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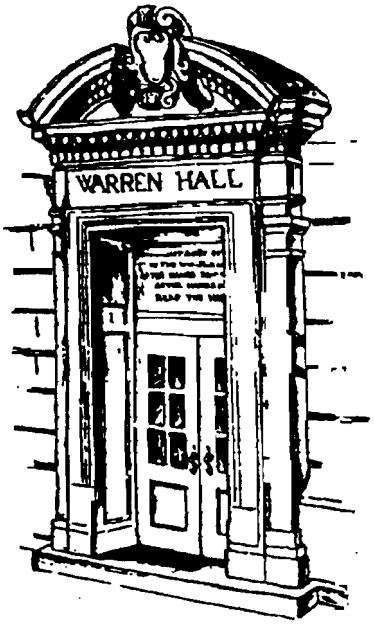

Staff Paper

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APARTHEID AND ELEPHANTS

The Kruger National Park in a New South Africa

An Essay

Duane Chapman

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APARTHEID AND ELEPHANTS

The Kruger National Park in a New South Africa

An Essay

by Duane Chapman*

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> *It is said that on Liberation in Zimbabwe certain villagers went out into the bush and slaughtered large numbers of rhinos and other animals, because concern for them had become associated with white values: care for animals, but indifference to themselves.*
>
> *--Doris Lessing, African Laughter*

Lessing was unwillingly exiled from her Zimbabwe home when it was Rhodesia, by Ian Smith's government. Lessing was then a Marxist. In the new Zimbabwe, she is honored for her success, but the socialist government is not always comfortable with her commitment to integrity.

Writing about Zimbabwe, she has also defined the dilemma of South Africa's Kruger National Park. South African Blacks have no ideological or emotional attachment to the White monuments of the past. The Voortrekker monument in Pretoria or the Kruger National Park in the Eastern Transvaal: both may go. However, the Park is a unique asset and problem for the world, as well as for South Africa. It has achieved incredible success, and created the conditions for its own destruction.

In 1902 the newly created Reserve held few people or wildlife. Two thousand Blacks lived there, and 60 Whites. There were no elephant nor white rhino. Careful tracking counted one black rhino, five each of hippo and gi-

raffe, and nine lions. The great herds of zebra, buffalo, and antelope had been decimated by hunting before and during the Anglo-Boer War. Or, perhaps equally plausible, disease and cyclical drought had prevented this "lowveld" from ever attaining stable, high levels of animal life or human society.

Now, 90 years later, concentrated focus on effective management of nature and tourism has generated a tremendous success. The five million acres of the Kruger National Park combine with five hundred twenty-five thousand acres in private game reserves on the western edge of the Park to create a dramatic picture of wildlife success.

The Table shows the South African achievements. In combination with potential neighboring territories in Zimbabwe and Mozambique, this region could become the global African equivalent of America's Yosemite Valley.

THE AFRIKANER SUCCESS

The Park's Afrikaner management has achieved its success by a single-minded, disciplined focus on the Park itself. It has a significant research program that provides the basis for what is fairly called scientific management. In 1992, 150 research projects were underway. They covered tsetse fly and malaria, cheetah demographics, elephant ecology, and water and air pollution.

This emphasis on the integration of science and management reflects the contemporary reality of wilderness preservation. Wilderness must be managed in order to be protected. Fences, for example, are necessary to separate animals from people, but in the process the fences halt the seasonal and drought cycle migrations of wildebeest and elephant. Animal populations in a "wilderness" are in fact artificial, in the sense that habitat, food, and predation

Table: Wildlife in Kruger National Park in 1903 and 1993

	1903	1993
Elephant	0	7,300
Black Rhino	1	220
White Rhino	'exterminated'	1,400
Hippo	5	2,700
Giraffe	5	5,700
Buffalo	8	28,000
Eland	'exterminated'	850
Roan	'exterminated'	420
Tsessebe	'exterminated'	1,200
Wildebeest	50	13,500
Kudu	35	10,500
Ostrich	'exterminated'	some
Zebra	40	31,000
Impala	9,000	130,000
Lions	9	2,300
Leopard	'numerous'	900
Cheetah	'very scarce'	250
Crocodiles	'swarming'	'several thousand'
Visitors	0	700,000
Cars	0	200,000
Revenue	0	$26 million

are all influenced, and strongly so, by human actions on both sides of a park's fence. In 1993, major rivers in the Park are dry even at the end of the rainy season. This is because diversions for agriculture and industry, and perhaps climate change, have eliminated the rivers' flow through the Park into Mozambique. But wells and windmill pumps now create ponds and lakes, providing substitute water sources for the absent rivers.

