

THE BUSHMEAT TRADE

PERSONAL REFLECTIONS WITHIN A CONTEXT OF HUMAN- ANIMAL INTERACTIONS

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I grew up hoping to positively influence the world in some small way. I committed time and effort to various causes, studies, and experiences, wishing for that “a-ha” moment that would let me know that now, yes, I have made a difference. That moment has never really come, largely because my expectations of what it takes to make a difference continue to shift as I learn more about the world. One of my earlier journeys concerned how to save endangered animals. I was susceptible to the postcard animals such as tigers, seals, and chimpanzees, which were negatively affected by what I considered to be humanity’s callous disregard to nonhuman animals and inability to properly share the earth. I concentrated on all of the ways that we humans destroy what we have around us. In a predictable manner, I separated the behaviors of humans from that of animals, whereby what animals did was not to be criticized while human actions and lifestyles were held largely to blame for various problems. In creating this

false dichotomy, I failed to examine the shared realities and mutual interactions that humans and animals co-created.

This dichotomous viewpoint broke down after listening to many stories and living in vastly different areas. For example, it became difficult to deny the importance of a cheap protein source while living in a place where so many are malnourished. Championing the need for better living arrangements for animals seemed impractical in the midst of dreadful and immensely crowded urban slums. After understanding the incredible challenges some countries face, I greatly admired their efforts to protect wildlife. I learned how humans and wildlife continue to exist on the borders of protected reserves, sharing the contested spaces in creative ways. Those who approach these issues grounded in the interaction between humans and animals can provide a more balanced perspective. This paper addresses the bushmeat trade, or the hunting, trading, and consumption of wild animals, within the context of the

field of Human-Animal Interactions (HAI). A brief description of the HAI field is outlined below, followed by personal and professional reflections of the bushmeat trade. Finally, recommendations on how to approach problems related to the bushmeat trade from a HAI perspective are described.

Human-Animal Interactions

The formalized study and field of HAI is admittedly new to me. I was very excited to come across this field, as my background and interests are in human and animal behavior and health. There are gaps between the areas of zoology and psychology, particularly when researching and designing interventions that work to benefit both humans and

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animals. In my experiences programs related to the bushmeat trade are driven by interest groups, such as those fighting to increase the number of animals or those fighting to increase accessibility to land for farming. I hope that HAI practitioners, whose range includes both animal and human activities and behaviors, to be as equally concerned with the issues affecting the humans as those affecting the animals, thereby bringing some needed balance to many debates and discussions.

When first introduced to this field I was unclear exactly what HAI researchers and clinicians did. Upon a casual search of the term, I was slightly disappointed, since it appeared that much of the activities were solely around Animal Assisted Therapy¹ and Animal Assisted Activities². For example, there is a Center for Human-Animal Interaction located in the Virginia Commonwealth University School of Medicine whose mission is "improved health and well being through human-animal interaction" (CHAI 2004). The clinical goals of this Center are to "enhance health and well being through animal-assisted therapy and pet visitation." This goal reflects many of the researchers and practitioners involved in HAI, who lean toward the interactions that involve companion animals rather than animals used for other activities such as work, laboratory research, and consumption. Moreover, the Web site of the Green Chimneys (a residential treatment facility with a wide variety of AAT and AAA programs) displays the following activities under the title of Human Animal Interactions: AAA, AAT, equine assisted psychotherapy, and equine experiential learning (Green Chimneys 2004). There is an international group, the Interna-

tional Association of Human-Animal Interaction Organizations, whose mission is to "promote research, education and sharing of information about human-animal interaction and the unique role that animals play in human well-being and quality of life" (IAHAIO 2004). It appeared to me that the main focus was around not only how animals help human well-being, but also how they do so in a bonding way where the animals are treated as companions.

However, there are resources where it is apparent that HAI is considered broader than companion animals. Within the field of Human-Animal Studies, the journal *Society and Animals* "publishes studies concerning experiences of nonhuman animals from psychology, sociology, anthropology, political science, and other social sciences and history, literary criticism, and other disciplines of the humanities" (PSYETA 2004a). In addition to examining how animals help humans to heal, the group Psychologists for the Ethical Treatment of Animals (PSYETA) has a division of Human-Animal Studies that explores a broad range of interactions including the relationship between animal abuse and human violence, cultural representations of animals, and attitudes about animals being used in research (PSYETA 2004b). However, the organization admits that most of the focus has been on issues around companion animals and AAT/AAA (PSYETA 2004c).

