
Social Behaviour and Communication

Can it be that man is so locked in his own type of intelligence, an intelligence that is linked to a prehensile grasping hand giving him power over his environment, that he is unable to comprehend the intellectual life of a highly evolved creature from another domain?

Loren Easley

Animal behaviour has always fascinated me. Some of the happiest hours of my life have been spent watching animals, bartering food and my time for information and understanding. Elephants, I have read and I believe, understand death and at least some dogs do too. For most animals, I suspect that the 'thought' process is different from ours, but I am convinced that animals do think, even if it is along very different planes. Animals live in an 'older' world and for most of them it is a world where scent and sound predominate and where sight is of less importance.

I also believe that when the human species developed the ability to speak and then, much later, invented the technique of writing, we became so totally adapted to these forms of communication and so obsessed by their possibilities, that we forgot there were other, older ways of exchanging information and, possibly, thoughts. But animals still use such methods and still find them adequate to hold their social structures together.

Before I moved to Ngare Sergoi, I believed what I was frequently told and had often read, that the white rhino was a gregarious animal and the black rhino very solitary. As our hours of observation mounted, I began to see for myself that the latter statement was not true. I also became increasingly certain that the black rhinos were communicating amongst themselves, although for a long time I could not work out how they did it.

George Schaller, an eminent animal behaviourist, defined territory as the area which an animal will defend from other members of its species. Within this definition, I do not think that any of our rhinos are territorial, certainly not the females. Godot possibly regarded the whole sanctuary as his territory, but not any particular part of it. A home range is an area which an animal normally uses but does not defend. Some of the female black rhinos seem to have a home range, others do not. None of them show any signs of aggression towards one another, unless they are in very close proximity and have small calves.

Whether or not a black rhino has a clearly defined home range it will always have 'houses', usually under trees and large shrubs, where it lies up during the heat of the day. Although they will at times lie up anywhere, all our rhinos have several regular 'houses', some shared by many rhinos, others used only by one or two. I have never seen an altercation ensue if one rhino found the 'house' it was heading for already occupied.

These 'houses' are never in the valleys but invariably on high ground where there is most likely to be a breeze, and we have noted that the rhino will normally lie up tail into the wind. We have also noticed that if the rhino is lying under a tree with a large horizontal branch, it invariably aligns itself with the branch in such a way that its shadow blends with the ridge of the spine, making the animal nearly invisible. I believe the sites are chosen for security, and with its tail to the wind and its ears pointing forward the rhino chooses the optimum position for making use of its ability to hear and to scent. If we know a rhino is in a given locality we can often find it by searching its 'houses', and conversely if we search the 'houses' and find no rhino we usually suspect that it has left the area. Of course a rhino sometimes makes a new 'house', and that will have us searching for a while. Unfortunately, while the use of such 'houses' makes it easy for us to find and observe them, it also makes it easy for poachers to find and kill them.

As already mentioned, I believe that rhinos, like dogs, use their droppings and urine to communicate amongst themselves, and that the piles of dung serve as information centres. All the black rhinos have special areas where they defecate and scrape their dung, but they do not invariably use them. Sometimes a rhino will go to another rhino's heap and just smell it; at other times he or



A rhino can spray with such force that its urine may reach three or four metres (Gerry Ellis)

she will add droppings and scrape the lot. As we have seen the female uses her droppings and her urine to inform other rhinos if she is in season. The way Godot covered up an in-heat female's droppings presumably told other males that she was his. I often saw him walking nose to the ground following the exact route a female had taken some time before. When a female in heat urinates and scrapes when there is a male with her, he will go to the urine, smell it and make flehmen, and then turn and scrape it with vigour, sending soil flying in all directions. Presumably the more often a female stops and scrapes, the easier it is for a male to follow her. A male scrapes more or less vigorously depending on whether he is dominant or not.

A calf will almost invariably defecate when and where its mother does. Sometimes the calf defecates at the same moment in a slightly different place; sometimes it waits until the mother has finished and then uses exactly the same spot. Two adults moving about together will also frequently synchronise their defecation, and I have read that elephants do likewise. The calf scrapes from instinct rather than by copying its mother, as I learned from Samia when she scraped the very first time she defecated. Since her first droppings were extremely loose, this made a fairly spec-

tacular mess in the house. Some of my trackers have a different theory for the origin of scraping; they told me that it is because the elephant, whom the rhino respects, does not like to see any animal producing droppings resembling its own.

When we are expecting a new rhino in the holding boma, we go around and collect samples of droppings from all the other rhinos and place them in a row along one wall. When the animal is unloaded into the pen, one of the first things it does is to sniff at all these calling cards with great interest. We then collect samples of the new arrival's dung and put them around the sanctuary in various places to help to introduce the rhinos to one another before the newcomer is actually released, and it does seem to help reduce tension when the release takes place.

Rhinos also use body language resembling that of horses. Tail up means action of various sorts. Ears pricked mean interested and well-disposed. Ears flat back mean trouble. When the trouble is really serious, the nose is wrinkled, the lips drawn back and the mouth half opened. The nostrils and the ears are both more indicative of mood than are the eyes, which is what you might expect from an animal that lives primarily in a world of scents and sounds, rather than one of sights. This is a world difficult for us to understand, as sight is of such overwhelming importance for us. A glance at the dictionary will reveal what an incredible number of words there are to describe what we see, and how many fewer there are to describe sounds and hardly any at all to describe scents.

Poor eyesight is another reason for rhinos' eyes not being very expressive. Samia rolls her eyes when she is playing, and rolls them even more when she has knocked me down and I am remonstrating with her. She will then gambol around me, bucking and kicking, eyes rolling and mouth half open in what looks remarkably like a wicked grin, but she is just playing. When a rhino is really furious the eyes will be half-closed narrow slits.

Rhinos' social behaviour shows tremendous variation. Godot was far more socially active than Kelele is. Is that an individual variation, or will Kelele become more active as he grows older? I do not yet know the answer. For a female, the degree of sociability seems to depend almost entirely on whether or not she has a young calf, for then she becomes noticeably unsociable, having almost nothing to do with other rhinos. Shaba provides a good

example. In a period of one month we noted that she was seen variously with Godot, Amboni, Morani, Sofia and Juno - in fact, during that month we never saw her on her own - but since the birth of her calf, she has eschewed the company of all others until recently. However, in general black rhinos, although not truly gregarious, spend a good deal of time in one another's company, and meet with one another amicably. The following series of incidents, picked more or less at random from my notes, indicates both how interesting and how peaceful the normal interactions within a group of black rhinos are.

One day I was watching Kelele, Rongai and Amboni sleeping in the main valley. Rongai got up and wandered off, followed by Amboni, but Kelele continued to snooze. When he awoke he scrambled to his feet, looked frantically around and started to cry for his mother, who by this time was about half a kilometre away. She no doubt heard him but took no notice. Amboni, however, went back towards Kelele who rushed to greet him and they stood nose to nose for a while, then Amboni walked back to Rongai with Kelele following.

Another time I watched Amboni and Godot standing together nose to nose. The big dominant male gently pushed Amboni who took a step back, and then rubbed his head under Godot's throat. Godot then lay down and Amboni walked over to Juno who was lying under a tree about 25 m away. Juno heaved to her feet with a terrific snort and Amboni rushed back to Godot and the two stood nose to nose again. Once more Godot lay down and again Amboni advanced, but this time with greater caution. Juno stood looking at the younger male with her ears pricked but did nothing, and Amboni soon returned to Godot and lay down beside him, while the female backed once more into her bush.

Once Orogai and I were sitting on a hill watching two rhinos sleeping below us, hoping to be able to identify them. A herd of zebra was grazing peacefully nearby. Then Shaba appeared on the scene, walking towards them with Jupiter at heel. When she was about 15 m from the sleeping pair, she suddenly stopped, gave a terrific alarm snort and jumped backwards knocking her calf right over. From under her nose rose to view a very wobbly zebra foal, so newborn that its umbilical cord was still attached. The little zebra stood there, quite uncertain what to do. Meanwhile, with ears pricked, Shaba very cautiously stretched her nose

out towards it and Jupiter - who had picked himself up - tip-toed over to inspect the baby.