The modern goal is biodiversity, or ecodiversity in a broad sense, setting aside from human-induced extinction as much as possible of a region's original plant and animal life. The Park is managed in such a way that all of the endangered large carnivores and grazers common to Southern Africa are present in stable populations. The list is impressive: cheetah, leopard, honey badger, antwolf, brown hyena, elephant, crocodile, and the black and white rhinos. The large mammals not currently endangered are also present at healthy population levels: hippo, lion, buffalo, zebra, wildebeest, and several kinds of antelope. The biological ecosystem --grass, trees, and water -- is managed to provide an almost natural environment for these animals.

The Park has more wildlife species than any other park or reserve in Africa. For the Kruger Park, this diversity is extensive. The numbers show the scale: 200 tree species, with another 180 shrubby trees, and 1600 species of grass and bush. The wildlife includes 150 kinds of mammals, 500 bird species, and more than 100 types of reptiles. The number of insect species is uncounted: there may be 2000 different species of dung-eating beetles.

But accepting the goal of ecodiversity raises unpleasant choices. For example, in dry years unrestricted elephant populations would exterminate the Park's spectacular prehistoric baobab trees. This unique tree is not annual.

It grows like a sponge in wet years, and holds moisture in dry years. The oldest individuals exceed 4,000 years in age.

Extreme fluctuations in animal population levels would result in painful suffering from starvation and thirst in bad years. This is because good rainy seasons accelerate population growth, and subsequent drought can wreak catastrophic loss. The Park's approach to this dilemma has been culling, a polite word for removal with consequent processing in meat packing operations. I write this without pejoration. It may be inevitable, given the existence of human-made wilderness and the goals of biodiversity and stable populations.

In good years with high rainfall and little disease, the Park's population goal is 7,000-7,500 elephants. The buffalo population is managed between 25,000 and 30,000. This means each elephant has an average of 600 acres and on this 600 acres are an average of 4 buffalo, 18 impala, 4 zebra, 2 wildebeest, and lesser numbers of the other wild animal life.

The books by Cynthia Moss and Raymond Bonner have given new focus to Kenya's Amboseli National Park. But the Amboseli and the Kruger are on different scales of magnitude and are managed very differently. The Kruger is 50 times as large, and has a 9-fold larger elephant population. The elephant density per acre in Amboseli is 5-fold higher than that in the Kruger.

Because the Amboseli is managed for elephants, rather than diversity, it has become uninhabitable for many of its animal residents of 30 years ago. Rhino, giraffe, large antelope, baboons, and monkeys have been lost or greatly reduced in number as Amboseli's growing elephant population has destroyed 90% of its woodland.

In Africa, adult males are "bulls" and females are "cows." These terms are scientifically correct, but seem like small words for intelligent social

animals that can reach 14 feet in height, and a weight of 7 tons. Apart from humans, adult elephants have no enemies. Lions, crocodiles, rhino, and all other animals do not dispute water or grazing rights with adult elephants.

A large clan may be led by a healthy, mature "grandmother" and can include sisters, daughters, and their young daughters and sons. Adult males have less predictable arrangements. They may travel singly, in twos or threes, or in small groups. An adult male may join a clan for an affair with one of the females. The actual arrangements are less precise than this, and families and friendships change in response to rainfall, population growth, culling, and poaching.

Culling in the Kruger is the major management tool for stabilizing elephant and buffalo population levels. It has two very different purposes. Capture and transfer moves elephant, rhino, and other animals to new locations in Africa and throughout the world. But culling for elimination is the primary activity.

BONNER AND MOSS

Bonner and Moss each wrote outstanding books. Bonner's 1993 *At The Hand of Man* is a truly startling report on conservation politics in Africa. Moss's *Elephant Memories* is a lyrical ethnology of Loxodonta africana, prose reality that transcends empiricism.