As stated by Debbie Coultis in the Introduction, Human-Animal Interactions covers a broad range that includes all interaction between humans and animals on a spectrum from negative interaction, to no interaction, to positive interaction. It is broad enough to allow for HAI researchers and clinicians to

work in areas outside of AAT and AAA. Although AAT and AAA are in need of continued study and development, other areas where humans and animals significantly interact have not historically been viewed as a research or practice area within HAI studies.

I am drawn to the field of Human Animal Interactions (HAI) since it appears that while many are focusing on either the humans or the animals, not enough are studying the *interaction* between humans and animals. This interaction could be a unit of study, taking fair consideration of all parties involved. With the interaction within HAI as a priority, and a more balanced perspective on the needs of humans and animals, effective strategies that do not alienate cultures or groups can be designed.

This paper addresses the bushmeat trade, or the hunting, trading and consumption of wild animals, within an HAI context. I view the bushmeat trade as an example of how my attitudes and beliefs have shifted, and of how HAI clinicians and researchers can provide innovative methods of approaching some of the pressing issues resulting from the bushmeat trade. Although I acknowledge that entire ecosystems are breaking down, partially due to the bushmeat trade, the discussion below does not take one side or the other. Rather, it will describe the issues involved and the need for a more evenhanded outlook in order to address these issues.

Beyond Companion Animals

I believe that the role that animals play in the availability and accessibility of food for humans is a significant one and that the study of such behaviors and activities can expose and teach much about human and animal behaviors.

Whether one's objective is to conserve biodiversity or improve humans' nutrition and livelihoods, or both, studying humans and animals as a unit can greatly inform appropriate and effective strategies.

Some African individuals would point out that as Africans, it is their heritage and part of their culture to eat wild animals and by eating them they feel a stronger sense of cultural identity.

While I am new to the formal study and field of Human-Animal Interactions (HAI), for over 16 years I have been interested in the global use of animals for human consumption. More particularly, being a long-term vegetarian, I am concerned with the cultural and social factors involved in food choice. Especially in areas where animals are not involved as human companions, the main interaction people have with animals is around food—fishing, farming, and hunting. It may be ethically easier for some to study how animals and humans co-benefit from AAT, but much can be learned from interactions that are not so apparently equal. How animals benefit from AAT is largely unknown, and in some instances they may not be treated much better than animals used for domestic labor such as plowing fields. For example, some service dogs may never feel that they are “off duty,” and some training methods utilize strong punishment methodology. To develop relevant strategies to improve the welfare and conditions for animals, study into the existing roles and dynamics of where the problems are is necessary.

I propose that we move beyond the focus on how companion animals affect and interact with humans. Practitioners and researchers in the field of HAI who study and practice with humans and animals as a unit can bring us closer to envisioning more holistic and ecologically centered activities and behaviors. Moreover, scholars and clinicians from different cultures and backgrounds will enrich the field and promote cross-cultural understanding. The field of HAI could benefit from exploration into areas such as the promotion and reverence and current state of animals viewed as human cultural or religious

symbols; the use and misuse of animals for human work and economic endeavors; the use and misuse of animals in human research laboratory settings; the activities and behaviors exhibited between humans and animals that promote or disrupt ecological balance or conservation; the use of animals for human nutrition and consumption; the use of animals for human sport; the interactions between humans and animals in a zoo setting; and what occurs when wild animals and humans closely coexist, such as on the edges of a wild animal reserve.

The Bushmeat Trade

My interest in the bushmeat trade developed mainly from living in areas where bushmeat was common and accepted, as opposed to Western countries, where it may be considered an illicit activity and is often marginalized. In Western countries, the media often presents the bushmeat issue solely as a conservation issue, with little recognition of human cultural issues, such as why and how the bushmeat trade is maintained. There are often blanket statements calling for widespread policy changes and outlawing of the hunting, trading, and consumption of bushmeat since the trade threatens wildlife. Admittedly I have often blindly supported those causes without pausing to consider the cultural and sociological repercussions. Since many in the West are accustomed to acquiring meat products packaged in stores, we may be disgusted by images of hunted primates or eating rats, and thus easily accept the need to ban such practices. These attitudes can do more harm than good as they construct and reinforce the gaps between cultures, countries, religions, and classes.

Researchers and practitioners in the field of HAI, who study humans and animals as a unit rather than as separate entities, can emphasize how the interactions among the parties involved affect the surrounding area. Whether one's objective is to conserve biodiversity or improve humans' nutrition and livelihoods, or both, studying humans and animals as a unit can greatly inform appropriate and effective strategies. Factors involved in the bushmeat trade are described below in order to engage HAI scholars into pursuing this and other areas of study outside of the human-companion animal bond.

