



**BUSHMEAT, PRIMATE KINSHIP, AND THE GLOBAL CONSERVATION MOVEMENT.** (Chapter in *All Apes Great and Small - Volume 1: African Apes.*, (eds, B.M.F. Galdikas, N.E. Briggs, L.K. Sheeran, G.L. Shapiro, J. Goodall) pp 241-258, Kluwer Academic/Plenum Publishers, New York, 2001

Anthony L. Rose, Ph.D.  
*The Biosynergy Institute, P. O. Box 3430, Palos Verdes, CA 90274*

## 1. INTRODUCTION

It is said in theory and affirmed by research that the major revolutions in any science, and in most pursuits of knowledge, are set off primarily by players who come to an issue from outside the traditional domains of its study. In this position paper that premise is put to work. Primatologists from laboratory to field station have focused on nonhumans, trading on their understanding of apes and monkeys to postulate theories of mind, tenets of social behavior, and principles of biodiversity. The opposite is done here. In this treatise I describe findings and theories in human values, behavior, and social systems on the penultimate challenge to biological disciplines: conservation. Few will contest the fact that conservation is a decidedly human affair, and that its problems and practices have more to do with clothed people than hairy animals. Here I explore the human factors that are transforming conservation from a narrow biological endeavor to a massive social movement. Inter-disciplinary thinking is fundamental to the social movement that wildlife conservation must become in the era of bushmeat and primate kinship.

## 2. THE BUSHMEAT CRISIS DOMINATES AFRICAN PRIMATE CONSERVATION

Across the forest regions of west and central Africa, a confluence of factors are making human predation a leading threat to the survival of many primates, including the great apes (Boysen and Butynski, this volume). primate hunting is reported in 27 of the 44 primate study and conservation projects described in the World Conservation Union's (IUCN) recent status survey on African Primates (Oates, 1996b). In twelve of these territories, human predation is a severe threat to species survival. The latest 2000 IUCN *Red List of Threatened Species* shows a jump in the numbers for mammals, with the order primates most threatened by extinction. The situation is worse in those areas where most remaining apes and monkeys live, outside parks and reserves. In Africa, hundreds of unique and never studied primate populations are being annihilated, and thousands will follow if the current trends continue (Ammann, 1998b; Oates, 1996a; Rose, 1996e).

The risk level for different populations and species varies with their numbers, reproductive vigor, and geographic distribution. Declines in the past have been correlated most closely with human population growth and the destruction of habitat. Primate hunting, including apes, has long been recognized as a factor. Eltringham (1984:34) wrote that "Gorillas and chimps costing several thousand dollars each are captured for zoos and medical research centers, but the quantity killed for food dwarfs the number taken alive." While capture of live apes for research has mostly stopped, a growing body of evidence now shows that shifts in human social and economic practices in the forests of Africa have greatly increased killing for meat. Oates (1996a:8) concludes "... while the total removal of natural habitat is clearly a major threat to the survival of many African forest primates, an analysis of survey data suggests that human predation tends to have a greater negative impact on primate populations than does selective logging or low-intensity bush-fallow agriculture."

Ammann's (1993, 1996c,d) wide ranging investigation of hunting pressures in and outside IUCN-surveyed project areas strongly indicates that unprotected and unstudied groups of primates--especially those within 30 km of the expanding network of logging roads and towns--are being devastated by a burgeoning commercial bushmeat trade. The catalyst of this devastation is growth of the timber industry (Ammann, 1996b; Ammann and Pearce, 1995; Dupain and Van Elsacker, this volume; Thompson, this volume).

Timber prices and profits are tied to provision of subsidized bushmeat to migrant workers. Every logging town has its modern hunting camp, supplied with European-made guns, internationally-made ammunition, and men and women who come from towns and cities hoping to make a living in the forests. With indigenous forest dwellers hired as guides and hand servants, immigrant hunters comb the forests, shooting and trapping. Anything edible is fair game in a market that starts with the wood cutters, truck drivers, and camp families who scrape together their meager wages for scarce protein. From this captive market base the bushmeat trade stretches all the way to fine restaurants and private feasts in national capitals where more rare and expensive fare is available. Little is done to teach or enforce wildlife laws. Giant pangolin (*Manis*), gorilla (*Gorilla*), chimpanzee (*Pan troglodytes*), and elephant (*Loxodonta*) are among the animals that are slaughtered in timber concessions and sold for their meat. This scenario is so pervasive, and so driven by human values and economics, that it is the rule wherever logging roads and buildup of timber company personnel occur in the forests.

Most timber executives admit there is a problem and say they are powerless to stop it (Incha, 1996; Splaney, 1998). In the past, logging managers have been reluctant to let outsiders into their concessions, fearing that problems will be uncovered and business disrupted, with no solutions provided. The timber industry's reliance on bushmeat to feed loggers and their inability to educate workers and govern their concessions leads to indiscriminate hunting that not only fosters the breaking of laws, but also the breaking of customs. People whose colonial and tribal cultures once enforced taboos against eating apes and monkeys are beginning to try it (Ammann, 1998b).