On hearing Shaba's snort, the two sleeping rhinos had jumped to their feet and revealed themselves as Juno and Solia. With the utmost caution, they too advanced on the little zebra. It stood stock still, surrounded by rhinos, poking out its little muzzle first to one and then to another. Three years earlier, when I knew nothing about rhinos, I would have been convinced that the little creature would be massacred then and there. Now I knew better and watched happily and with interest. The zebra's mother suddenly realised that something was happening to her offspring. She detached herself from the nearby group, trotted into the middle of the circle of rhinos and trotted off again followed closely by her tiny foal.

The scene then became even more interesting with the arrival of Stumpy and Bahati. Orogai and I moved a short way down the hill in the other direction, but had not moved more than a few metres when Orogai signalled for me to get up a tree - and quickly. As soon as I was up I saw why. Godot was standing only metres away and with him were Rongai and Kelele. All our rhinos were within about fifty metres of one another and that included Makora, as we soon discovered when we started to extricate ourselves from the middle of them.

One morning we were watching Stumpy and Bahati sleeping together, when Godot walked up and pressed his nose against Stumpy's cheek. She took no notice so he put his large horn under her chin and hoisted up her head - she took the hint and got to her feet. He then walked around her, sniffed under her tail, made flehmen and, having assured himself that she was not in an interesting condition, strolled off, totally ignoring Bahati.

Whenever Stumpy and Shaba met, their calves would play, having mock fights. Although Jupiter is more than a year younger than Bahati, he makes up in determination what he lacks in size. Once Orogai and I were watching Stumpy and Bahati - walking across the plains. Some considerable distance behind them, Jupiter was trotting along with his nose on their trail while his mother Shaba brought up the rear. We had no idea that Juno and her month-old calf were also in the area until she suddenly emerged from a bush. She had let Stumpy and Bahati pass without protest, but confronted young Jupiter with a very angry

snort. Jupiter got a serious shock, jumped backwards (which rhinos can do as well as forwards) and stood for a few second with his ears pricked forward and his nose stretched towards her. Then he wheeled around and cantered back to Shaba and they both turned and went away.

Since much of our rhino viewing has been from a discreet distance, beyond hearing range, most of what I have learnt of vocal communication I have learnt from Samia. But it took me a very long time to start learning, for the simple reason that I was not expecting her to try to communicate with me in any complex fashion and therefore did not notice it. Thus it was only later, when my ears were better attuned, that I became more aware of the vocal communications of the other rhinos.

Normally rhinos are rather quiet but they are also capable of making tremendous noises. When Godot and Wamba fought one night, one roared like a lion and the other trumpeted like an elephant - the sounds were most alarming. Rhinos also have several sorts of snorts. The anger snort is a long 'hummmph' and usually accompanied by a change in facial expression. The alarm snort is short, like a sneeze. The startled "who the hell are you" snort is made with ears pricked forward in curiosity, but a cautious expression on the face and a slight wrinkling of the nostrils. I fear that it is meant to be as rude as it sounds, for that is the snort that Samia invariably makes when strangers come, something which does not please her much.

Fear of the unknown is expressed by a high-pitched 'wonk' sound. Even before I really knew what the sound meant, whenever Samia wonked I would respond automatically by becoming alert. I have heard other rhino calves make the same noise and seen the mothers quickly come to attention. Real terror is shown by a high-pitched scream. Samia used to make this noise regularly when she woke up to find herself surrounded by cattle. It was a sound that used to bring my heart into my throat and I would rush out to see what had happened to her. When in utter despair, Samia would wail unceasingly with a 'whaa whaaa whaaaa' noise. Thankfully she only really had occasion to do this once, when she was being flown to the Mara to meet the Pope.

Total contentment is expressed by a deep, resonant sound that comes from right down inside the chest, a kind of 'mmwonk' sound. I have only ever heard Samia make it - when she was

young she used to make it when walking beside me when I held her bottle. Now she does it when she sees me bringing lucerne or horse nuts. If I am slow or stop to talk to someone, the sound becomes deeper and more resonant. Yet, however slow I am, she never tries to grab the food from me or push me about - she just goes on 'mmmwonking'.

The most common noise that all rhinos make is perhaps the most unlikely one, a squeak. It sounds like 'eeek' but it has many variations. In the very early days when we had our first rhinos in the holding boma, I learnt that if I made the 'eeek' noise, holding the last note steady, the rhino would respond and come to me. If, however, I raised the final note, the animal would stop and look around with varying degrees of anxiety. I thus realised that if the final note rises slightly, the noise means "who, or what, is that?". However, I now think it indicates curiosity rather than alarm, for since then I have often heard rhinos make this particular squeak while looking around in an interested rather than in an alarmed manner.

Samia produces the basic 'eeek' in a wide variety of tones and intonations accompanied by different movements of the ears and nostrils. The combinations seem to convey a fairly wide range of feelings which frequently mystify me. There is one unmistakable 'eeek' meaning "where are you?" which she used to make when we went out for walks and she lost me. If I did not respond she would make a stronger and higher pitched 'eeek'. If I still did not reply and we were in an unfamiliar area, she would make a truly desperate high-pitched 'eeek' which quite obviously meant "help, I'm lost". I have heard all the calves make this noise when they have lost sight or perhaps scent of their mothers. In fact, we have often only located a rhino after hearing this noise, which carries an incredible distance despite its small volume.

Rhinos also communicate by their breathing, but this is so subtle that I had been watching them for three and a half years, and raising Samia for two, before it dawned on me that breathing is a method of communication. I knew Samia had a particular way of breathing which she evinced whenever she came home, or when I was out walking and she heard, or scented, either me or the dogs. I recognised it as a greeting noise, reserved only for me. It is a very slight sound, yet it carries in a remarkable way. I can



Nose to nose, the rhinos communicate by their breathing patterns
(Gerry Ellis)

hear it when she comes to the fence even if I am cooking in the kitchen or have the door closed.

Samia has a different way of breathing in answer to my call. Normally when she is out on her own I do not interfere, but there are occasions on which I need to call her and she always responds in this way. Again, it is a very small sound that carries a most remarkable distance. I think it means "I'm coming, I'm coming".

I became aware of two other sorts of breathing one evening when I was sitting in a favourite place on a rock above a little water hole. Samia was feeding about twenty metres away when a very large bull eland came down to drink. She both heard and scented him and with head raised and ears pricked she gazed intently in his direction. Then she ran to me and thrusting her nose into my face breathed hard in a series of short, strong, even breaths. She stopped to look back at the eland, then repeated the breathing again and yet again. I knew she was asking me "what is this, is it dangerous?" Using my intuition, I tried to reassure her by remaining calmly seated and breathing at her with long drawn-out breaths. It worked, for she at once appeared to be reassured, walking calmly off and starting to feed again. I had ap-

parently successfully communicated to her that elands were not to be feared.

Since then I have become very attuned to this pattern of breathing and have heard many calves breathe in this way to their mothers when meeting other animals. If the mother is calm she will reply to the calf with a series of long drawn-out breaths, as I did. Perhaps I had registered this in my subconscious from earlier observations.

One evening soon after this episode, Juno was feeding on the opposite side of the valley from where I was walking with Samia and I decided to make an experiment. When Samia was engrossed in feeding, I slipped away quietly and hid myself. Shortly afterwards Samia looked up, realised I had moved and gave the "where are you?" squeak. I kept still and she repeated the noise. On the other side of the valley, Juno lifted her head and gave a very marked sequence of four breaths, "ho-hoo-hoo-hoo". Each time Samia squeaked, Juno made the same response, as if she were asking "who are you?" This was a totally different noise from the "who the hell are you?" snort. I had initiated Samia's first vocal communication with a wild rhino.

Another chance to experiment with rhino communication came at the end of the 1988 drought. Samia was safely locked up for the night and I was about to go to bed. It was a very dark night, with a light northerly breeze, and I walked out into the garden and stood beside a bush near the fence facing north. I think I sensed the presence of the rhino before I saw it and as he moved right up to the fence I realised it was Godot. I stood silently, he was only about three metres from me, just the other side of the fence, but I knew he could neither see nor smell me. Quietly I made the 'ho-hoo-hoo-hoo' breathing sequence. To my intense excitement he answered with an identical pattern of breathing. Twice I asked him "who are you?" and twice he replied. The third time I obviously should have said something else, for he put his tail in the air, gave an exasperated grunt and moved off to feed from the tree he had knocked down the previous night.