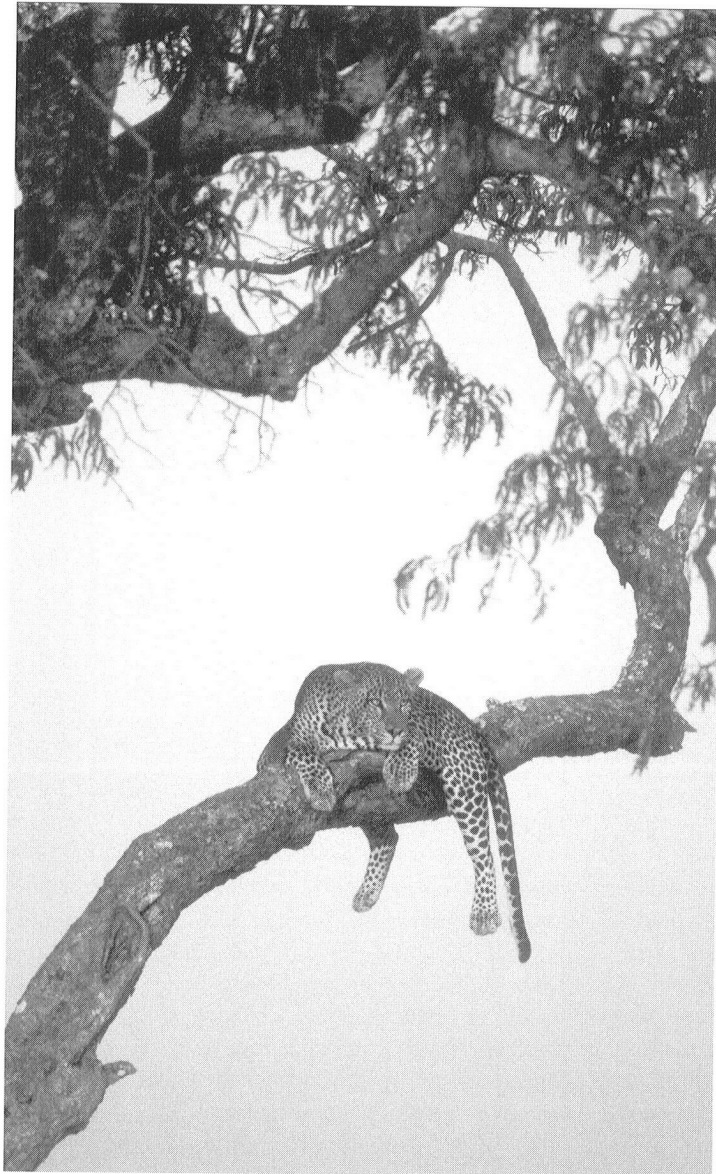
My perspective was not always balanced when it came to bushmeat. The shifts in my perception around the bushmeat trade reflect my changing focus from the animal side of HAI toward the understanding of the importance of the interaction. My personal experience with the bushmeat trade began in my high school years. Early in my teens I became a vegetarian. I was lucky enough to visit wild animal reserves in East Africa, where I felt the unique yet naïve experience of being a visitor in “their” land. I had yet to connect the overwhelming influence of economics to this romantic and idealized “wild” place. In Nairobi my family went without me to a restaurant called “The Carnivore,” where foreigners could sample meat from a wide array of wild animals. The open markets in Kenya and Tanzania were full of dead animals hanging with their skins intact and live animals either in tiny cages or tied to posts. The Africans we met would laugh goodheartedly at the Western tourists appalled at such open display. I could not understand why people had to eat the wild animals, especially those

threatened with extinction. I wished the animals to be in that romantic, idealized wild animal reserve where they were "free." Since then I have learned more about the need to consider the context within which the issue, such as endangered animals, occurs. For example, the animals in the reserve were dependent on the local economy, political stability, the tourist trade, poachers, and the nearby human settlements.

Living in places where bushmeat is readily acceptable and working alongside others who articulate the need for bushmeat has helped to balance my Western notions. While working across cultures and other boundaries, I have grown to appreciate the need for partnerships and discovering common ground, as opposed to offending important players through stereotyping and generalizing. Finally, it has become apparent to me that many people are not willing to discuss these issues unless it is acknowledged and respected that human needs and behaviors are also prioritized. They are deeply offended if they feel that animals are taking precedence over humans. Although issues of endangered animals and ecosystems are very real, a wide focus integrating and highlighting the interaction between and among humans and animals within the political, ecological, economic, biobehavioral, and sociobiological contexts can produce interventions or strategies that make a lasting and positive influence.