Let me elaborate by saying that I don't know Raymond Bonner, but I like him. More to the point, I also dislike most of the things he dislikes. This listing of dislikes includes: conservationists with tripedal hyphenated names, CIA alumni active in African wildlife policy, corrupt public servants,

and highly paid international environmentalists who pursue cooperation with African governments that brutalize their citizens.

Cynthia Moss likes many things I like. She gives human names to animals, and writes about their families rather than their herds. I know this is anthropomorphic and may be unscientific, but it is very appealing.

Bonner and Moss do not agree on elephant hunting, culling, and ivory trade. Their dispute originates in economics. An adult male may be carrying two ivory tusks weighing 40 pounds combined. A female adult might typically have 10 pounds total. At the Park boundary, a representative value would be $50 per pound: $2,000 for the adult male. By the time the ivory has been shipped illegally to Asia, its value is $40,000. It is this economic value that drives the trade in poached ivory. A poacher could be a park ranger in Kenya or a refugee from Mozambique. His employer or buyer may be a White African, or an Indian, or an Asian. Typically, the poacher's personal choices are poverty in a declining economy, or a large profit for a few hours work with an AK-47 and a chainsaw.

Bonner discusses an independent study of conservation in Kenya which recorded a 97% decline in rhino and an 85% fall in elephant populations. Poaching and corruption were blamed, and Bonner said the same situation existed in Tanzania, Zaire, and Zambia. No adult animal is safe; tusks are being removed from drugged elephants by park staff to reduce the odds of death by poaching.

In contrast, the Kruger Park still has adult males with large tusks. This is in spite of their high value to poachers. The major reason is a military-type discipline in dealing with poachers. The South African Defense Force worked with the Park Ranger Staff to develop armed response teams using

helicopter attacks from remote locations in the Park. And, if poachers survive arrest, they are imprisoned for 10-15 years.

The number of impoverished, well-armed Mozambican refugees that passed through and around the Park is informally estimated at half a million. But poaching is now usually less than 20 elephants and 5 rhino each year, a real accomplishment for the Park.

Earlier, I referred to Afrikaner management. This is a considered conclusion; the Park has been Afrikaner first, and White second. The Park is named after Paul Kruger, Afrikaner President of the Boer South African Republic in the Transvaal in the late 1800's. He had struggled for 15 years to establish a wild game reserve in the lowveld; his efforts were ended by the Anglo-Boer War and his exile. Stevenson-Hamilton's 1902 appointment as first chief warden was made by the newly-victorious British. In the 36 years since his death, the chief warden has usually been Afrikaner, as have been almost all of the National Park Board Trustees. The Park's offices and housing are spartan. Headquarters is not in Johannesburg but literally in a field in the Park. I say this not to be disrespectful. (My feeling is quite the opposite.) I admire and support this commitment to accomplishment, not show or status.

However, in a truly epic sense, the strengths of this Afrikaner commitment to the Park carry the seeds of colossal failure. It is the Afrikaner's apartheid itself which has created the social problems that may destroy the Park.

THE JEW FROM DURBAN AND THE BLACK FROM TOKOSA

It is still with shock that I recall Richard's claim to be the first Jew to work in the Park. I say "claim" because I do not personally know this to be true, but I have no reason to doubt its veracity. Richard says his interest in tourism led him from a Teknikon in Durban to Park administration, and he finds his work in reservations for rondavel huts and chalets assignment to be a short term, interesting job. He plans a career in tourism or hotel management, in South Africa. He says that before 1993 no Jew wanted to work in the Park, and the KNP didn't want anyone else but Afrikaners or English. Richard's family has been in Africa for 300 years.

By coincidence I introduced Richard to Matthew one evening, and listened to them exchange experiences on their respective firsts over several evenings at dinner. They surprised me on my last evening in the Park by coming together to my place with wine and good wishes for the future.

Matthew is the first Black to have a professional job in the Park: he is an assistant manager in one of the Park's grocery stores. Actually, in South Africa's complex terminology, Matthew is Coloured, meaning his first European language is Afrikaans rather than English, and his ancestors are Dutch and Nguni. He was born just west of the Park, and went to Johannesburg for work. It is there that he met his wife, a schoolteacher in Tokosa. They look upon the Park as a refuge, a safe haven. Richard and his wife talk by phone about Tokosa's killings, and they want to be together in the Park.