Since then, because my ears are now alert to it, I have heard this polite questioning noise many times. I am now so aware of the combination of breathing and body language that if I am watching rhinos together (and am close enough to see them well through my binoculars), and if they are standing nose to nose,

when I see the tension lines of their nostrils I am sure, even though I cannot hear, that they are communicating by breathing.

Shortly after lunch one day, soon after the rains broke in 1988, there was a heavy rainstorm and I stood by the window facing north, watching the deluge with joy. Suddenly Samia came into sight, coming up from the Marula at a canter. She repeated three different sounds several times, always in the same order. First came the "where are you?" 'eeek', followed by the breathing noise that meant "I'm coming" and then finally the squeal of joy, which I have only ever heard her give when it is raining and she can play in the mud. She had quite clearly said to me, "Where are you, I am coming. Please come and play in the mud." Not only had she produced a sentence but I had understood her. I rushed out to greet her, but with deep regret told her that I would not play with her. The only time she has ever played rough has been when it rains; the cool and the mud and her general excitement overcome her normal gentleness - and by this time she weighed nearly a ton.

The white rhino seem to be less vocal than the black. In fact the only noise I have heard Makora make is the greeting breathing. He makes the same greeting sound to me as he does to his cows, and it is identical to the greeting breathing that Samia makes. Makora also makes the same contact breathing with his cows as I have heard the black rhinos make.

The white rhino also seems to be more of a herd animal than the black. Most of the time our three white females are together, and Makora spends half his time with them. His behaviour has changed since their arrival in that he is spraying in a far more emphatic way than he ever did before and makes curious drag marks just after he has done so. When I first saw the marks I thought they were ordinary scrape marks such as the black rhinos make, but when I actually saw him make them I realised how different they were. I was driving along slowly when I came up behind Makora who was walking along a road by himself, going from side to side. He would stop and produce a tremendous spray backwards, then walk a few paces on dragging his hind feet and doing so with such force that he rooted up tufts of grass. Within a period of five minutes he sprayed seven times, shooting out small clouds of vapour with great velocity, and dragged each time. His distinctive toe drag marks can now be seen all along the

roads in the sanctuary. As he sprays and drags when he is by himself, and not with any of his cows, the actions do not seem to be directly connected with mating. They seem to be territorial signs, either for the cows or, more likely, for any other male who might happen to come along.

In August 1989 a large sub-adult male white rhino spent a week in our holding boma. It did not take long for Makora to learn of his presence there and he was obviously outraged. He hung about the boma continually and made some very determined efforts to break into it. We were in no doubt either as to his intentions towards this younger and smaller male, or as to what would happen if Makora succeeded in getting at him. It astonished me that angry and upset as he clearly was, he was still gentle and responsive towards us and would even come towards me if I called him to try to get him away, although he would always go straight back again. Two months later he was still visiting the holding boma at regular intervals to check that no further outrages were being perpetrated against him.

More recently we have been considering a very important experiment - we want to find out whether it is possible to keep rhinos on Lewa Downs outside the sanctuary. Is our whole security operation good enough? Our idea is to make this experiment with a pair of white rhinos, which unlike the black can be owned privately, are less endangered and easier to keep tabs on as they prefer open ground. We could also experiment on de-horning them. To this end a pair of young white rhinos were purchased by a friend of Ian's and a benefactor of the sanctuary and placed in our holding bomas during the last week of November 1990. On 7 December the male broke out. Ian thought it was young enough not to provoke Makora, but I was somewhat fearful. However, there was nothing that could be done about it, as Ian was about to leave for Europe and Dieter was in Germany recovering from an operation. For three weeks all was well, until on Christmas day Makora came upon a dropping that the young male had scraped. He put his nose on the trail and followed him.

There had been shifts trouble in the north east that day and I had refused a lunch invitation and stayed on the sanctuary distributing Christmas bonuses. As Senanang and I came over the crest of a hill, we came upon Makora having the most terrifying battle with the new male. He was flinging him up into the air and then

kneeling on him. Yelling at Makora to desist, I drove the Suzuki over some pretty rough ground and tried to ram him in the back-side. But I kept on getting stuck on rocks and in holes and the rhinos kept moving out of reach in a running battle across a little gully. Eventually after about forty awful minutes, I managed to ram the car between them and to push the young one ahead with the bonnet. But he kept trying to turn round and whack it, while in the meantime Makora was having a go at the back. Luckily at that moment my frantic cries for help over the radio bore fruit and a driver appeared in the big Toyota and managed to drive Makora away, while I pushed the young rhino in the other direction.

The next day Dieter flew up from Nairobi and we managed to catch the young male. But alas he died on 28 December of a perforated stomach and heaven knows what other internal injuries. The Suzuki meanwhile could have been a lot more damaged were it not obvious that Makora knew well who I was and, although a bit annoyed at our interference, had no desire to cause us serious injury.

Samia's Diary

I love forms beyond my own and regret the borders between us.

Loren Easley

The only justification for raising a wild animal is that it is done with the intention that it should at some stage be able to return to the wild and lead a natural life. Thus raising a wild animal is totally different from keeping a domestic animal. Domestic animals are kept for some human-oriented purpose, be it work, food or love and companionship. They are expected to fit into your way of living and can do so because, since they have been domesticated, they have been bred to do so. Wild animals by definition are not adaptable to human ways. Most raised from infancy may well be cute and cuddly when young but are disasters as pets when they mature, both for themselves and their owners. There are, of course, exceptions - occasionally an individual does adapt well to human ways or sometimes circumstances make it impossible to return an animal to its natural life. But by and large if you take on the responsibility of raising a wild animal, your goal must be to give it a natural life as soon as it is mature and ready.

Aiming for this goal requires the development of an entirely different attitude towards the young wild animal from that which you may have had towards any domestic animal. The wild animal must not be trained or disciplined to slot into your life. On the contrary, you have to use your intelligence and imagination to try to give it an upbringing as close as possible to that which it would have received from its own mother. In other words, you have to adapt your life to its, not vice versa.

The dumping of wild animals that have been kept as 'pets' back into the bush may satisfy the conscience of the owner, but it is likely to prove an unmitigated disaster for the unfortunate animal concerned. It is as brutal as dumping a pet dog on a public high-

way. An animal has to be prepared for independence by its surrogate mother to the very best of her - or his - ability. In Ghana I raised a great many orphaned animals, from mongooses to antelopes, monkeys and chimpanzees. So when I undertook to raise a newborn rhino I had no illusions at all as to what was involved. I realized that if I tried to hand-raise it, my life would not be my own for some time to come. Even so I had no real conception of the way my life would be altered by the advent of Samia.

Extracts from Samia's diary

1985

15 February

Between three and four o'clock in the afternoon Solia gave birth to a calf near the north fence and wandered away from it almost immediately. We could just see the long little ears poking above the grass and hear tiny bird-like mews. The mother wandered further and further away as dusk came down.

16 February

In the morning the calf was still alive and still crying, but Solia was feeding more than a kilometre away and taking no notice at all - she did not come near it all day. At five o'clock Ian, Francis and I took a bottle to it. We also took some of the mother's dung with which we hoped to disguise the scent of my hand when I touched the calf. I had filled the bottle with the formula given by Dieter for Juno's calf which we had attempted to save. This calf was female and she squeaked in fear and protest, but I got some milk down her and then crept away. That night a guard slept in a Land Rover parked about 100 metres away on the fence track to try to protect her from leopard or hyena. While I spent the night on my Land Rover beside the holding boma containing our newly caught wild rhino Womba, and Solia spent most of the night wandering around us. I could see that her teats were not swollen and had no sign of having milk.

17 February

Armed with Solia's very fresh dung, which she had deposited all around the Land Rover, I went and fed the calf at 6:30 am. She protested but not quite as violently as yesterday, mainly because she was colder and weaker. I fed her again at 11:30 am and at 2:30 pm. Solia was a long way off and giving no signs of returning, and at the after-



At two days old, Samia looked as though she might not survive.

noon feed the calf appeared weaker and was showing signs of dehydration. At 5:30 pm we decided that I should take her home. We wrapped her in a rug and she was placed on my lap in the back of the Land Rover. I tried to save her from the worst of the bumps as Francis drove us home very carefully; and from fear and desperation she turned to me for comfort as I held her.