Thus I bring to the field of HAI a perspective grounded in several years living and working in developing countries. Often these are countries in which the concept of companion animals or "pets" is not promoted or accepted. The main interactions people have with animals are obtaining them for food or avoiding them due to perceived or real danger. As an "animal

lover" I was often considered freakish for inquiring into the health of certain street dogs, taking in cats or dogs, or insisting that dead animals be buried. Domestic and wild animals in many parts of the world are mainly considered as food, entertainment, pests, or dangers. Some animals, particularly dogs, are tolerated for their ability to provide protection. Most recently I spent a year



in Sierra Leone, West Africa as a medical humanitarian aid worker. While I have lived and visited other countries where bushmeat was widely available, it was not until I lived in Sierra Leone that I appreciated the complexities involved in the bushmeat trade.

In Sierra Leone, I would frequently see individuals selling "grass cutter"

(cane rat), other rodents, and small ungulates on the side of the road. I worked with outreach workers to educate the public on not eating rats, or eating grain that has been urinated on by these rats, since a certain kind of rat, if infected with the Lassa Fever virus, can transmit the virus to humans, often resulting in viral hemorrhagic fever, and even death. Western aid workers would

occasionally propose that families obtain cats that can hunt and kill the rats living around them. The response that we would often receive would be that the people would just eat the cats. Moreover, I had my first extended conversations about the eating of primates, particularly chimpanzees. In Sierra Leone, I had visited a chimpanzee sanctuary and an island monkey sanctuary that contained several kinds of colobus monkeys. In my experiences, and according to the caretakers of these sanctuaries, foreigners from Western, developed nations were the only visitors and supporters of such projects. When asked what they thought about eating chimpanzees, many Sierra Leonean and other Africans I met would say that they taste good, and that they feel stronger after eating such bushmeat. Some African individuals would point out that as Africans, it is their heritage and part of their culture to eat wild animals and by eating them they feel a stronger sense of cultural identity.

These discussions were held against the backdrop of a country suffering immense poverty and nutritional deficiencies. The United Nations Development Program (UNDP) Human Development Report has listed Sierra Leone at the bottom of 177 countries surveyed in terms of indicators such as life expectancy at birth, adult literacy rate, and gross domestic product per capita (UNDP 2004). In a country

where infant and child mortality are among the highest in the world, malnutrition rates in Sierra Leone are incredible, with a recent study indicating that 46 percent of child deaths are attributable to malnutrition (Aguayo, Scott, and Ross 2003). The malnutrition is mainly due to suboptimal feeding practices. The role of infant and child nutrition cannot be overestimated in healthy physical and mental development. Discussions I had on the reliable availability and accessibility of food and food choices therefore were often politicized and complex. While many of the problems stem from malaria, lack of breastfeeding, diarrheal disease, Vitamin A, iron, and iodine deficiencies, many Sierra Leonean I spoke with informally were very committed to the need to include meat, especially bushmeat, in their diet. For example, an individual would talk about the "need to get strong by eating meat," pointing to the malnourished people as evidence that those people did not have enough money to buy meat and that that was the main cause of their problem. In addition, some I spoke with considered bushmeat to be more culturally relevant than other meat, feeling that "As a true African, I must eat this meat." Others believed that bushmeat, particularly from primates, had properties not found in domesticated animals—properties that would make them stronger and tougher.

The bushmeat trade is an important interaction between humans and animals for many reasons. It has been proposed that humans have a biologically-based need to pay attention to other species of animals and other parts of the natural setting in order to survive (Kellert and Wilson 1993). This Biophilia ("love of living things") hypothesis describes humans' innate affinity with

nature. This affinity includes paying attention to potential food sources in order to survive. The hunting, trading, and consumption of wild animals have been and continue to be important in the areas of ecology, human and animal health, sociology, and anthropology. Human Animal Interaction scholars and clinicians come from a wide variety of disciplines and backgrounds and can add

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much to this debate. Bushmeat is especially vital in areas where other sources of protein are more expensive or are scarcely available. It is an important component of food security (Fa, Currie, and Meeuwig 2002). For example, it is plentiful and inexpensive in areas where meat from domestic animals is more expensive and scarce. Bushmeat is easily

transported, stored, and has a high value-to-weight ratio. Moreover, the bushmeat trade is very important economically. Although there are only rough estimates of the trade available due to its illegality and extreme difficulty to trace in some areas, estimates across countries in west and central Africa range from 42–205 million dollars (Davies 2002). The bushmeat trade cuts across several important human-animal interactions, including cultural values, ecological conservation, and emerging infectious diseases. Some of the factors that are important in understanding why the bushmeat trade should be studied are detailed below:

* Historically, humans' ability to hunt wild animals dictated their movements and activities. It has been partially due to the domestication of some wild animals that humans have had more flexibility to choose where and how they live. Changing humans' abilities to access bushmeat can effect mass population movements.