At least 85% of South Africa's population is not White, but in 1993 the highest professional/management position in the park is held by Matthew, the Assistant Grocery Shop Manager. He is in his 40's, and he studies at night to

improve both his English and Afrikaans ability. He is very interested in accounting, and only a little in wildlife.

In fact, if Matthew had attempted to pursue a degree in science or management between 1950 and 1980, he could have been jailed. Math, science, engineering, and business management were prohibited for Blacks at White universities in South Africa. If he continued to attempt to study at a White university after his release from jail, he could have been murdered. Several White professors who opposed Apartheid were assassinated by the South African government. Assassination and imprisonment were commonly the reward for Black opposition, but Whites were victimized by their government also.

Now, in 1993, when the Park's White leadership would like to work with Black colleagues, those Black colleagues are not present. To my knowledge, by 1990, no Black South African had been permitted to earn a Ph.D. in science, engineering, math, business, or economics, at any predominantly White universities in South Africa.

This is "Whitewashing." This is a "Not in Africa Syndrome," a pretense that South African Whites are living in Europe. It has extended to the erasure of Black history in the Park and throughout the country. Before the arrival of the Afrikaner settlers, the Northern half of the Park was the location of mining, smelting, and fabricating with gold, iron, and copper by African Blacks. Many of South Africa's copper and gold sites were first worked by Black Africans before their later development by Europeans. But, throughout the Park's history, this Black history has been avoided. The goal has been to present a picture of an empty garden developed by Whites. Stevenson-Hamilton encouraged this conceit with his own history titled *South African Eden.* One

Park leader suggested that this whitewashing was done to reduce future Black claims for reparations.

Now the Park is scrambling to correct this problem. It is considering major educational programs on Black African gold works in the North, and iron making near Palobara. Another indication of the new attitude is the plan for a new Environmental Sciences College, which could be sponsored by the Park. It would be open to everyone in Africa, providing a place to exchange learning and ideas on topics from elephant ecology to acid rain prevention.

These efforts are more than a penance. The Park wants to accommodate a new government and a new South Africa. Is it too late?

WOULD HEMINGWAY SHOOT DAIRY COWS?

The African National Congress has more pressing concerns than the Park. South African Blacks continue to be ineligible to vote in South Africa until April 1994. Black unemployment exceeds 50%, and education, health care, and the economy are all declining. The ANC's first concerns are political rights and economics.

I have known Paul Jourdan by mail and fax since 1989, and in person for two years. We share a professional interest in industrial development. He holds an undergraduate degree in mining and a Ph.D. in economics. His family (White Afrikaner) has been in Africa for centuries. He was in exile for much of his life.

Jourdan works for the ANC now, hammering out economic policies on mine ownership, macroeconomics, and trade. And, when there is time, environmental policy. Paul believes that hunting in the Kruger should be studied. His focus is on the trophy fees that might be collected for an ANC Government. In

Tanzania these average from $4,000 for an elephant to $600 for a buffalo. Total fees paid to the Tanzanian Government exceeded $12,000 for each hunter in 1991.

One serious obstacle to the introduction of hunting in the Kruger is the interaction between hunting, animal life, and tourism. Today, the Kruger mammals do not associate vehicles with hostile intent. A car, even an open vehicle, can approach a relaxed lion or elephant as close as 30 yards before irritating the animal. Antelope and baboons are equally accustomed to tourist visitors. This accommodation of tourist and animal is possible now because hunting is absent within the Park.

The coexistence of wildlife and tourism could be terminated, however, if hunting is initiated. Although they all seem intelligent, I do not think the Kruger animals would differentiate vehicles, planes, and people-on-foot according to whether they were hunters, scientists, or tourists. The smaller hunted animals would learn to avoid all humans, including tourists. The larger animals would probably have a more complex reaction. They could become quick to anger or flee, and might learn to retaliate against humans without guns.

In 1993, ten people in game reserves were killed. Three were trampled by elephants, and six were killed by lions. The chief anti-poaching ranger in the Kruger was killed by an elephant a few days before I would have met with him; I was in his office the day of his funeral. A second elephant victim was in another reserve. The car was tossed and trampled by angry elephants. One of the lion victims lived across the street from my friends' home in Durban where I stayed. She was eaten, and her husband was badly mauled, after they finished an outdoor barbecue in a Natal game reserve. (My wife, in a

moment lacking in charity, was pleased by the poetic justice: the family owned a meat packing plant.) In several of these cases, the animals had been trapped and relocated. In the Kruger case, the probability is high that the attacking elephant had been part of a clan that had been culled or poached. This suggests that Kruger tourism and Kruger trophy hunting are incompatible.