Even in areas with no logging intrusion, growing demand for chimpanzee and gorilla meat can be substantial. Kano and Asato (1994) compared ape density and hunting pressure from 29 Aka and Bantu villages along the Motaba River area of northeastern Congo Republic and projected a bleak future for the apes. They found that over 80% of their 173 Aka informants were willing to eat gorilla or chimpanzee meat. Among 120 Bantu informants, 70% were willing to eat gorilla meat and 57% would eat chimpanzee. Because more Aka were involved in ape hunting, 40% reported having eaten gorilla or chimpanzee meat in the previous year, while 27% of Bantu had eaten apes in the same period. Aka reports estimate 34 to 60 successful "subsistence" hunters slaughtered 49 gorillas and 103 chimpanzees in 1992. Bantu claimed seven to nine hunters killed 13 gorillas and 28 chimpanzees that year. Kano and Asato (1994: 161 ) measured ape population density and assert that the survival of both ape populations is at serious risk in this territory, as it is further east for the bonobo, "unless a strong system can be established which combines effective protection with the provision of attractive substitutes for ape meat to the local people."

The finding that village hunting of apes in a large habitat area is unsustainable when guns are used makes us all the more concerned about the popular and organized commercial bushmeat trade supported by timber industry infrastructure that is feeding and fostering consumer preferences in towns and cities.

South of the Motaba River, Hennessey (1995) studied bushmeat commerce around the Congolese city of Ouessou. He reports (Hennessey, 1995) that 64% of the bushmeat in Ouessou comes from an 80 km road traveling southwest to a village called Liouesso. There a hunter who specializes in apes was responsible for most of the 1.6 gorilla carcasses sold each week in the Ouessou marketplace, over 80 gorillas per year in one city. Hennessey projects that 50 forest elephants and 19 chimpanzees were killed annually.

Similar Aka-Bantu hunting and long-distance commercial bushmeat trade is described by Wilke, *et al.* (1992) in the Sangha region west of Ouessou. There, many hunters preferred trading their meat at Ouessou in order to get a higher price than at logging concessions, confirming the report of Stromayer and Ekobo (1991) that Ouessou and Brazzaville are the ultimate sources of demand. Wilke, *et al.* (1992) describe monkey meat for sale, but say nothing about apes. They recommend that wildlife conservation officers and biologists monitor and protect duiker, primates, and elephants to regulate "the harvest of forest protein."

Ammann and Pearce (1995) reported intense hunting of apes for bushmeat in southeastern Cameroon, across the border west of Wilke's study site. "The hunters in the Kika, Moloundou and Mabale triangle in Cameroon estimate that around 25 guns are active on any given day and that successful gorilla hunts take place on about 10% of outings. This would result in an estimated kill of up to 800 gorillas a year (Ammann and Pearce, 1995: 13 )." These same hunters kill up to 400 chimpanzees per year. While some of this ape meat is sold to logging workers in these forests, most is shipped on logging lorries back to Bertoua and all the way to Yaounde and Douala where a better profit can be made. Ammann (1998a) has confirmed Hennessey's (1995) findings that a small portion of Cameroon bushmeat crosses the border for sale in Ouessou.

Illegal bushmeat including gorilla, chimpanzee, and bonobo in villages near reserves like Lope, Ndoki, and Dja, and in city markets at Yaounde, Bangui, Kinshasa, Pt. Noire, and Librville, has been photographed by Ammann (1996a, 1997, 1998b; McRae and Ammann, 1997). Traders interviewed in those areas affirm that the fresh meat comes from nearby forests, while smoked viand can travel long distances. The scant million people who inhabit the large forested territory of Gabon have a strong palate for bushmeat. Steel (1994) found half the meat sold in Gabon city markets is bushmeat, an estimated \$50 million unpoliced trade. Primates comprise 20% of the bushmeat. This includes some apes, which are considered edible by various local tribes. Absent region-wide monitoring of hunting and bushmeat trade, one can only guess the numbers of primates killed to feed the tens of millions of people living in equatorial Africa. There can be little doubt that many more apes are butchered for meat in the lowland forests every year than live captive in all the world's zoos, laboratories, and sanctuaries; perhaps 3,000-10,000 a year!

During extensive discussion with field researchers and conservationists (Rose, 1996b,c,d,e; Rose and Ammann, 1996), I found expert consensus predicting that "if the present trend in forest exploitation continues without a radical shift in our approach to conservation, most edible wildlife in the equatorial forests of Africa will be butchered before the viable habitat is torn down" (Rose, 1996e: 1). Even more worrisome is the agreement among primatologists that the varied destructive outcomes of bushmeat commerce have reached crisis proportions (Rose, 1996b). Juste, *et al.* (1995: 465) crystallize the essence of the crisis: "With the advent of modern firearms, and improved communications and transport, subsistence hunting has given way to anarchic exploitation of wildlife to supply the rapidly growing cities with game."

The key word here is *anarchic*. Absent an effective political authority, having no cohesive principle, common standard, or purpose, the bushmeat trade has exploded into a rush for personal profit not unlike the gold rush that transformed the western portion of the United States in the last century. One timber company executive described it rhetorically: "if you found this hundred franc note lying on the ground, would you pick it up?" (Incha, 1996).