Luckily I find it easy to love baby animals. You cannot pretend to them, for they sense it at once if you do not truly love them and, consequently, they cannot love you. Then when crises arise, as they surely will, they are much less likely to fight for their lives. However,

Rhino

when you do love them, you always have to remember that you are trying to give them their own lives. They are never yours to possess.

A stable was prepared with warm, dry grass for bedding and the calf was installed. She took some milk but was very cold and very weak. I wrapped us together in a blanket for the night but even so it was chilly and uncomfortable - and the mosquitoes were bad. At about midnight I decided it would be a lot warmer and more comfortable if I took her to bed with me - Karl was in Nairobi - but even in bed I could not get her warm despite blankets and hot water bottles. What worried me still more was her inability to shiver - a mammal's way of warming itself.

18 February

In the morning the calf produced a large puddle on the floor but her bowels still have not moved. Will it be constipation or diarrhoea I wonder? One or the other is almost inevitable, due to her having had no colostrum, which she would otherwise have received from her mother's first milk. The diet Dieter has given me is part skim-milk and part low-fat milk, with syrup and added vitamins. Rhino milk is low in fat and protein and high in lactose and certain trace minerals. I fed her five times during the day and she took the bottle without too much trouble. She is still very cold and dehydrated, and is not at all happy if I am out of her sight. However, although she is weak she is mobile.

I have named the calf Samia, a name concocted out of that of my beloved dog Sambo and that of her mother Solia. Karl returned and remained fairly calm at the thought of having to share his bedroom with a little rhino - luckily we have twin beds.

19 February

Her insides are still not working - she made a large puddle on the floor but that is all. I took her for a little walk in the evening. She hates being woken and fed in the middle of the night so I will not try that again.

20 February

She took all her feeds and produced a small, rather bad smelling dropping and scraped it. I took her for another tiny walk. She slept in the bed all night but is still terribly cold.

21 February

She seems a little stronger but is still cold and dehydrated, and looks very thin. She makes three different noises: a small squeak when she

follows me, a more desperate one if I leave her and a little 'huff-huff' if she gets stuck at the single step up into the house. The dogs are very gentle with her.

22 February

I am increasing her feeds so that she is now getting five of 900 cc each. She is very calm and affectionate. During supper, which we eat by the fire for her sake, she climbed on to my lap and then on to the table, causing a considerable crisis with the soup. She made a big mess during the night, her first proper output - Karl slept through this rather noisy event.

23 February

I took her for a slow walk down to the drift and she sat on my lap and crunched a blade of grass. She is taking her bottle well but is still thin and looks cold and dehydrated. There was a series of defecatory crises during the night.

24 February

I took her for another little walk and she nibbled the tiny acacia leaf I gave her. She is still taking her bottles well and clings to me trustingly, but her bowels are very loose and I am worried. The milk is never quite the same, even though we use the same cow and that cow is on a semi-starvation diet to cut down the richness of its milk. In the evening we got a message from Daphne Sheldrick. Daphne is the widow of the late David Sheldrick, famous warden of Tsavo East National Park. She is the first person who has ever succeeded in raising a very young orphan elephant and has also raised four orphan rhinos. She said that we must change the calf's diet completely and put her on Lactogen - Dieter agrees, especially as the zoo rhino calf whose diet I am using died. There were more crises during the night and Karl trod in one of them *en route* to the loo himself, which resulted in minor matrimonial complications.

25 February

I have increased Samia's bottles to 1200 cc each and we are trying to get the ingredients for Daphne's formula. She walked with me as far as the drift, and tried a taste of wild asparagus. A difficult night followed, with a lot of mess. Her diarrhoea is worse, like thick yellow custard, and smells foul. She is still really cold. I wonder if she will survive the diet change tomorrow.

Rhino

28 February

I have changed over to Daphne's formula, adding Lectade for the diarrhoea. Dieter says we must not use antibiotics as they would destroy whatever good bacteria she has in her system – rhinos digest by bacterial fermentation in the large intestine. Her temperature is still low, only 35° C.

5 March

The course of Lectade finishes today and she is no better. I gave her one and a half tablets of Sulphaguanidine in the evening and am using boiled rice water to mix her formula.

6 March

She cut the middle tooth in her lower left jaw, but is terribly weak and has no appetite and her urine is yellow and bad-smelling. She had diarrhoea so badly and Karl was so upset that she and I slept in the bathroom. The mess I had to clean up in the morning was fairly spectacular. I dare not upset her by leaving her at all. I fear for her very much, but will not let her die.

7 March

Her temperature is up to 37°C and I think she is better. Daphne came up to see her.

9 March

Lots of yellow diarrhoea today. I have got her back in bed with me - Karl is sleeping in the office. She is very weak but wants to live and is trying very hard. However, I am very afraid she will not survive much longer.

11 March

Her tooth is nearly through. She seems a little stronger, and I am increasing her feed. I also had the idea of putting a rug on her, tied around the waist like a horse blanket. Thus warmed, she was installed in the dining room for the night. She made the most spectacular mess and scraped it all over the carpet and up the walls and rubbed her nose in it. By the time I had got her clean, the dog had rolled in the mess. By 6:30 am I had cleaned one rhino, one dog, the carpet, the walls - and was in tears. A bad day.

13 March

In my effort to stop her diarrhoea without using antibiotics, I am adding kaolin and rice water to her formula. She seems a little

stronger. I gave her a hose-down with warm water after her 2 pm feed and she loved it. She cut another tooth.

14 March

She is a little better. We walked to the drift and she played with grass and a leaf, gave two bucks and fell flat on her precious nose. When I sat down she came round behind me, and put both her front feet up on my shoulders.

18 March

She is much better, playful and bucking. I have moved her into the stable to sleep with her rug on for part of the day. I have to sit with her until she goes to sleep and then she is alright and does not move if I leave. I have learnt to differentiate between two of her cries: they sound rather similar but one means "I need you" and the other "I want you". Young as she is, I must leave her on her own some of the time and get her to be less stressed by my departures.

19 March

She seemed fine at her 6 am and 10 am feeds, but did not want her 2 pm bottle. She was very uneasy and kept scraping but nothing happened. She took her 6 pm and 10 pm bottles and produced a very evil smelling yellow diarrhoea again.

20 March

A visiting vet from Milwaukee Zoo said Samia was dehydrated and that I must increase both glucose and water. I am glad she is not constipated, for it is apparently very dangerous to give a rhino an enema as there is a flap of skin behind the anus. I discovered the flap when I took her temperature, you have to open it very gently with a finger and let the thermometer follow the finger, not just push it up as you would do with a dog or a horse.

21 March

She is much better and bucked and kicked and even tried to change legs when she cantered in circles, but made rather a mess of it. We walked a bit further than usual and spent the whole afternoon out.

29 March

I have had to keep her in as it has been raining. Her temperature is still not normal. She is fine as long as she can get into the sun and run around, but if she gets wet she goes straight down. As soon as we get

back from our walk at 6 pm, her rug goes on and stays on until 7 am by which time the sun is well up.

30 March

She has diarrhoea again. I think she got cold yesterday, so today, which has also been cool and rainy, I kept her in the house with her rug on.

1 April

She seems well and frisky again. We walked up to Top Plain where she ate some grass and green herbs and took her first mud wallow, which she loved.

12 April

I am increasing her food ration steadily, and she seems well and happy. She still has only two teeth but they are very sharp. She has got used to the stable and last night spent her first night in it. I can now recognize six distinct noises. 'Eeek' means "where are you?". Another sort of 'eek' when waiting for her bottle means "please hurry". A loud 'eek' means "I'm lost". 'Huff-huff' means "I'm coming". A snort means "what's that?" and the funny little noise which she always makes when I put her rug on, means "you're troubling me".

15 April

She is two months old today. Her insides are more stable but her temperature regulating mechanism is not right yet. We are still not out of the woods.

21 April

She seems well and happy and has cut two front teeth and is eating a lot of grass. At lunch she heaved herself right up on to my lap and very nearly on to the table. She had her first shower for a week (it has been too cold to chance it) and really enjoyed it. She now also has a very wee front horn and I am getting rather bruised legs.

4 May

She is definitely getting stronger and more stropy. I have started taking her over rough ground as she has to learn how to handle it and it also calms her down. Sambo is very good with her and she has learned to respect his growl and treats him with a lot more care than she treats me. Today she ate a little browse for the first time.