Nor does hunting in Kruger make sense in terms of economics. Notwithstanding the high fees from trophy hunters, several hundred trophies and hunters would add just pennies each to the per capita income in the Eastern Transvaal region where the Park is located. Trophy hunting by foreign tourists is simply not the basis for economic development in a populated region.

Furthermore, there are enough foreign hunters of eccentric nature to bring the whole activity into question. I've heard of hunters who waited until their rhino had been wounded and immobilized by their guide and then, when it was safe, drove up in their Land Rover and emptied dozens of pistol shots into the paralyzed animal. And the rich marksman who did not know that his quarry had been drugged by his safari for him. And another marksman who did not know that the safari ranger staff stood behind him as he fired and gunned down the game he was unable to hit.

I am not a vegetarian and I am not opposed to hunting, although my wife is both. My own perspective is that hunting as a sport means individual effort, on foot or horseback, with a good chance of survival for the hunted, and at least a small risk for the hunter. I have tracked bear cross-country, in wilderness in Maine and Montana, without a gun, and found them. For me, big game hunting in Africa, with vehicle teams and aerial spotting, radio communication, and back-up sharpshooters does not qualify as sport. Entertainment perhaps, but not sport.

Paul has accused me of having some kind of macho Hemingway complex. After considerable thought, I agree. Many foreign big game hunters in Africa would be happy chasing a cow in a snowmobile, especially if it was a longhorn and thus suitable for mounting and boasting.

In the end Africans will have to decide; but if I was eligible to vote on hunting in the Kruger, my vote would be No.

BUFFALO RANCHING IN THE KRUGER

Professor Stanley Sangweni (University of Natal at Pietermaritzburg) is active in the ANC's Environment Desk (British and African for "Environment Department"). He is particularly interested in reclaiming for Blacks land from which they were dispossessed by the apartheid system. Eighty-seven percent of South Africa's land has been taken by White South Africans in the past three centuries.

Understandably, the management successes at the Kruger are not high on his list of significant subjects. He does think, however, that the economic potential of cattle ranching in the Park should be carefully investigated. The motivation is concern for improving the living standards of the Blacks living around the Park.

A common estimate of the population in the Eastern Transvaal bordering the Park is two million. There are three major groups. One is Mozambican refugees, perhaps as many as half a million, concentrated on the northwest. Another one and a half million people live in Lebowa and GazanKulu, two Bantustans/homelands. There is no good name for these places. They were created as a hybrid cross between the U.S. Indian reservation and the British concen-

tration camp. In my view, they are wholly corrupt, their leadership supported by funds from the existing South African Government.

Dr. Sangweni's childhood home was in a Black rural community to the southeast of the Kruger. His personal and political identification is wholly with the Blacks at the Park's boundary, where ANC supporters live in dust and poverty. The money income in the homelands is about $300 per capita per year. Most of this $300 probably originates from remittances sent from relatives in urban areas, and from the dribble down effect of Government expenditures. In economic terms, the gross private domestic product (the income originating from private sector activity in the region) must be essentially $0 per capita. The situation is even worse in the Mozambican squatter camps.

The potential pasture on the East side of the Kruger boundary fence understandably looks attractive to individuals who graze animals in dust and rocks on the other side. The ANC's position has been that this possibility merits investigation. This is particularly true for the 525,000 acres of privately owned game reserves within the Kruger ecosystem. These private reserves are on the Kruger side of the fence, and wildlife can move unhindered between public and private lands.

The day I visited a private camp in the Sabi Sand reserve, I had 25,000 acres completely to myself. I had the opportunity to start walking the river beds and bush before dawn, with a knowledgeable and enthusiastic ranger, tracking leopard, rhino, buffalo, and zebra. Rates at the private reserves begin at $300 per day per person and range up to $700 daily. So the western fence separates the homelands, where people may earn $0 per day and exist in poverty, from persons who spend $300 plus, and have 25,000 acres per person to explore.