Bushmeat commerce grows with the logging industry, but it is founded on the complex cultures of the region. When people see an animal as little more than meat, they will hunt, butcher, and eat it with impunity (Cartmill, 1993). Mittermeier (1987) warned of the pervasive global threat of primate hunting over a decade ago. Goodall (1998: 7) declared that "unless we work together to change attitudes at all levels--from world leaders to the consumers of illegal bushmeat -- there will be no viable populations of great apes in the wild within 50 years." The day will come when all the logging and transport roads are built, the choice wood is removed, and the migrant hunters have harvested the bushmeat in the 90% of African rain forests that are targeted for exploitation. Then parks and reserves will be the only places left to hunt: they will need to be defended by armies, or abandoned. Just as profiteers seek the last black rhino horn in Zambia, so will trophy hunters attempt to buy the last gorilla loin and chimpanzee arm in the Congo basin.

This destruction is not inevitable. There are opportunities to stop the slaughter of primates and re-engage the reverence for wildlife that will save the natural heritage of Africa. To capitalize on these options, one must expand one's visions, strategies, and tactics and break free of the narrow ideological biases that still control the traditional field of conservation biology.

### 3. HUMAN KINSHIP WITH GREAT APES RAISES THE STAKES

The view of apes and other nonhuman primates is changing radically outside of Africa. In developed countries, especially among the more educated, a rising sense of kinship with apes and monkeys is almost palpable. Primatologists have seen many primates exhibit elaborate and exquisite gentility, intelligence, and grace, as well as humor, affection, cunning, and some familiar forms of cruelty and sloth (eg: Patterson and Linden, 1981; Cheney and Seyfarth, 1992; de Waal, 1990; Fouts and Mills, 1997; King, 1994; Savage-Rumbaugh and Lewin, 1996; Wrangham and Peterson, 1996). Biologists have uncovered evidence of close genetic kinship between humans and apes (Janke and Arnason, this volume). Primate studies are making inroads into fields that were traditionally human focused, such as politics, law, and ethics (Allen and Bekoff, 1997, Cavalieri and Singer, 1994; Singer and Cavalieri, this volume; de Waal, 1996). These discoveries are being told through magazines and books, television and cinema, and in daily newsprint to an international audience.

The explosion of media and entertainment industry interest in nonhuman primates reflects a deep fascination with our primate heritage. The Vatican has softened its position on evolution, calling it “a hypothesis to consider” and many people around the world are now able to think of themselves as “the third chimpanzee.” Television programmers have made wildlife and nature documentaries a mainstay of many people’s evening entertainment fare, and the apes are featured most often. These developments ease our crossing of the chasm between ape and human, help people build personal and intellectual bonds with apes and strengthen the impetus to preserve and protect all wildlife.

My research on natural epiphanies (Rose, 1994, 1996a, 1998b) adds to a large body of evidence and belief that humans are endowed with an innate fascination and need to relate to other living beings (Kellert and Wilson, 1993). E. O. Wilson (1984) called this drive “biophilia”. Overall, people are most affected and inspired by direct interaction with animals. Communion with nature changes minds and action, but to a lesser degree. Scientific study is a prime mover in relatively few people’s lives (Rose, 1994; Kellert 1996).

Among wildlife professionals and lay people in North America and Europe, a growing constituency is making the crucial shift from *concern about* other primates to the more enduring position of *identity with* them and their plight. These people’s stake in primate conservation is personal, holistic, and expansive. Many millions consider great apes as kin. They judge the killing of chimpanzees and gorillas to be murder, and eating them to be cannibalism. We cannot ignore this potent group, nor should we. The developed world’s new sense of kinship with great apes raises the stakes: it demands that those who conserve wild primates do so for all apes and monkeys, not just for the few who are fortunate to live in favorite parks and reserves.

Ironically, the human values and attitudes that support the bushmeat commerce come from maladaptation of old-style colonial world-views. In much of central Africa “a general pattern of apathy, fatalism, and materialism towards nature and wildlife” prevails (Kellert, 1996: 149). Contemporary Africans have lost their traditional “theistic” reverence for wildlife and have assumed from developed countries a harsh, utilitarian view (Mordi, 1991). With the advent of cash economy, colonial religion, and central government, “tribal values of conserving and protecting nonhuman life are rendered spiritually inoperable, while new ecological and ethical foundations for sustaining nature have not emerged” (Kellert, 1996: 152).

Wherever traditional theistic values are dead and buried, the most viable shifts in attitude for most Africans will be come from instilling humanistic views of wildlife like those emerging in the North. I am not proposing eco-imperialism that foists colonial Northern values on traditional Africans. The new Northern sense of kinship with other primates is closer to traditional tribal views than the imported colonial dominionistic values now holding sway in Africa.

In territories where primate eating is not taboo, the people who refuse to eat them do so “because they are too much like us” (Hennessey, 1995; Kano and Asato, 1994). This identity with primates offers a foundation on which to reconstruct an African conservation ethos that once again reveres wildlife and wilderness, and views humanity as an integral part of the natural order. I have seen the potential for such change among bushmeat hunters in Cameroon’s eastern province (Rose, 1997, 1998a,c). Most of the people in the bushmeat trade readily say that commercial hunting is a poor way to make a living, not a sought after career but a last choice. Economic factors are less enduring and shift more quickly than personal values, beliefs, and taboos (Dupain and Van Elsacker, this volume).

