a group is located, the trackers radio the tourist guide, who brings the tourists directly to the chimps' location. Occasionally tourists fail to see chimpanzees, but during the first eight months of tourism (Jan.-Aug. 1990), 98% of all tourist visits had resulted in at least a sighting of chimpanzees. This phenomenal success rate is due not only to the hard work of the trackers and guides but also to the unusual ecological situation of the Tongo site. The chimps occupy an ecological "island" of mature forest surrounded by the open desolation of recent lava flows. The forest island is dense with mature fruit-bearing trees, especially the chimps' favorite figs. The resulting population density of chimps, about 4 per km2, is among the highest known.

Because the chimps can retreat into the treetops, visitors must often be content with glimpses of black shapes in the green canopy. This is particularly true on rainy days, when the chimps spend most of their time aloft. Since encounters cannot be guaranteed, the fee has been set much lower than for gorillas, at $40 per visit, and the number in the daily group is limited to four. It is unclear whether chimps can generate enough foreign currency to win the kind of government support provided to gorilla conservation.

Clearly, unlike mountain gorilla tourism, chimpanzee tourism can never provide an umbrella of protection over the total chimpanzee population. It is a quandary which awaits another solution.

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