However, cattle ranching in the Kruger has no economic future. These lowveld regions were abandoned by White ranchers and farmers because they have little rainfall, poor soil, and considerable disease. In this region the average large grazing animal requires 35 acres, and in densely populated areas in GazanKulu each animal may require 100 acres. In extreme contrast, the best pasture in the U.S. can support one animal per acre.

One way of approaching the economics is to begin with the concept that sustainable utilization would be applied to wild game, and look at the potential sales of buffalo carcasses. Slaughtering 3,000 buffalo annually would permit a constant buffalo population of 25,000-35,000, the current level, in the Park. (An equivalent number might be taken by predators.) Sales would be about $2 million annually, which translates into $1 per person per year. Even increasing this 1,000% means only $10 per person per year, and would require much higher cattle numbers and a reduction of other kinds of wildlife and ecosystems.

It is safe to predict that in any sections of the Kruger opened to communal cattle ranching the land would degrade until it matched the land now on the west side of the fence. And the people involved could be bound to a life of eternal poverty.

Prof. Sangweni emphasizes his belief that economic opportunity in South Africa's industrial areas would empty the homelands. In the end, the future of the Kruger depends upon the growth in living standards of all its citizens, and the economic opportunity for the residents of the Lebowa and GazanKulu areas and the Mozambican refugee camps to escape those locations to better lives. A family must have a house, a car, and regular meals before they think about watching wildlife rather than eating it.

IN THE MEANTIME

Until then, there are two ways that I think the Kruger can make an economic contribution to its region. First, the Park can raise its fees to foreign visitors and distribute this revenue within the region for public sector investment in schools, health care, and roads. Fifty percent of KNP tourists come from outside of Africa: Europe, Japan, Australia. The typical trip costs the visitor about $2,000. But at the Park, the revenue is only $40 for a stay of several days. This $40 includes accommodations and meals as well as fees. The admission fee itself is only $8, whether the stay is one day or several weeks. Admission fees alone for foreign visitors could easily be increased by $50, adding $20 million to the Park's revenue, without reducing visitor levels.

This amount, while making a large increment in KNP revenue, adds only 2.5% to the visitor's trip cost. It seems clear that higher fees can make more money for the region than cattle or buffalo ranching, and, unlike cattle, are not destructive to the Park. Allocating these funds to public sector investment is analogous to the U.S. Government practice of making payments to school districts and local government in lieu of property taxes on Federal property.

Ecotourism is often seen as a possible engine of clean and green economic growth in South Africa. A Johannesburg columnist suggested this caustic definition of an Ecotourist: "Someone who speaks German or Japanese, whose camera is worth more than your car." But ecotourism by itself cannot significantly raise living standards in the region. Research has shown that 70%-90%

of the wildlife tourist dollar goes to the tourist's home country for air fare, car rental, in-country hotels, and so on.

In addition to the low economic multiplier, tourism in the Park cannot increase above its current 700,000 visitors without significant increases in Park investment in lodging and roads. The consensus of KNP personnel is that 700,000 visitors is a point of change. In American terminology, this is the sustainable carrying capacity for tourists. The Park can handle this load, but beyond this the negative impact is believed to be more than proportional to the increased benefits. Perhaps this "tourist carrying capacity" of 700,000 is analogous to the elephant carrying capacity of 7,500. (There is, however, no "tourist culling" to parallel elephant culling.)

Considering the actual context of the real conservation achievements at the Park and the horrendous political problems created by the South African Government, I think international financial support is the only obvious basis for guiding the Park into a future with a new government in an independent South Africa. Perhaps this should be part of a larger program for conservation support, analogous to the Global Environmental Facility at the World Bank. Funds allocated directly to the first independent government and to the KNP would be money spent for a good purpose.

Economists have an arcane phrase, "contingent valuation." Translated, it means valuing places that have significant non-dollar value apart from markets. The Kruger qualifies on two dimensions: option value and existence value. Option value means that I may wish to see a contribution made now so that at some future date I can choose to visit the Park. Existence value is related but distinct: it reflects the value we may see in the existence of a species, or an historical area, or a uniquely beautiful place. We need not

ever consider seeing the object of existence value in close physical proximity. We value its existence apart from ourselves. On this basis, with all of its very real faults, a new Kruger Park in a new South Africa deserves our support.

Note: A bibliography of references on the Kruger National Park is available from the author.

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