Psychosocial development spans a hierarchy of human needs (Maslow, 1993). Conservationists satisfy the most basic of those needs when they employ local people to protect endangered animals from their neighbors who would kill and butcher them, pitting one *survival* tactic against another (eg: Owens and Owens, 1992). *Security* for these conflicting factions hinges on the relative stability of two industries--bushmeat and conservation. Some people gain *status* by protecting live primates *in situ* or caring for them in captivity. Others are valued for their ability to track and bring ape and monkey meat back for the cooking pot. But status gained from commercial hunting is low in much of Africa, as is the income. Most hunters are not licensed and thus operate in gray market circles; some are admired for their daring and endurance, but not for much else. People who succeed in primate protection and husbandry are better reimbursed than poachers and meat traders. They are also better accepted in most quarters, especially among the more educated professionals. This begins the expansion of *self identity* required to assure the shift from poacher to protector (Rose, 2001b, 1998a,c).

As in developed countries, Africans who come to identify with fellow primates undergo shifts in values towards nature and expansion of worldview. School children and adults in Cameroon demonstrate increased empathy for apes and concern for their welfare after reading about Koko, the signing gorilla (Rose, 2000). Conservation values education affects people of all ages, causing reconsideration of old myths and of newer colonial precepts. Expanding the ego to include something of primate nature is an impetus to seek greater *self and social actualization*. This is when things really begin to change.

#### **4. PRIMATE CONSERVATION MUST BECOME A GLOBAL SOCIAL MOVEMENT**

Psychologists who study the self-fulfilled end of humanity report that human potential is realized most in those who serve others (eg: Rogers, 1961; Rose and Auw, 1974). It seems that we become more of ourselves when we are more than selfish. We get bigger, inclusive, multi-faceted, personally enriched by the act of giving. When people gather and organize into groups to realize their potential altruistically, we have the rudiments of a social movement. Conservation is a massive global social movement. As detailed above, people are attracted to this movement first for interpersonal reasons. They expect conservation to provide them with a deep connection to animals and with personal actualization from doing benevolent service. With this impetus, the conservation movement will not only protect nature; it will change human myth, ritual, and institutions.

In much of the world myth is now created on film and video, and transmitted by the commercial entertainment industry. The public is attuned to the attractive power of fame; leaders of social movements cannot be fully effective without name and face recognition. The conservation movement is no exception. Conservationists will gain more support for this cause smiling at TV cameras than staring into microscopes. Most people are induced to spend their hard earned savings and donate their valuable time by good stories, not good statistics.

##### **4.1 Call for new leadership**

The film *Gorillas in the Mist* is shown in school rooms across America promoting Dian Fossey as martyr to the cause. Jane Goodall's impressive persona is revered by millions of people as the Mother Theresa of chimpanzees. Birute Galdikas has been promoted as the angel of the orangutan. These women are public icons, but they and their torch bearers must continue to celebrate and support others who conserve and protect primates and their habitat. This social movement needs scores of conservationists with celebrity status, not two or three.

The opportunity exists. Films and popular books about primatologists and the life ways of nonhuman primates are beginning to proliferate in the northern marketplace, which reflects and raises public concern and motivates the public to seek more personal means of connecting with primate kin.

Some traditional biologists argue that human contact renders the animals useless to science, puts them at risk of disease, and should be avoided at all costs. Some risks are real, but they must be conquered to keep up with the social movement. Others claim that humanistic approaches present a false view of primates, foster dangerous anthropomorphism, and impede practical scientific work. Ironically there is no scientific evidence to

back these arguments. Scientific methods are made to test hypotheses, not conserve wildlife. It is time to recognize that those who measure environmental destruction are not often prepared or able to do much about it.

The conservation movement is a very human affair. It is not just about little groups of hairy animals. It is about big societies of hungry humans whose greed and ignorance are putting all of life at great risk. Big changes based on big visions are needed along with the aid of the most wise and benevolent and the most wealthy and powerful people and agencies in the world. Leaders of the conservation movement will come from three forces: business, religion, and ecosocial practice.

## 4.2 Business endows

Imagine what it would be like if Bill Gates sponsored the IUCN Primate Specialist Group. A Microsoft approach to conservation would invent new ways to market primates *in situ*--virtual ecotourism, interactive ecology games in real-time, mobile distance learning units linked to school wildlife labs. Web surfers could see their favorite animals and conservationists in action, buy a bushmeat-free meal for a hungry park ranger, adopt an orphan ape, save a monkey troop, protect a forest, give advice to policy makers, all on-line. Wealthy zoos would have direct banking links to wildlife sanctuaries in habitat countries. Foresters in developed countries would connect on-line with tropical forest officers to share ideas and resources. Interactive networks of financiers, local community members, wildlife law enforcers, exploiters, religious leaders, and scores of other stakeholders would foster a positive global outlook linking the varied elements of the conservation movement.

If Gates and Mittermeier became partners, people would send ape and monkey holograms to their loved ones for Earth Day via the internet and donate the profit to conservation programs. This entrepreneurial approach is a far cry from that of traditional conservationists with besieged island outlooks seeking little more than protection of their favorite primate study populations. Academia does good analysis, but business endows effective action.

The full force of the international business community can capitalize on the social movement and make living wildlife and wilderness more profitable than cut wood and butchered animals. But there are other forces that will take the social movement even farther. Business-like conservation (Ammann, 1996d) is necessary but not sufficient to assure the restoration of African wildlife and wilderness. Entrepreneurs who devise business projects and managers who pursue measured objectives may deliver profit without protection, sanctuary without well being. To pursue altruistic goals that assure humane outcomes requires *moral leadership*. To integrate the needs and capacities of diverse human and natural stakeholders into successful programs that produce synergistic results requires *ecosocial competence*. Both these fundamental imperatives must be brought to bear on the conservation movement. Well endowed action is not necessarily right action (Hawley, 1993).