Samia's Diary

9 May

She galloped down the hill and had a terrible fall, scraping quite a bit of skin off her side. She stood and trembled but did not cry out, although she did want to sit on my lap instead of going exploring.

18 May

She put her nose in water for the first time, looked really surprised and rolled her eyes like mad. Her front horn is really through now and she has twelve teeth and digs up and eats small grass roots, soil and all.

25 May

I took her up the valley to where Rongai and Kelele were last night. Instead of trying to graze she went over to their tracks and did a lot of interested smelling and snorting. Then she came back to me, put her front feet on my leg, her nose close to my face and with ears pricked, produced a series of variations on the 'eeek' theme which I have never heard before. I had little doubt that she was either asking or telling me about the strange scents and large footprints.

26 May

Her brakes are becoming more effective and she can now do some quick stops and sharp turns without falling over so much - although she is still incredibly clumsy with her big feet.

27 May

We encountered one of Morani's droppings. I knelt down and sniffed it and then scraped it with my feet in the hope that she would defecate on it, but instead she made a little chirping noise, rolled her eyes and ate some of it. Dieter says I must let her eat what she likes, for she knows better than I what she needs to get her intestinal bacteria right.

28 May

Today I was able to compare her droppings with those of Bahati. Although five weeks younger, his are already like a miniature replica of his mother's, whereas Samia's are still very loose and very smelly. She now has fresh cut grass and a little browse in her stable every night, but although she eats the grass she still does not know how to handle thorns. I blow on them and pretend to eat them but she is not deceived. She now has four different sorts of snort-snuffs: "I'm a little afraid"; "please love me"; "what is that?"; and "this is fun".

5 June

I had to go to Nairobi for the day and on my return she greeted me with great affection, but sniffed me all over and seemed none too pleased with the strange smell of traffic and exhaust fumes. When I sat down she scrambled up on my lap, stuck her nose in my ear and told me a long and complicated story which I did not really follow.

9 June

Samia was absolutely terrified when I sent for help to shoot a big cobra which I had found in the bantam house, and rushed off into the bush. I had to follow her and calm her down. Was this just fear of a loud noise or an inherited fear of guns? I have now decreased her feeds to three a day, but have increased the amount of each.

14 June

Samia went quite mad on our walk, spinning round in tight circles until she was so giddy that she fell over and then got up shaking her head. On the way home we met one of our trackers. Samia stopped, crinkled her nose and gave a perfect "who the hell are you?" snort. She is eating a lot of grass and also a good deal of cow, zebra and rhino dung. I have noticed that she has different sorts of ticks in different places, but Dieter says she must have some ticks in order to acquire all the necessary immunities. I therefore de-tick her but never remove them all.

17 June

I took her for a walk up the valley. She gets over rocks with more agility now and with fewer anxiety huffs. She played with and moved quite a fair-sized rock with her nose. She then trod on a dead branch which popped up and hit her and she made flehmen and chewed it. Coming back she raced up and down the road and raised a real dust storm.

18 June

We walked home in a drizzle - it was very light but enough to get Samia chilled. While we were walking she took the tips of my fingers between her lips and held them.

23 June

On a walk in the valley a bird suddenly erupted in a most startling fashion from just under our feet. Sambo, Samia and I each showed the response typical of our inheritance - carnivore, herbivore and primate. Sambo went into instant forward action, Samia leapt back-

Samia's Diary

wards and I, the curious primate, stood and stared. She is eating a lot of grass, flowers and herbs and is increasingly playful, her toys being bits of wood, rocks and, above all, my feet.

12 July

Samia is eating well and getting stronger and more riotous daily - while out walking we met a herd of cows and she fled in terror and had an awful fall down the hill. However, I am afraid that all her progress is going to be put at risk for an absurd publicity stunt. She has to go and meet the Pope - orders from on high. The Pope cannot come here; she must go to the Pope. I am not even permitted to go with her, for I am the wrong sex, colour and nationality.

15 July

Today she ate a little acacia on her own and without my encouragement. She had her lips pulled back and a really comic expression on her face as she tried to manipulate the thorns. I gave her a tiny bit of lucerne mixed with her grass at night and she loves it.

22 July

While out walking we met more cattle and this time Samia stayed to heel instead of flying, although she gave some very anxious huffs. She also had great fun at a mud hole, pawing at it with first one front foot and then the other and splattering mud all over her belly - she also got a great scoop of it on the end of her nose. She then managed to follow me up a very steep bank, making some frantic 'eeeks'. She seems to rely on her hearing and not on her nose or eyes to find me. Daphne came to see her and says she is still very underweight for her age.

27 July

I gave her her lunch and supper bottles in the crate that has been made for her to travel in to meet the Pope. I also had her spend time in the small boma we have built for her with Kiptamoi, my gardener, who will accompany her (he is the right sex, colour and nationality). She does not appreciate being cooped up. Dieter came and gave her a trial dose of the tranquillizer Azaperone. Instead of calming her down it made her so upset that she went for him and then Francis and Kiptamoi in succession - clearly that drug will not do.

4 August

Samia knocked both the crate and the boma to bits. I had no idea how strong she is when she is upset - and how furious it makes me to

have to upset her and for such an idiotic reason. All this upset has made her insides loose again. She is now having to stay in her boma all day, except for her walk - it is like being in prison for her. She was, however, taken for a drive in her crate in the back of the Land Rover, but did not appreciate the outing much.

10 August

By this morning I was not only nerve-wracked but furiously angry. It was only last month that I really started to hope that Samia would pull through. Now for the past two weeks this ordeal with the Pope has been hanging over us. My orders from Nairobi have changed almost daily, with people flying up and down bearing sealed instructions, most of which contradict each other and none of which show much care for the welfare of the little rhino herself. Apart from being locked up at night and for a very few times during the day, she has only ever had minimal restrictions placed on her freedom. Now she is locked in a tiny boma almost all day and kept cooped up in a crate for hours. I am desperately afraid this may affect her behaviour as well as her health.

At 6 am this morning I fed her half a bottle. She was crated at 8 am and received the other half of her bottle in the crate. This was then loaded on to the back of David's pick-up and Kiptamoi and I sat in the back beside it, trying to calm Samia down. We managed to reach the Isiolo airstrip without mishap. Fiona Alexander, a friend of mine and one of Kenya's most experienced bush pilots, arrived with a plane, a photographer and the vet Paul Sayers. The plane looked far too small for the crate but somehow we managed to load it. Then Fiona, the photographer, Paul, Kiptamoi and I got in - a very tight fit. Samia wailed desperately and plunged to and fro in the crate, banging and bloodying her poor little nose. I tried to calm her, but she was so terrified my efforts were to no avail. Afterwards David told me that he stood on the runway with his heart in his mouth, unable to believe that the plane would ever get off the runway; and Fiona said that she had seldom been so worried as when Samia was crashing to and fro in case she shifted the balance of the plane. Luckily I was too afraid for Samia to realize there were any such serious dangers to the plane and all of us.

Fiona had to go a rather long way round to the Mara, as she did not think she could get the heavily loaded plane over the Mau Escarpment. However, we eventually reached Keekorok airstrip where we were met by Sam N'gethe of the Wildlife Department and his team and driven to the little boma that had been erected for Samia and her papal meeting. Orders were that I was to hand her over to



Samia on her way to meet the Pope, a reluctant star attraction.

Sam at this point and to fly back to Nairobi with Fiona. But Samia had got badly overheated and dehydrated and her insides were not working properly. It was suggested that she be given an enema, but because of the oddities of a rhino's back end this could be very dangerous and should be done only as a last resort. So Sam and Paul agreed that I should not leave until Samia had defecated.

I had carefully packed all her 'luggage', bringing food, milk, some of her favourite flowers, lucerne, bottles and sterilizing equipment but foolishly I had not thought to bring a bag of her dung with which to establish a loo. I stayed with her all afternoon and evening. She settled down well with Kiptamoi and ate and drank and urinated, but defecate she could not. The last plane for Nairobi left and I had to book myself into Keekorok for the night while Kiptamoi stayed with Samia.

