



Creating the Nation's first BioPark

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Letter from the Desk of David Challinor
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Last month Jeffrey Short's interesting guest letter was mailed to all of you and I plan to solicit other Council members to share their knowledge and interests as Jeff did. When I returned from South Africa on 31 January, I called Jeff to thank him for his help with our trip and learned that his wife Barbara was in the hospital's intensive care unit with pneumonia. I am happy to report that she is now (2/15) out of the hospital and at home recuperating.

This month's letter will report on my trip with my wife Joan to South Africa (1/15 to 1/30), which began with a nonstop flight from Miami to Cape Town. The plane, a new Boeing 747-400 series, was full and the flight took just over 13 hours. Unlike flying to Europe from the East coast of the United States, the long duration permitted a full night's sleep, and consequently an easier adjustment of our internal clock.

On arrival we were driven to the Vineyard Hotel, a delightful former mansion near both the Botanical Gardens and the University of Cape Town. The Gardens, once part of Cecil Rhodes' estate, are on the slopes of Table Mountain and overlook the city. They are well maintained and emphasize the trees and plants of southern Africa. The cycad collection is impressive and the abundance of flowering proteus was awesome for me. Broad open lawns, interspersed with groves of trees and flower beds, invite the visitor to explore its beauty and enjoy the view. Clawless otters live in the streams, which contain abundant fresh water crabs for them to eat. Francolins and Guinea fowl are commonplace in the gardens and the bird watcher will be challenged to distinguish the different species of sun birds.

The University of Cape Town nearby deserves its excellent academic reputation, particularly the science department where I spent my time. My program at the University was organized by Margaret Touborg, President of the University of Cape Town Fund in New York City. The Percy Fitzpatrick Institute of Ornithology is on the campus and has one of the best ornithological libraries I have seen. I spent several hours with a graduate student working on the naked mole-rat, which has become a popular zoo animal. These odd, hairless creatures live in subterranean colonies with a single breeding "Queen" -- much like a termite nest. The queen is polyandrous and she alone bears litters. We know relatively little about these animals and how they establish new colonies, but we do know that their eyes have atrophied from living in complete darkness. Their olfactory dependence keeps



the colony coherent; each member evidently has a characteristic smell that contributes to the colony's total distinctive odor. Should a member for any reason leave the unit for a while, his/her contribution to the colony's characteristic aroma would be lost; the colony would then adapt to a slightly different odor. Once adjusted to the new odor, the colony would probably reject a returning individual. The naked mole-rat's rudimentary eyes have evolved a non-sighted function: when stressed, they open their sightless eyes and use them to detect air movement, which would normally increase if a predator was enlarging a tunnel opening. The use of eyes for other than sight is now accepted in humans and atrophied eyes are no longer removed for cosmetic purposes. The eyes of the blind, we have learned, can assist in obstacle perception.

In addition to its role in the sciences, the University has aggressively promoted multiracial education, even during apartheid. Now about 50% of the incoming students are black, all academically qualified, but with many unable to pay full tuition. The University has thus opened an office in New York City to seek support for needy black students. In a discussion with the University Vice-Chancellor (equivalent to President), he made it clear that he felt the greatest disservice to the future of the country would be to lower admission standards. So far the universities have not done so, and I admire them for it.

It was particularly fascinating to witness the relatively peaceful transfer of political power from the white minority to the black majority -- an unprecedented event in our time. An air of cautious optimism prevails that a true multiracial government might work. Mr. Mandela enjoys almost universal respect and much of the country's future will depend on his health and his ability to control extremists, both black and white. Fortunately, the country now enjoys a free press. However, the newspapers, which have minimal foreign news, delight in publicizing peccadillos of government officials. This coverage can both help and hinder good government as we know from our own press.

We did learn that one of the major forces working against apartheid within the nation was sports. South African teams could not participate in any world championships and they understandably felt left out. Sports there have a cultural cast, which is just starting to break down. The white English speakers tend to dominate cricket, the Afrikaaners rugby, and the Blacks soccer. While in Capetown the newspapers reported on a young black secondary school cricket bowler, who evidently has great talent. He said in his interview that his role models were the West Indian cricketers who hold so many records in that sport. The evolution of multiracial sports teams is an encouraging sign and is bound to continue as a unifying force.

From Cape Town we flew to Johannesburg -- about two hours in a Boeing 747. The flight afforded a good perspective of the size of the country. Johannesburg is the country's industrial heart and it has none of the charm of Cape Town. Pretoria, our destination, is about a 1/2 hour drive north. It boasts a first class zoo not far from downtown, where I enjoyed a day with the Director, Willy Labuschagne, and his staff. His deputy drove me to the De Wildt Cheetah Breeding facility, once closely associated with the zoo, but now merely a close cooperator. It is run by Ann van Dyk, whom I met. She is an early pioneer in cheetah husbandry and has been remarkably successful in raising not only cheetah, but also the increasingly rare Cape hunting dog and the solitary brown hyena. In addition to entrance fees, she supports her program from an adjacent poultry farm that she also runs. A novel attraction for visitors is a vulture "cafe" where animal carcasses are left to attract four or five of the local species of vultures.