## 4.3 Religion inspires

Leaders of the major religions are organizing and acting on behalf of the environment. The Christian Environmental Council in North America has used Bible citations to challenge corporate environmental ethics and to provide authority for proactive positions on crucial elements of ecological justice--endangered species protection, environmental precedence over private property claims, and control of global climate change (Alexander, 1998). The U.S. Catholic Conference launched its Environmental Justice Program in 1993 and with the new edicts of the Pope, may expand it into their churches and parishes worldwide. Inter-faith groups are proliferating with projects to foster ecological renewal, responding to and amplifying the global call for "love and care for the Creation" (Rose-Erejon, 1998).

To put the potential impact of these developments in perspective it is important to note that over half the charity dollars spent in the USA go to religious groups, compared to less than 2% for conservation organizations. Donations to religious institutions for benevolent stewardship of the natural world will outstrip the current level of gifts to secular environmental NGOs many-fold in the next decade. More important than money alone will be the deep commitment of billions of people whose concern for nature will have a fresh and enduring outlet. Religious groups enter the conservation arena with double motivation: after the humanistic attachment to animals

as kin, the second most prevalent value towards nature in the North is the *moralistic*, which encompasses “strong feelings of affinity, ethical responsibility, and even reverence for the natural world” (Kellert, 1993: 53).

This will be a crucial balance to the business force, but the expansion of religious concern for the natural world warrants support for other reasons besides the balance it provides to business. Perhaps the optimum use of wildlife and wilderness is the religious and spiritual use--to love and care for the natural environment (The Creation) by prayer, meditation, and altruistic service is about as synergistic and sustainable an involvement as one can imagine. To establish sacred forests around the planet where well run spiritual retreats are offered to religious devotees can sanctify and safeguard more wild places and protect more wildlife than all the biodiversity reserves and entrepreneurial developments extant. This will foster an explosion of exceptionally low-impact pilgrimages that swamp conventional aesthetic and adventure tourism.

I urge members of IUCN, and all concerned conservationists, to accept and embrace this new force. A first step in this regard would be to lobby for expansion in the focus of CITES. When the CITES “scripture” was written in 1973 there was little or no representation from the religious institutions. Crucial points of view regarding the value of wild fauna and flora can be added to the CITES Preamble by altering the first two sentences and inserting these underlined words:

RECOGNIZING that wild fauna and flora in their many wonderful ~~beautiful~~ and varied forms are an irreplaceable part of the natural systems of the earth which must be protected for this time and the future generations to come;

CONSCIOUS of the ever-growing value of wild fauna and flora from aesthetic, cultural, economic, recreational, religious, spiritual, and scientific points of view.

In the first line, substitution of *wonderful* for *beautiful* is more than cosmetic. It signifies the deep spiritual power of the natural world, inclusive of, but not limited to the aesthetic. This invites the vast public that values more than surface appearance and variety to join. The shift to protecting flora and fauna for this time and the future expands to include respect for nature's intrinsic values, and not merely its worth to the generations of humanity.

In line two I added *religious* to honor the views of countless peoples and societies that rely on the presence of wild flora and fauna in their rituals and rites. The religious dimension has sometimes been included in ‘cultural’, but it is better separated. Cultural is used for homogeneous small groups and societies. Our great global religions are trans-cultural institutions that, as the religious environmental movement demonstrates, have many needs to connect with natural creation. A penultimate need is the *spiritual*. Again, this is not solely the domain of cultures, nor of religions. One must add the spiritual point of view to honor the needs of individuals, families, and small groups for deep communion with those intangible powers of natural creation that sustain all of humanity.

These changes are proposed seriously in hopes that they will be made as part of a conscious effort to include religious and spiritual concerns in all the arenas where the CITES accords are at play. With moral leadership of the world religious community inspiring business endowment of right action, conservationists can set aside worst case scenarios and shift to a “save them all” strategy. The leaders of the new conservation movement will not settle for saving small pockets of those species now said to be closest to extinction, nor will it continue to look aside while bushmeat orphans die.

The new leaders will challenge the narrow species fixation itself, and ask that all animal communities under threat of destruction be protected with emergency effort, while work is done to endow massive and far reaching life assurance systems to safeguard primates and other endangered orders. With the strategic focus of wildlife conservation shifted from gazetting biological arks to protecting all the major elements of natural creation from the human flood, a far different set of missions, goals and objectives will be pursued by a new kind of conservation professional. Imagine the tactics and talent required to conserve the Congo Basin ecosystem and the primate order for all time as elements of Eden that are spiritually sacrosanct and financially secure. Those who lead us into this endeavor will need many thousands of committed workers to pursue the worthy success.

## 4.4 Ecosocial practice achieves

Endowed by international business and inspired by global religion, the conservation activist of the future will spring from a marriage of ecology and applied social sciences. These ecosocial practitioners will become the third force--the institutes and action teams that design, build, and manage local, regional, and global conservation organizations and programs (Rose, 2001a). The traditional conservation community should find this third force more acceptable than business and religion. Anthropologists and ecologists have collaborated to study and help indigenous peoples in wild environments. But this author's experience is the opposite. Most conservation biologists admit their ignorance about business and recognize the power of religious institutions. But everyone seems to think they are experts in analyzing and effecting social change.