11 August

I went back to Samia at dawn, but still nothing had happened. I felt frantic and told Sam that I was sure I could get her to defecate if I took her for a walk and found some rhino droppings and scraped in them, for then she would almost certainly do likewise. But he informed me sadly that there were very few rhino left in the Mara and none in the vicinity of Keekorok. I said I would try to make do with

zebra droppings if he would give me permission to take Samia for a walk and most considerately he agreed to this, warning me to keep on open grounds and near the roads, as there were lion about - so Samia and I set forth. At every pile of zebra droppings I got down on my hands and knees and sniffed it and scraped it. Very obligingly Samia copied me - but still nothing happened. I soon had a large convoy of minibusses following me with interest, but I was quite past caring what the occupants must have been thinking.

At last, after two hours of walking and scraping, Samia functioned. I gathered the proceeds up in a plastic bag and we returned to her boma where I established her loo. Then feeling a real traitor, I left her to Sam and Kiptamoi and flew to Nairobi and from there on home to worry about her.

17 August

I flew back to Nairobi and went directly to see Fiona. We sat in her office until we heard that the Pope was airborne and then immediately took off for the Mara. This time Dieter came with us and we traveled in a considerably larger plane with another pilot, Dick. When we landed we found Samia already crated in Sam's pick-up by the airstrip. Dieter gave her a small shot of Rompon which calmed her and the flight home was, thankfully, uneventful. She is very affectionate and very happy to be home. She has lost a lot of condition but otherwise does not seem to be seriously the worse for her adventures.

19 August

She got both front legs on the table up at the stable and broke her bottle. When I went to mix a new one, she stood on her hind legs, opened the catch on the small front gate with her prehensile upper lip and marched into the kitchen. She then opened the catch on the big front gate and let herself into the garden. Every time I bundled her out, she did it again until I blocked the gate with the Suzuki. On neither gate did she attempt to use force; she knew exactly what and where the latch was, from watching me or perhaps from scenting my hand on it.

24 August

Since her return she is much less independent. She gets really upset when I leave her and does not wander off on her own as she used to. Her blanket slipped in the night and she made an awful noise until I went out to her and dealt with it. At least I now know that she will tell me if anything is wrong. She has also learned to use me to rub off the flies that trouble her, with disastrous results to my balance.

26 September

Something frightened Samia in the middle of lunch she came galloping home screaming. I dashed out calling her and she rushed up to me, then calmed down quickly. I have no idea what scared her. She is now keeping herself warm at night without her rug and is drinking a lot of water in addition to her bottles.

29 September

We received Presidential orders that Samia is to be sent to the big annual agricultural show in Nairobi - tomorrow! I, of course, am once more *de trop* and Kiptamoi is to go with her.

30 September

This morning the Wildlife Department lorry arrived to take Samia to Nairobi, but by no stretch of the imagination could she fit into her old crate. Luckily Peter Jenkins came to take charge and went to the Wildlife Department at Mweiga to have another crate made, and also, at my request, to alert Paul Sayers to stand by should anything go wrong. At 10:30 pm the lorry returned with the newly made crate and Samia walked trustingly into it. By midnight the crate was loaded and roped down, and the lorry disappeared into the night - Samia's pitiful wails of woe becoming fainter until I could no longer hear them. Again feeling that I had betrayed her trust most terribly, I returned to the house.

6 October

The Wildlife Department lorry returned this morning, having been on the road all night - both Samia and Kiptamoi showed obvious delight in being back. Samia has been kept in a cage for five days and it has not improved her health. She has a cough and a drippy nose and all her beautiful bounce has gone. Kiptamoi has apparently been quite wonderful. He never left Samia and never let anyone else feed her, and as a result her insides have not been upset. He guarded her faithfully and protected her from being too molested by the crowds - I am so grateful to him.

8 October

Samia's cold and cough are better but she is still very lethargic and has lost lots of condition. Once again she does not want to wander off on her own as she should, and does not like to let me out of her sight. Before this episode I never restrained her except at night - from a few weeks old she started to make little solo expeditions which gradually got longer. Now she stays and cries by the garden gate which is

Rhino

currently barricaded in a way that has, so far, defeated her attempts to open it.

28 October

I am now walking Samia between two and three hours a day, although this 'walking' includes much time spent eating. She had her first encounter with giraffe today. They were overwhelmed with curiosity at this odd combination of black dog, small rhino and me, and tiptoed round some thorn bushes to peer at us with their huge dark-lashed eyes wide open. However, they suddenly came within range of Samia's short-sighted eyes, and with a shattering snort of alarm she sought refuge between my legs and swept me clean off my feet. Then, as she could not get under me, she sat on top of me huffing and puffing her consternation.

3 November

Samia is still spending most of the day crying and trying to get into the garden. If there are any more of these publicity stunts it will be really difficult to get her to be independent. Francis has put a low voltage electric wire round the garden to keep her out.

7 November

Samia burnt her nose on the wire and was most upset, but went on to burn it several more times during the morning. In the afternoon she saw me fiddle with the adjustment. In the evening she got braver, and after about half an hour managed to get her front feet on a rock and unhook the wire with her horn. We repaired it. She unhooked it again - taking only five minutes this time. Half an hour later she unhooked it at once and we conceded that she had won that round.

18 November

Two giraffes came and peered at us on our walk and Sambo gave an alarm bark to which Samia responded instantly by giving her alarm snort and galloping over to me. There can be nothing instinctive about a rhino responding to the alarm bark of a domestic dog.

19 November

I have been trying to teach Samia to put her nose down and track me, with no success at all. Today I went and hid up the road. She called me several times and I did not answer. She stood on her hind legs and opened the gate: and although she could not get through it herself because of the barricade, she succeeded in letting the dogs out. They ran straight to me and she followed in hot pursuit. On another

Samia's Diary

occasion when Samia lost me on a walk, she went to Sambo, who had gone off on a private investigation, and prodded him in the rear with her horn until he gave up and came to me, with her following close behind. It is no longer possible to regard this animal as anything but highly intelligent.

22 November

I still have to be careful that Samia does not stay out in the rain, for although she can now shiver efficiently, she still gets chilled very easily. She is eating about 80% grass and 20% browse - this is a much higher proportion of grass than Bahati seems to eat.

25 November

Samia really loves the horse nuts and has developed a new very deep grunting noise which seems to mean "nuts, please". She is one of the very few young animals I have ever had who never pushes or demands food roughly. She stands by my side and asks for it. Even if I get delayed talking to someone, she just continues to ask, never pushes. She is never rough except in play or when afraid.

18 December

I still do not know how I differentiate between Samia's alarm snort and an ordinary sneeze, but I do and so do the dogs. Sambo in particular responds at once to her alarm signal, barking and looking and smelling all around. A young oryx came down to the house to visit and put Samia in a real panic. The longer I live with these rhinos, the more I realize that aggression and bad temper are not normal aspects of their behaviour, and that being nervous and highly strung are.

29 December

While on our walk, I went down a very steep bank and Sambo took a longer way round. Samia surveyed my descent with trepidation and then, for the first time, put her nose to the ground and followed Sambo's trail.

1986

2 January

Samia got very excited when we found a mudhole and started to dig in it like a dog, her eyes rolling and her two front legs working alternately like mad, sending mud flying on to her belly and sides and all over the place. She came bounding over to tell me what fun it was

and got me plastered. Then she went over to Sambo, trod on his tail and got nipped on the nose for her pain - there was more eye rolling and her feelings were clearly very hurt.

28 January

As Samia gets bigger and her balance improves, she also seems to be getting more gentle. She tries to avoid touching me with her horn and I am now much less bruised than I used to be. She is careful with Sambo - she seems to realize that he is getting old and frail. But today it rained and she went quite mad up on the Top Plain, knocking me over three times. The third time I batted her over the nose with a blade of grass and cursed her. She rolled her eyes and galloped in tight circles round and round my prostrate form until she was so giddy that she fell down with her legs splayed out in all directions.

15 February

Samia is one year old today. She now has over twelve variations on the 'eeek' theme, but the meaning of many of these defeat me. I wish I could in some way record her ever-increasing variety of vocalizations and breathing patterns. Now I know that when she breathes heavily she is not out of breath but is telling me something, although stupidly I cannot understand. When she finds a good smell and rushes between it and me breathing in a very distinct fashion, what is it she is trying to tell me?