I also visited Rietvlie, a 6000 ha watershed reserve of Pretoria. The tract was assembled from local farms in the 1950's by a far-sighted water commission and today also serves as a fenced nature preserve. The largest predator within is the black-backed jackal, and the hoofed stock includes zebra, eland, impala, kudu, springbok, blesbok and white-tailed gnu. The latter three antelope were almost extirpated with the European settlement of South Africa, but they survived in scattered herds on a few large farms. As a result today they are only seen in such reserves as Rietvlie. NZP has a breeding pair of blesbok, but no white-tailed wildebeest, which looks and behaves quite differently from the more common brindled one of East Africa. The white-tailed male defends a lek (a discreet, roughly circular territory of about 100 m in diameter). He has a distinctive mane under his throat and longer horns than his more common relative. They are slightly smaller than the brindled and appear almost black as they stand motionless in the center of their lek. My guide through Rietvlie was Dr. S.S. du Plessis, the retired head of Transvaal Parks. His doctoral dissertation was on blesbok energetics (the flow of energy from the grass consumed to the growth of the grazer) at Rietvlie years ago and he was an incomparable guide.

Our trip closed with a three-day visit to Kruger Park with S.S. and his wife, Irene. It is a five- or six-hour drive east from Pretoria to the Park, and we spent the first night at Swadini, a public camp at the foot of the long north-south escarpment, just west of the Park entrance. Swadini's location is spectacular, with the steep cliff of the escarpment (about 1000' high) serving as a backdrop.

Before entering the Park the next morning, we stopped at another privately operated cheetah breeding facility owned by Lente Rhooide. This one was more elaborate than Ann van Dyk's outside Pretoria. It is really a private zoo concentrating on cheetah and a few other local carnivores. Visitors are driven through the area in Volkswagen minibuses by uniformed guides. The gift shop profits and entrance fees evidently cover a significant portion of the operating budget, but I would be surprised if the facility broke even; it may be subsidized. They are clearly raising cheetah successfully, including many of the spectacularly marked King cheetah. These animals have a recessive gene that produces two long black stripes down their backs and much larger lateral spots, some of which merge to form short black stripes. Du Plessis and I agreed that the cheetah bred here could only survive in the wild if released in restricted environments. He gave as an example one large fenced reserve with many blesbok but no lions or hyenas. Without competition from these two aggressive carnivores, the released cheetah overexploited the fenced-in blesbok and the preserve managers had to reduce the number of cheetah in the enclosure. Evidently this graceful cat is so spectacular looking that some people are willing to raise them solely for the aesthetic pleasure they give, even when only kept in large enclosures.

At the Park gate wardens check reservation papers and collect fees. Visitor demand is greater than the capacity of existing camping facilities in Kruger and South Africans are advised to reserve space a year in advance. S.S. du Plessis had about six months notice of our visit, but his past position, I am sure, gave him preferential treatment for his reservation for us. The landscape has more trees and bushes present than in East Africa and visitors to Kruger are more tightly controlled. You may not leave your vehicle nor drive off the roads, which are so well-maintained and extensive that there is little reason to do so. The megafauna is relatively abundant and visible with giraffe, hippo, elephant, zebra, kudu, impala, and Cape buffalo commonly observed. However, one needs luck to see the two rhino species. Lion, leopard, cheetah and hunting dogs are present, but chance determines whether or not you spot them. Hippo, buffalo and elephant are inventoried by plane every winter when the deciduous trees lose their leaves. The Park's carrying capacity is also carefully determined annually depending on rainfall and other factors affecting plant growth. When the data are analyzed, Park staff cull surplus elephants, hippo and buffalo, and process and sell the meat for local consumption. Such elaborate management can only be sustained by a heavy tourist visitation and a cultural acceptance of culling.

In the U.S., culling is controversial, but occurs nonetheless. Last January, for example, a group of Sioux from South Dakota returned home from the northern boundary of Yellowstone with the meat from four or five bison which they had legally shot beyond the Park boundary. Popular resistance to culling certain mammals seems to be waning in the U.S., especially when wildlife becomes a threat to human health as carriers of such maladies as rabies and Lyme disease, or to domestic animal health as in the threat of brucellosis transmission by bison. I foresee an increasingly manipulated wildlife population in the national parks of all countries as humans continue to crowd the land outside the parks at the same time as their demand for viewing wildlife increases. South Africa's long and successful experience in managing Kruger Park can serve as a model for the operation of Yellowstone and other large national parks.

With little more than a fortnight, a first-time visitor obviously can acquire only a superficial impression of a country, but we were blessed with a truly enviable reception at all levels from the Zoo and museum directors, university faculty, to our special guides on the trip to Kruger (the du Plessis). I was almost overcome with the enormous amount of endemism (organism limited to a certain region) and species diversity, especially in plants.

Politically and culturally the transition of South Africa to a multi-racial nation is worthy of close study by all. If the aspirations of the current government can be achieved peacefully, the award of the Nobel Peace Prize to Messrs. Mandella and de Klerk will have been truly justified and South Africa can proudly serve as a model for the future transition of power in other multicultural countries. We should all be listening to, and watching, this nation.

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