The idea of protecting enclaves of apes without helping human society is not feasible. What is needed is to study, assess, and promote *biosynergy* -- the continual synergistic relationships among ecological and social forces, processes, and stakeholders to assure that both humanity and nature will thrive (Rose, 2001b).

The expertise required to produce effective biosynergy in places like equatorial Africa is diverse and scattered at best. There are professionals competent in all the fields required, from community builders to law enforcers. But to recruit and organize the best of them to work together for African wildlife conservation is a Herculean effort. I have drafted program designs for multi-faceted, multi-disciplinary, multi-level community based ecosynergy projects to control bushmeat commerce and develop sustainable alternatives with people in Cameroon. Response from specialists has been consistent—"too complex, too costly, too many disciplines, too much territory to cover." Advice is common—"start with a simple community based pilot study to stop poaching in a small wildlife reserve."

When I ask "what will a project in a small reserve tell us about commercial hunting in huge logging concessions feeding urban markets?" many reply "start where you can succeed." They overlook the fact that success in small isolated projects is short-lived (Western, *et al.*, 1994). When I ask "how can a forest community stop poaching without outside support?" they say "governments and timber companies must enforce the law." They fail to explain how exploiters and politicians will be taught to infuse conservation values, develop ecosocial change projects, and govern and monitor huge concessions. Reaction from systems-oriented professionals is better: most recognize the value of large multi-variate programs, but few are enthusiastic about joining interdisciplinary teams.

The mission of the new conservation movement will become the promotion of biosynergy. But to pursue that mission, methods for achieving synergy among teams of ecosocial professionals and representatives of stakeholder communities must be invented and installed. The barriers and prejudices that keep us apart and in conflict must be overcome first. If physical and cultural anthropologists are still at odds, how much more effort will be needed to unite sociologists, biologists, theologians, entrepreneurs, and economists?

There is no alternative. The old approach of basic science that tests uni-factored theory and method in controlled settings will not work. The free enterprise model with wildlife and biodiversity focused NGOs competing for limited market share has failed. The social movement that is engulfing conservation calls for international support by business and religion of regional and global change programs that will maximize the salvation of humanity and nature. To respond to this call, scores of professionals are needed with the courage and the will to collaborate with strange bedfellows in places where exploitation, migration, and conflagration are destroying people, wildlife, and environment.

## 5. CONCLUSION: CONSERVATION MUST SERVE AND SYNERGIZE HUMANITY AND NATURE

Fast and durable success will come to innovative conservationists who work directly with the people involved in expanding human commerce, including poachers and traders, suppliers and producers, exploiters and consumers, leaders and rulers. These proactive partnerships will invent socially and ecologically synergistic programs to satisfy the human needs that now drive the commercial extraction and consumption of fauna and flora in Africa. Cadres of devoted eco-social practitioners, inspired and endowed by religion and business, will



take over center stage from the lone field biologists and anthropologists who have served as long suffering crusaders for wildlife. Media will expand beyond romantic images of scientist saints rescuing individual apes and will celebrate the entrepreneurs, educators, and innovators who help local and indigenous people to improve the quality of life by returning to a reverential and synergistic relationship with the environment.

The task of living in wild places to track gorillas and chimpanzees will take on huge added responsibility as synergistic conservation proliferates. Teams of professionals and community leaders will collaborate to convert poachers to protectors, monitor forest product and service sustainability, and implement ecosocial improvement projects. The study of nonhuman biology and behavior will be one of the forest services sustained in the long term by practical interventions to transform human morality, instill conservation values, and effect ecosocial accountability. Some fallen idols and abandoned adventures will be mourned. But as time passes the sense of loss will be supplanted by the satisfaction that will come from saving and enriching the lives of more African primates than we can ever know.

This satisfaction will accrue to a general public in Africa and around the world that has claimed its kinship with nonhuman primates through personal interaction and supports the social movement to save wildlife and nature as our moral obligation and spiritual need. Everyone will know that a perpetually rich and thriving African rain forest with its apes and other ancestors alive and well is worth far more now and in the future than bundles of wood and bushmeat. Beyond the oxygen and medicine that the forests produce, and the lush beauty and mystery they provide, they give us profound insight into our identity. After all, hominids came out of Africa.

The conservation Zeitgeist of the 21st Century will explode into a humane and moral social movement that will be implemented by competent ecosocial practitioners and guided by 5 strategic imperatives.

- 1) Social and moral leaders will promote humanity's profound obligation to conserve wildlife and to restore the natural world.
- 2) Political and economic authority will place conservation on a par with human rights and welfare.
- 3) Conservationists will shift from measuring biodiversity to ensuring the biosynergy of humanity and nature.
- 4) Demand for religious and spiritual values of nature will overtake utilitarian exploitation and assure sustainable development.
- 5) All wildlife habitats will be considered sacrosanct, and all human intrusion and involvement will be managed in a moral, businesslike, and synergistic way for the global good.