18 February

Samia is starting to spray around the stables which I think means she is marking it as the core area of her range. We walked up on to the Headquarters North Road and were returning back through the bush when I walked round a tree and virtually into Juno. I gave my very best alarm snort and set off as fast as I could. I do not know if Samia also saw (or smelt) Juno, but she responded at once and shot between my legs for protection, so that I suddenly found myself perched on her back. Terrified by this unexpected turn of events, she bolted under the nearest wait-a-bit thorn bush. I became wholly entangled and fell off my charger, parting company with both my spectacles and my teeth in the process. Samia then trod heavily on Sambo's long-suffering tail and he smartly turned and bit her on the nose. I groped around for spectacles and teeth, found both and then tried to calm both animals down and get them out and away. In the meantime, about twenty metres off, Juno was huffing and puffing

her perplexity at the goings on, but thankfully let us slip away without further ado.

As soon as we got home, I made tracks for the storeroom. Karl found me vodka bottle in hand and inquired why I needed such a strong drink at such an early hour. I told him of our encounter and his only query was why I had not dispatched Errada to look for my lost possessions. The idea of explaining to Errada what he had to search for in my execrable Swahili, was quite mind-boggling.

9 March

Samia is getting really agile and did some lovely half and full voltes without falling over. While she was eating her horse nuts, I walked away to look at something and she made the most incredible trumpeting noise, a sound she has never made before. She was, apparently, expressing her frustration at being torn between the nuts and following me, for as soon as I came back she stopped trumpeting and went on eating.

31 March

Godot roared from across the valley, and Samia came tearing back to the house huffing her "I want to be comforted" huff. She stayed close to the house all day. I am sure Godot and Rongai and Kelele heard her, as all three stood looking towards the house with their ears pricked.

1 April

She is now eating a lot of browse but still very little acacia, unlike Bahati who eats very thorny things. I am certain he does so in imitation of his mother and I try to show Samia how to do it, but I am sure she detects that I am cheating. She is very perceptive, and apart from when it rains and she goes crazy, she is as conscious of my mood and as sympathetic to it as Sambo.

7 April

I climbed a tree to look at Juno at the waterhole some distance away. This totally disconcerted Samia who stood on her hind legs with her front legs on the tree trunk and made desperate efforts to heave herself up after me. I had to forsake my observations and return to earth. Later during the same walk, Samia and the dogs all disappeared. It did look funny when I called and three dogs and one rhino came galloping out of the bush abreast.

Rhino

10 May

We walked across the Top Plain and on the way back I noticed Shaba walking along about twenty metres in front of us. I called Samia and she came to me full gallop, then, seeing Shaba, gave a terrific snort which the other rhino heard. Shaba stopped and snorted back, then trotted south for about forty metres with her tail up in the air. She then stopped again and watched while we ran home down the hill. Little rhinos are a lot more obedient than dogs. I think this holds true as a comparison between most wild animals and domestic ones, for in the wild the price of disobedience to your mother is often death.

19 May

Samia dug up some roots to eat, using her horn and her front feet alternately - digging with her horn to loosen the soil and then moving the loosened soil with her feet. Behaviour such as this is instinctive, for I have never tried to teach her that. Her whole range of behaviour is a most complex and fascinating combination of instinctive and learned or thought-out actions. No animal would stay with its parent as long as a rhino does if there were not a large range of learned behaviour and social interaction skills for it to acquire. This social interaction aspect of Samia's education is very difficult to deal with. For the present I have to teach her to fear other rhinos if we meet them, although I do not actually have to 'teach' her since she is immediately receptive to my fear. At the same time, she has to get used to them, for one day she will have to join them. The only way I can think to help her is to encourage her to defecate on their already established dung heaps, so that she gets accustomed to their smell and they to hers. Now every time we come across rhino droppings, she either eats them or defecates on them or does both.

31 May

I was sitting above the drift while Samia was feeding nearby when I heard a rhino coming around the corner. I was frozen with fear, for I was certain it was Godot. The big fig tree would have given me perfect shelter but I could never leave Samia and Sambo up it. As I was trying desperately to think what to do, the rhino hove into sight, revealing itself as Makora. Samia snorted what sounded like different breaths at him (what I later learned was the "who are you?" breathing pattern), but he merely glanced up, drank and moved on.

1 June

I tried using Trilk, a calf formula, instead of the much more expens-



Baby rhinos are suckled by their mothers for three years. For Samia this meant three years of bottles.

ive Lactogen which is designed for human infants. It was a disaster, just the one feed has given her terrible diarrhoea.

6 June

Samia has been off colour all week but is now back on Lactogen and skimmed milk and is well again. She spent a long time chewing on an old cow bone, perhaps to help cut her teeth or for the bone's mineral content.

11 June

For the first time since the near-disastrous Trilk experiment, Samia played. Daphne uses Trilk for her young rhinos without any problems, so Samia must still have a rather delicate digestion. Her temperature control mechanism is still not normal either.

1 July

On our walk this evening Samia smelt something that worried her very much. She made a large variety of moans, snuffs and 'eeeks' and stayed very close to me. Sambo was not very happy either - leopard perhaps? The walk then became rather hectic, as there appeared to be rhinos in all directions. In her excitement Samia

knocked me down twice and sat on me once. Rongai and Kelele heard her and stood on the other side of the gully listening intently.

7 July

I climbed on a very high log and Samia got her front feet on to it and very nearly succeeded in climbing it too. Her tripartite pads can curve over rocks and logs and her toe nails can really dig down into the cracks. She also managed to get a front leg trapped in a crevice between two fallen branches. She had it in such a position that she could have easily broken it, but extricated herself cleverly and carefully. A horse would have panicked.

15 August

Samia is now eighteen months old and has at last started to put on weight. She looks good, eats well, is strong and very playful and affectionate. She is 120 cm at the shoulder, and her foot is 20 cm in diameter. She is going up and down steep, rocky slopes really agilely now and is starting to get to know what will be her home range. She has to learn all its dangers as well as its potential, hence we spend three to four hours in the bush every day.

25 September

She galloped home screaming and in a real panic and had to be calmed down and reassured. I do not know who or what she can have met. She now makes it very clear if she does not want to walk in the direction I am taking, but sometimes I refuse to indulge her because of having to avoid other rhinos.

1 October

I saw oxpeckers on Samia for the first time; she seemed a bit startled by their walking all over her hunting for insects.

9 October

Samia 'helped' Karl with some carpentry work, taking all the bits of wood he was trying to use in her mouth like a Labrador retriever and carting them off. Eventually Karl became vexed and I had to lock her up and then pacify her with some lucerne to atone for such an outrage. Hugh Lamprey joined us for our afternoon walk and Samia has never behaved so badly. If she was not jealous she certainly put on a very good show.

20 October

From the other side of the valley, Rongai and Kelele made the "who are you?" breathing pattern at Samia and she responded.

27 October

Samia opened the Suzuki's back door and very nearly succeeded in getting in. Her repeated efforts to take carriage exercise are not improving the appearance of my unfortunate car which is becoming more than a little battered. Later she followed me half way down a steep muddy slope, then tried to back up it. She had nearly reached the top when she lost her balance and slipped the whole way down finishing up draped around my neck. Luckily there was grass rather than rocks at the bottom, so neither of us was the worse for wear. In the evening, I went to retrieve the Suzuki which I had left up on the Top Plain and Samia followed me up there - then played madly around it, honking wildly, and eventually galloped home down the hill, keeping ahead of it all the way to the house.

12 November

She quite definitely responded to the alarm call of a bird the way I have seen her mother do. Would Samia respond to the alarm call of, say, an Australian bird, I wonder?

18 November

The barricade has been strengthened. As fast as my labour force dug holes for the posts, she filled them in again by scraping the loose dirt back with her horn. She is using her horn a lot for lifting things, testing them and digging; although she has managed to break the tip during her attacks on the barricade. Luckily the men all thought it was funny, but eventually I had to take her for a very early walk to distract her, otherwise nothing would have been done. She looks fatter and generally well now, and is eating real thorny browse such as acacias and mayternis.

28 November

On our way home we saw Makora - I tried to by-pass him but he trotted after us. I hoped Samia would run for home while I tried to drive him off, but when I turned towards him she decided to charge him. So I had to run away with her beside me and Makora trotting behind. Luckily he gave up when we reached the bottom of the drift. How brave Samia is to try to take on a rhino at least sixteen times her own size.



Samia's gentleness and affection belie the rhino's reputation for ferocity.