* Bushmeat is an important food source with good storage qualities in both rural and urban areas. Particularly in areas where food security is an issue, the bushmeat trade significantly affects the nutritional status of individuals, families, and communities.

* Through butchering and consumption of wild animals, zoonotic infections such as Lassa Fever, Ebola, and other diseases have come about. Retroviruses have been shown to pass from primates to humans through hunting and butchering (Wolfe et al. 2004).

* How humans and animals interact within the context of the bushmeat trade greatly affects the biodiversity and ecological balance of our planet, particularly jungles, forests, rivers, and oceans.

* The hunting and consumption of wild animals is important to many cul-

tures and groups. For example, it could be seen as a rite of passage, cultural identity, or spiritual journey. Bushmeat can be considered necessary for festivals and holidays.

* In areas where the bushmeat trade is large (particularly west and central Africa), it is an important to the economic livelihoods for many individuals, families, communities, and businesses.

* By studying the modern bushmeat trade, we also learn of the other factors influencing the habitat alteration such as nonselective logging, mineral mining, and rapid urbanization.

Much of the literature on bushmeat has been grouped into three categories: biological, concentrating on the impact of the bushmeat trade on wildlife, particularly endangered species; sociocultural, highlighting hunting methods, human consumption, and livelihoods; and institutional, focusing on policy and management strategies (Bowen-Jones, Brown, and Robinson 2003). All categories need to be considered or a very limited perspective of the trade will result.

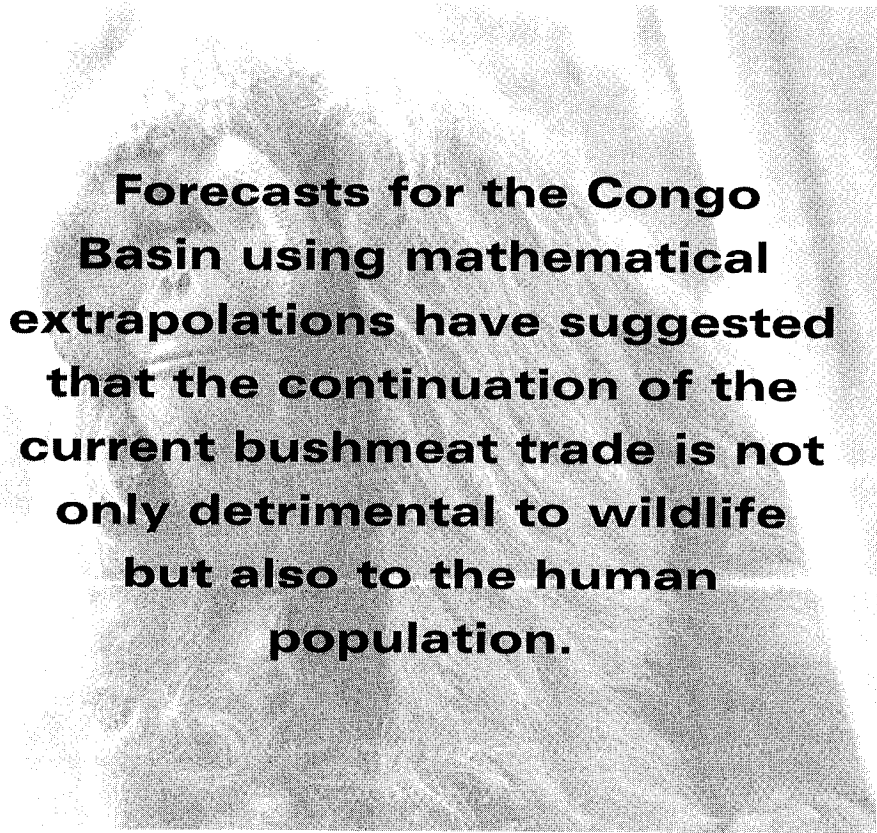
To design effective strategies and programs that affect the bushmeat trade, it is important to understand the complexity of the players and the context before defining the problems and developing interventions.

While there may be regional differences, the main problems associated with the bushmeat trade are zoonotic infections and decreases in biodiversity. Studies that quantify exactly the extent to which the bushmeat trade is unsustainable are scarce. Forecasts for the Congo Basin using mathematical extrapolations have suggested that the

continuation of the current bushmeat trade is not only detrimental to wildlife but also to the human population (Fa, Currie, and Meeuwig 2002). There is however a consensus among researchers that "if the bushmeat trade continues unchecked, species will become extinct and eventually the trade will also disappear" (Bowen-Jones, Brown, and Robinson 2003, 392). Animals that have a need for wide range or slow reproductive potential are more at risk of extinction. The Ape Alliance (1998, 1) has published a list of mammals most at risk due to the bushmeat trade, including

the Democratic Republic of Congo, are considered to have some of the highest concentrations and diversity of large mammals in the world. The impact of these and other related losses cannot be underestimated. However, it is important to realize that the bushmeat trade cannot be looked at in isolation. As described further below, the influences of the logging and mining industries, for example, not only have enabled the bushmeat trade to greatly expand but may be in and of themselves responsible for loss of wildlife habitat.