The success of this great new social movement, this Global Life Alliance, will do more than save wildlife and wilderness. It will safeguard the world ecology, restore biosynergy, and reinspire the natural spirit of humanity itself. As founders of the movement, conservationists must work together with a wealth of colleagues and fellow travelers, always in reverence, to celebrate the fulfillment of human origins and destiny in the vast and wonderful Creation that unfolds and evolves on this remarkable planet.

## REFERENCES

- Alexander, A. (1998). History of the Christian Environmental Council, talk to Inter-Religious Council, Mexico, April.
- Allen, C. and Bekoff, M (1997). Species of Mind: The Philosophy and Biology of Cognitive Ethology, MIT, Boston.
- Ammann, K. (1993-4) Orphans of the forest (I and II). SWARA, Nov-Dec : 16-19 and Jan-Feb: Pp. 13-14.
- Ammann, K., (1994). The bushmeat babies, BBC Wildlife, Oct.: 16-24.
- Ammann, K. (1996a) Primates in peril, Outdoor Photographer, February.
- Ammann, K. (1996b) Timber and bushmeat industries are linked throughout west/central Africa. Talk at seminaire sur l'impact de l'exploitation forestiere sur la faune sauvage, Bertoua, Cameroon, April.
- Ammann, K. (1996c) Halting the bushmeat trade: Saving the great apes. Talk at World Congress for Animals, Wash. DC, June.

- Ammann, K. (1996d) Conservation in central Africa: Time for a more business-like approach. African Primates, IUCN/SSC, 2(1): 30-31.
- Ammann, K. (1997) Gorillas. Insight Topics, Apa Publications (HK) Ltd., Hong Kong.
- Ammann, K. (1998a) The conservation status of the bonobo in the one million hectare Siforzal/Danzer logging concession in Central D.R.Congo. Bushmeat Project Website: <http://bushmeat.net>
- Ammann, K. (1998b) Personal correspondence and communication; 1988 to present, Hermosa Beach, CA
- Ammann, K. and Pearce, J. (1995) Slaughter of the Apes: How the tropical timber industry is devouring Africa's great apes. World Society for the Protection of Animals, London.
- Baillie, J. and Groombridge, B. (eds.), (1996), IUCN Red List of Threatened Animals, IUCN's Animal Database, <http://www.iucn.org/themes/ssc/index.html>.
- Cartmill, M. (1993) A View to a Death in the Morning: Hunting and Nature through History. Harvard U. Press, Cambridge.
- Cavaleri, P., Singer, P. (1993). The Great Ape Project: Equality Beyond Humanity, St. Martin's Press, N Y
- Cheney, D. L. and Seyfarth, R. M. (1992). How Monkeys See the World: Inside the Mind of Another Species, U Chicago Press.
- de Waal, F. (1990). Chimpanzee Politics, Harvard Press, Boston.
- de Waal, F. (1996), Good Natured: Origins of Right and Wrong in Humans and Other Animals, Harvard Press, Boston.
- Eltringham, S.K. (1984) Wildlife Resources and Economic Development, John Wiley and Sons, New York.
- Fouts, R. and Mills, S. T. (1997). Next of Kin: What Chimps Have Taught Me About Who We Are, William-Morrow, 1997.
- Goodall, J. (1998) Quote in The African Bushmeat Trade: A Recipe for Extinction, Press Report, Ape Alliance, London.
- Hawley, J. A. (1993). Reawakening the Spirit in Work, Barrett-Koehler, San Francisco.
- Hennessey, A. B. (1995) A Study of the Meat Trade in Ouesso, Republic of Congo. GTZ, Brazzaville.
- Incha Productions / ZSE-TV (1996) Twilight of the Apes, ZSE-TV, Johannesburg (Video: 25 min.).
- Juste, J., Fa, J.E., Del Val, J.P., and Castroviejo, J., 1995, Market dynamics of bushmeat species in Equatorial Guinea, Journal of Applied Ecology, 32: 454-67.
- Kano, T. and Asato, R. (1994). Hunting pressure on chimpanzees and gorillas in the Motaba River area, northeastern Congo, African Study Monographs, 15 (3): 143-162, November.
- Kellert, S.R. (1993) The biological basis for human values of nature. Pp. 42-47 in The Biophilia Hypothesis, Kellert, S.R. and Wilson, E.O. (eds.), Island Press, Washington D.C..
- Kellert, S.R. (1996) The Value of Life: Biological Diversity and Human Society, Island Press, Wash. DC.
- Kellert, S.R. and Wilson, E.O. (1993) The Biophilia Hypothesis, Island Press, Washington D.C.
- King, B. J. (1995) The Information Continuum, SAR Press, Santa Fe, New Mexico.
- Maslow, A (1993) The Farther Reaches of Human Nature. Penquin-Arkana, New York.
- McRae, M, Ammann, K. (1997) Road kill in Cameroon. Pp. 36-47, 74-5 in Natural History Magazine, **106**, 1.
- Mittermeier, R. A. (1987) Effects of hunting on rain forest primates. Pp. 109-146 in Primate Conservation in the Tropical Rain Forest, Alan R. Liss, New York.
- Mordi, R., 1991, Attitudes toward wildlife in Botswana, New York, Garland.
- Oates, J.F. (1996a) Habitat Alteration, hunting, and the conservation of folivorous primates in African forests. Australian Journal of Ecology, **21**, 1-9.
- Oates, J.F.. (1996b) African Primates: Status Survey and Action Plan (Revised), IUCN, Gland.
- Owens, D. and Owens, M. (1992) The Eye of the Elephant: Epic Adventure in the African Wilderness, Houghton Mifflin, Boston.
- Patterson, F. and Linden, E. (1981) The Education of Koko. Holt-Rinehart-Winston, New York.
- Patterson, F. and Cohn, R. H. (1985). Koko's Kitten, Scholastic, New York.
- Rogers, C.R. (1961). On Becoming a Person, Houghton-Mifflin, New York.
- Rose, A. L. (1994) Description and analysis of profound interspecies events. Proceedings of XVth Congress of International Primatological Society, Bali, Indonesia.

- Rose, A. L. (1996a) Orangutans, science and collective reality. Pp. 29-40 in The Neglected Ape, Nadler, Galdikas, Sheeran, and Rosen (Eds), Plenum Press, New York.
- Rose, A. L. (1996b) Commercial exploitation of great ape bushmeat. Pp. 18-20 in Ngoufo, R., Pearce, J., Yadjji, B., Guele, D., and Lima, L (Ed's), Rapport du seminaire sur l'impact de l'exploitation forestiere sur la faune sauvage, Cameroon MINEF and WSPA, Bertoua.
- Rose, A. L. (1996c) The African forest bushmeat crisis: Report to ASP. African Primates, IUCN/SSC, 2(1): 32-34.
- Rose, A. L. (1996d) The bushmeat crisis is conservation's first priority. Talk at IUCN Primate Conservation Roundtable Discussion on an Action Agenda, at XVIth Congress of IPS/ASP, Madison, August.
- Rose, A. L. (1996e) The African great ape bushmeat crisis, Pan Africa News, 3(2): 1-6.
- Rose, A. L. (1997) The African primate bushmeat crisis: Action workshop. Annual Meeting of the American Society of Primatologists, San Diego, June.
- Rose, A. L. (1998a) Finding paradise in a hunting camp: Turning poachers to protectors. Journal of the Southwestern Anthropological Association, 38(3): 4-11.
- Rose, A. L. (1998b) On tortoises, monkeys, and men. In M. Tobias (Ed), Kinship with the Animals, Beyond Words, Hillsboro, Oregon, in press.
- Rose, A. L. (1998c) On the road with a gorilla hunter. Gorilla: Journal of the Gorilla Foundation, V. 21, No. 1, Pp.2-6.
- Rose, A. L. (2000) Report from the field: Affecting empathy for apes, Bushmeat Project Website: <http://bushmeat.net>
- Rose, A. L. (2001a) The bushmeat crisis: Strategies, solutions, and social change capacity. Invited talk at 18th Congress of the International Primatological Society, Adelaide, Australia.
- Rose, A. L. (2001b) Social change and social values in mitigating bushmeat commerce. Pp 59-74 in Hunting and Bushmeat Utilization in the African Rain Forest, Bakarr, da Fonseca, Mittermeir, Rylands, & Painemilla (Eds), Conservation International, Washington.
- Rose, A. L. (2001c). Conservation must pursue human-nature biosynergy in the era of social chaos and bushmeat commerce. Pp. 151-184 in Conservation Implications of Human and Nonhuman Primate Interconnections, Fuentes & Wolfe (Eds), Cambridge University Press, 2001.
- Rose, A. L. and Ammann, K. (1996) The African great ape bushmeat crisis. Talk and workshop at XVIth Congress of International Primatological Society / American Society of Primatologists, Madison, August.
- Rose, A. L. and Auw, A. (1974) Growing Up Human, Harper and Row, New York.
- Rose-Erejon, J. (1998) Personal communication, Mexico City, May.
- Savage-Rumbaugh, S. and Lewin, R. (1996) Kanzi: The Ape at the Brink of the Human Mind, John Wiley & Sons, NY.
- George Schaller (1995). Gentle gorillas, turbulent times, National Geographic, October, Pp. 65-83.
- Soulé, M. E. (1993) Biophilia : unanswered questions. Pp. 441-455 in Kellert, S. R., and Wilson, E. O. (eds.), The Biophilia Hypothesis, Island Press, Washington, D.C..
- Splaney, L. (1998). Hunting greater threat to primates than habitat destruction. New Scientist, March, 18-19.
- Stebbins, M., Hawley, J., and Rose, A.L. (1982). Long term action research: a case study. Pp. 105-136 in Margules and Adams (eds) Organization Development in Health Care. Addison-Wesley Publishers, Reading.
- Steel, E. A. (1994) Study of the Value and Volume of Bushmeat Commerce in Gabon. WWF and Gabon Ministry of Forests and Environment, Libreville.
- Stromayer, K. and Ekobo, A. (1991). Biological surveys of southwest Cameroon. Wildlife Conservation International.
- Western, D., Wright, M.R., and Strum, S.C. (eds.) (1994) Natural Connections: Perspectives in Community-Based Conservation, Washington, Island Press.
- Wilkie, D. S., Sidle, J. G., and Boundzanga, G. C., 1992, Mechanized logging, market hunting, and a bank loan in Congo, Conservation Biology, 6(4): 570-580.
- Wilson, E.O. (1984). Biophilia: The Human Bond with other Species, Harvard University Press, Cambridge.
- Wrangham, R. and Peterson, D. (1996) Demonic Males: Apes and the Origins of Human Violence, Houghton-Mifflin, N. Y.