There are over two hundred different diseases that can be passed from animals to humans. Many of these diseases can be transmitted through contact with either domestic or wild animals. The specific dangers involved in the bushmeat trade have not been thoroughly researched. However, the bushmeat trade does bring humans into contact with animals, such as primates, who are genetically closer to us, thus increasing the risk of co-transmission of certain infections. Infection can occur through consumption, butchering, casual contact, bites, scratches, a



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vector such as a tick or mosquito, and licking, among other methods. Infections that are labeled to be "newly emerging" have been appearing due to changes in climate, human population movements, rapid urbanization, and other factors. The bushmeat trade has been partially implicated in this, since more humans are coming into contact with areas of the forests and jungles in search of making a living through hunting wild animals. Additionally, the bushmeat trade involves intimate contact between humans and wild animals

chimpanzees, bonobos, gorillas, and over twenty others. The prices of bushmeat are increasing and the volumes are decreasing. Much of the trade involves smaller animals who quickly reproduce. Researchers and environmental groups have put forth specific species, particularly primates, who are threatened with extinction in certain areas. These losses affect the biodiversity and the ecosystem balance throughout the immediate and surrounding areas. This loss affects the earth as a whole since some of the areas in which this is occurring, such as

through the butchering, transfer, and consumption of the latter. The zoonoses (infections transmitted from animals to humans) that have received a lot of press include: HIV, which is thought to originate from primates in West Africa; the virus that causes SARS, which appears to have originated from wild animals in China; and "mad cow disease," or variant Creutzfeldt-Jakob disease, which resulted from humans eating beef from cows who were fed protein infected with bovine spongiform encephalopathy. High profile infections such as influenza, anthrax, the plague, and tularemia are also zoonotic infections.

Education about prevention of zoonotic infections is widely available among agricultural, medical, and research communities. Many of these recommendations do not reach the bush hunter or the local consumer. The most serious zoonoses associated with the bushmeat trade involve our closest cousins, the primates, and include viruses such as Ebola and Marburg, which can be fatal to humans. Numerous other infections caused by parasites and other microorganisms can occur due to the bushmeat trade.

Although thorough cooking methods can help to alleviate some of the infections, it has been shown that the act of butchering the animals, particularly primates, can result in transmissions of serious viruses and infections (Wolfe et al. 2004). We exist in a global society, and with rapid air travel, someone infected with Ebola or Marburg can reach metropolitan areas within hours of contracting the virus. Education is necessary for all involved in the bushmeat trade.

The interactions between humans and animals occur in complex environ-

ments. Becoming aware of such environments can help to explain and predict these interactions. It is important to consider not only the immediate context in which the bushmeat trade occurs, but also the global context in which debates, policies, and interventions are developed.

Unfortunately, much of the bushmeat trade, especially in West and Central Africa, occurs in areas that are not politically stable. Although countries and regions differ, the West and Central African bushmeat trade includes areas that are:

become more about the income than a protein source (de Merode, Homewood, and Cowlshaw 2003);

- * Lacking strong central government and are unable to develop or enforce laws and restrictions;

- * Lacking effective legislative and policy frameworks, particularly in regards to land ownership;

- * Isolated in that the jungles and forests can be difficult to access and are far from the capital cities;

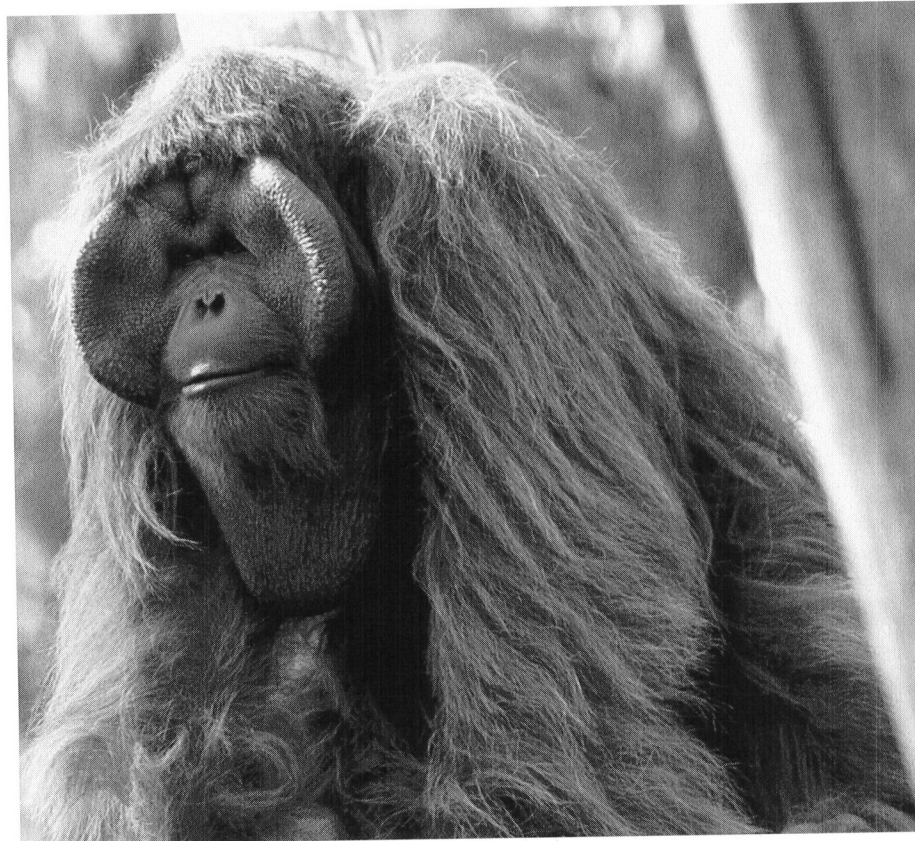
- * Building infrastructure that caters to the needs of logging, mining, and other

large conglomerate companies. Not only do hunters and traders sell bushmeat to the influx of employees, but these same employees often become hunters or poachers in off seasons. Moreover this infrastructure allows for greater transport and access to the forests and jungles.

- * Lacking economic opportunities for many people. Research has shown that money, rather than food, is often the main motivation for hunters, and with the increasing urban demand for bushmeat, many people are encouraged to

become commercial hunters (Bowen-Jones, Brown, and Robinson 2003).

The bushmeat trade in the global context involves people who speak mainly on behalf of the animals and habitat, and those who advocate for the local human needs. Some individuals I met could not even listen to the "side" of the animals because they were so disgusted with the "West" for caring more about animals than people. There are many cultural misunderstandings and gaps between these two parties. It may be difficult for someone lobbying on behalf of



- * Recovering from or in the midst of civil or regional conflicts with resulting massive population movements, unsafe areas, increased availability of guns and ammunition, and general chaos;

- * Incredibly impoverished with high levels of malnutrition, so families look to any available alternatives to sustain their livelihoods. This makes it difficult for outsiders to expect the hunters and traders to give up the trade when there are no viable alternatives of reliable income. Research has shown that even in very poor households, bushmeat has

the chimpanzees, for example, to even imagine why it is that people continue to hunt and eat them. Some may be appalled and disgusted at the hunting methods and not be able to see past that issue. Others cannot understand why foreigners want to take away one of the only reliable sources of income for so many families living in unstable and desperate conditions. Families may wonder why outsiders are so offended by their cultural practices and norms that they want to take them away. Policies may be developed at an international level that may never be implemented at central, regional, or local level due to mistrust, mismanagement, and lack of resources. Representatives from various sides do not appear to be able to work well together and develop strategies that benefit each other and reach some common goals. Other stakeholders involved may never be invited to sit at the table, such as logging companies, and trading representatives, who are typically women. The bushmeat trade is marginalized from international and national decision making (Bowen-Jones, Brown, and Robinson 2003) and any available financial planning and statistics do not reflect reality. It is important to understand more about those involved in the bushmeat trade.

Any intervention to influence the bushmeat trade must take into consideration the "players" involved: their priorities, world views, activities, and behaviors. The bushmeat trade can involve a simple hunter-to-consumer link. Researchers studying the bushmeat commodity chain have shown it to be more complex (Bowen-Jones, Brown, and Robinson 2003; Cowlishaw, Mendelson, and Rowcliffe 2004). With increasing urbanization and improved transport, the trade has

grown to include several different groups of players. The main groups involved in the trade are hunters, wholesalers, traders, chopbar (a type of popular roadside restaurant) operators/market stall owners, and customers. It is tempting to simply divide hunters into two groups—local, indigenous hunters feeding their own families, and commercial hunters who supply the urban centers. This is not the case. The lines between what local and commercial hunters do often blur. While commercial hunters generally depend on bushmeat for their livelihood, other farmers may sell bushmeat to supplement their income. This can change from season to season and region to region.

The customers can also be quite varied. Customers of different regional and ethnic groups prefer different kinds of bushmeat (Fa et al. 2002). The customer can range from an impoverished malnourished local family bartering for the goods to wealthy expatriates in Britain or France who pay high premiums to have the meat illicitly shipped. Large quantities of bushmeat of all types are available in most urban centers in areas where bushmeat is accepted. It is an integral part of the urban market system. Visiting these larger urban markets, one finds just about every type of meat hanging in open stalls, kept live in cages, and as part of the regular fare at roadside restaurants.

Recommendations for Future Strategies

Many different strategies have been discussed, developed, and attempted. Unfortunately there have not been many interventions that address the needs of the human and animal livelihoods together and work toward common goals and mutual benefits. Interventions have

been designed to directly protect the wildlife through the banning of practices; provide incentives to the hunters to hunt animals that are not in danger of extinction; provide economic alternatives to the bushmeat trade; replace bushmeat with domestic animals and other alternative protein sources; and decrease consumer demand.

Many of these strategies have failed because they do not adequately take into consideration the context of the bushmeat trade and do not view the human animal interaction as a unit of study, but rather as separate target areas. For example, blanket conservation approaches to propose widespread banning are too expensive for countries to enforce and generate bad will since many species within a banned area can withstand some hunting and the ban negatively affects local livelihoods. The bad will generated through these approaches prevents partnerships from developing and may increase the demand. Selective hunting has been difficult to implement, since hunters using traps, guns, and other methods will hunt any animals they come across. The technology that allows hunters to selectively hunt without using great amounts of their time and resources is not available and there is not very much research into "cost effective differential snare technology" (Bowen-Jones, Brown, and Robinson 2003, 395). In addition, the infrastructure to enforce selective hunting is not in place in many areas. In many areas the infrastructure is also not in place to significantly provide alternative economic opportunities. Small scale projects may show limited success, but implementing them on a broad enough scale to increase biodiversity has not been forthcoming. Strategists will do well to

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remember that these are areas suffering from intense poverty, corruption, and instability. If people could sustain livelihoods in other fashions that do not involve illegal and illicit activities such as hunting and trading in endangered animals, they would have by now.

Influencing consumer demand is complex, as consumers in the bushmeat trade may eat bushmeat out of preference or out of need for an inexpensive source of animal protein. Efforts to curb demand may raise it among the urban middle class since it will be seen as more valuable, while efforts to curb demand among those reliant on it for basic protein will damage human livelihoods since in many of these areas there are little alternatives that are as cheap and accessible. Captive breeding programs have been proposed as a way in which local demand can be satisfied without reducing the wild stock. Unfortunately, "there is evidence that the major species with potential for domestication have long since been discovered and there are doubts as to whether the targeted wild species have (or can be bred so as to develop) the behavioural and reproductive patterns conducive to domestication" (Bowen-Jones, Brown, and Robinson, 396). Domestication programs can lower the price of bushmeat, which may result in increased hunting for those hunters without alternative livelihood options.

Conclusion

The bushmeat trade will not disappear. This trade should be transformed into a system that can both protect vulnerable and endangered wildlife species and promote people's livelihoods. There is a need for multipronged approaches grounded in respectful, international partnerships that address both the decrease in biodiversity and the maintenance of human livelihoods. Governments are more likely to cooperate if they feel included from the start and if the protection of their human citizens is also a priority. Practitioners and researchers from areas such as wildlife ecology and conservation can work with

business people, anthropologists, political scientists, economists, sociologists, health care workers, and psychologists to further study the interaction between humans and animals within the bushmeat trade. These teams will examine the contexts in which these interactions occur and therefore generate more effective and viable solutions. This kind of partnership development will take much time and some stakeholders will need to put aside biases and assumptions about what is the right way to live. The developing field of HAI has a place in such ventures, as it is a field that crosses many disciplines and backgrounds and does not prioritize humans or animals, but rather the interactions, activities, and behaviors within complex contexts.

NOTES

1. Animal Assisted Therapy "is a goal-directed intervention in which an animal that meets specific criteria is an integral part of the treatment process. AAT is directed and delivered by a health/human service professional with specialized expertise, and within the scope of practice of his/her profession" (Delta Society 2004).

2. Animal Assisted Activities "provide opportunities for motivational, educational, recreational and therapeutic benefits to enhance quality of life. AAA are delivered in a variety of environments by specially trained professionals, paraprofessionals, and/or volunteers, in association with animals that meet specific criteria" (Delta Society 2004).

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