30 November

We encountered Geri, the hand raised female warthog which Ian introduced into the sanctuary. Samia looked very shocked and huffed, but backed off when Geri stood her ground. When we got to a muddy slope Samia came tobogganing down in a sitting position like a dog, looking wholly absurd and obviously thinking it was the greatest fun. I am not sure whether the slide was accidental or intentional.

9 December

My horse got a fright during my early morning ride. She reared up, slipped and fell on me and as a result I was very lame. Samia stayed close to my side and was very gentle and would not play at all. She always seems to know when I am injured or suffering from malaria and responds accordingly.

10 December

I was away all day so Samia occupied herself by obliterating Karl's workbench. Later she got across a big log which she has never man-

aged before, and then had a wonderful mudhole digging operation - sending mud and water flying in all directions and rolling her eyes wickedly the whole while.

27 December

Her neck must have grown longer, for she can again open the gate through the barricade - today she let all the dogs out.

1987

4 January

Twice today Samia nearly succeeded in clambering on to the bonnet of my Suzuki - heaven help it when she gets bigger. It is starting to look all too much like a baby rhino's favourite toy. She now knows the difference in sound between the two Suzukis; she always comes when she hears my yellow one but takes no notice when I drive up in the blue one. In fact she looks really startled when I emerge from it. Later another car gave her a fright when we were up on the Top Plain and she rushed to me, trying to dive between my legs which is what she used to do when she was smaller. She is now 135 cm at the shoulder and her foot diameter is 23 cm. I took a real header but luckily my specks survived. She reacts totally differently to cars coming to the house and to those met with outside; the former she accepts with interest, the latter scare her.

18 January

Whenever she hears me go to feed the bantams, she comes and lies down just outside the fence and breathes at me. Her breathing on these occasions is much too irregular to be just a coincidence - I do not know how to begin to describe it. It is such a very small noise and yet it carries in an amazing fashion. But this afternoon, because I had someone here with a tape recorder, Samia was, of course, silent.

2 February

It is now several days since I forgot to put her lucerne in her stable at night, along with the grass and cut browse. But ever since that day she has gone inside to check up on her fodder before accepting her bottle prior to being locked up for the night.

23 February

I ran a small experiment, intentionally omitting the lucerne from her

Rhino

night's fodder. She inspected the pile and then told me in no uncertain way that the lucerne was missing.

8 March

She sniffed with great interest at Shaba's tracks; I had not had to show her the trail. And judging from other tracks, Samia must also have been very close to Rongai and Kelele down in the Marula earlier today.

1 April

She broke the barricade again this evening, not really by force but just by leaning on it. As she never, under any circumstances, uses her strength against me, it is only when she does things like this that I realize what an incredibly powerful young animal she is. Later she looked highly offended when, after a mud roll, I refused to let her sit on my lap.

6 April

Samia can now scramble up the steep hill from the Marula much faster than I can, so today I grabbed hold of her tail and she gave me a pull. We came back early as it rained and she was outraged at our early return and rushed up and down outside the garden fence squealing for me to come and play. I now refuse to walk with her in the rain, it is too hazardous for both Sambo and me - but as long as it is dry, she is very careful not to hurt me. Once recently, while I was sitting on a rock with her beside me, Samia decided she wanted me to smack flies on her off side. She could easily have walked over my legs, but instead backed off and walked round me.

2 May

We had to come home early because Godot was nearby and as usual Samia did not appreciate having our walk curtailed. She has an excellent internal watch. I have raised enough animals to know that you can cut down a lot on the inevitable stress factor involved with hand-raising if you are fairly regular in your habits. Later Orogai saw Godot going towards the house. So at his suggestion I mixed a bucket of water with Samia's manure and tipped it over her to disguise my scent on her. She seemed to sense my uneasiness about Godot, for she stayed very close to me and made no attempt to play.

6 May

While walking up the hill to the Top Plain I decided to stop and push my shoulder-bag containing notebook, camera and so on under a

bush and retrieve it on the way back. Samia was following me but turned back, went to the bush and re-emerged with the strap in her mouth and, to my total and absolute amazement, brought the bag to me. I praised and petted her and she cavorted around in circles huffing and puffing and terribly pleased with herself while I could hardly believe the evidence of my own eyes. What will my little rhino teach me next?

21 May

I took Samia down to the Marula by the very steep path. She hesitated at first and cried a bit, but when I took no notice she managed it well. She licked various rocks, played in the pool and made a series of noises which, accompanied by her expression, sounded remarkably like complaints about the dryness of the vegetation. We have had very little rain during this so-called rainy season, not enough to do any good. Samia is now making a habit of stopping at the bottom of the steep hill on the way home and holding out her tail for me to grab for a helping heave up. I utilized her tail thus five or six times before she got the idea, but now she has caught on, she always offers me her help.

28 May

She followed the car when I went up to the East Gate, but stopped at the drift. She must have waited there and then heard it coming back down, for she came racing up to meet me. I had no idea she was going to be there and we nearly had a collision coming around the corner. I jammed on the brakes, covering her in dust, and she then thrust her whole head in through the window and blew excitedly at me. She can stop and turn in the most beautiful way and could make a top class polo pony look downright sluggish.

11 June

Juno has been seen just to the north of the house and I think Samia must have met her, for she came racing home in a state of great excitement. She pranced up and down the fence and told me a very long story which I suspect was about Juno. A few days ago, when Samia heard the noise Rongai and Godot were making about mating across the valley, she also came racing back home - this time for reassurance.

19 June

When I fed Samia and let her out in the morning she behaved as if afraid and disappeared back into the stable. A few minutes later I saw

Rhino

Godot just below the garden fence; the wind was blowing directly from him to Samia. The boma she sleeps in is now having to be strengthened because of him, I hope it is strong enough to keep him out. Once more she delayed operations by filling all the post holes as soon as they were dug, and had to be locked up under protest. She ate the hose pipe yet again.

27 June

I climbed a tree (to look for rhinos) via a large 4 m dead branch that was propped against it. I tried to adjust the branch a little but it was too heavy for me to move, so I clambered up anyway. Samia reared up on her hind legs to try to join me, making a series of frantic 'cccaks'. When I would not come down she started working on the branch and eventually got it away from the tree. She manoeuvred it between her forehead and her upper horn until she found the point of balance, then carried it off quite a fair distance until it got hitched up on a bush. I had to jump down.

2 July

We decided to vaccinate Samia against tetanus and I have been keeping the drug in the fridge as per instructions. However, I had not realized that it should be given a chance to warm up before being used. When Dieter injected Samia with the Tetonal it was so cold that she reacted very angrily.

12 July

I moved Samia into her new stable; it is at the end of the row and has her night boma attached. I hope the boma is strong enough to keep Godot out.

13 July

Samia smashed the door into the fodder room and got herself locked in. She ate the leather flap off my saddle and what else I do not know. Ian came and designed a rhino-proof barricade for the door which was completed by evening. He also sent a message to Dieter to stand by in case Samia develops colic, but she appears to be perfectly alright. I think rhinos are more sensible than horses about not giving themselves colic. She now seems quite warm in the mornings; at last she is big enough for her temperature control mechanism to be working effectively.

27 July

Orogai walked with us today as no one knew where Godot had got to

- and Samia was very naughty and chased him up a tree. She knows both him and Karl perfectly well and is very nice to both of them at the house, but does not agree to either of them walking with us. Fortunately she behaved beautifully for Prince Sadruddin who is a VIP in the World Wildlife Fund.

13 August

Some tourists wanted to photograph Samia having her evening bottle outside the stable and I foolishly agreed. Having had it, Samia then refused to go into her stable. I temporarily gave up trying to persuade her and went to have a bath, thinking I would bribe her in later. I was alone in the house, lying in the bath, when I heard the bedroom door quietly opened and yelled out, "who is that?" "Hoo-hoo-hoo", came the answer. "I'm coming, I'm coming", and Samia trotted into the bathroom and put her front feet on the edge of the tub. I think she would have come in on top of me if I had not got out at high speed. Needless to say, she had got the barricade down again and opened the garden gate and the bedroom door.

16 September

I am cutting Samia's milk down, but not the other supplements as it is terribly dry and she is on the thin side. There is food available, both grazing and bush, but the protein content is very low. Samia made it very clear that she wanted to go into the Marula but as there were buffalo there I insisted we go up the hill. She balanced quite a big log on the end of her nose and brought it to me. I accepted it with gratitude but still refused to be bribed into going into the Marula. So with a most reproachful sigh she lay down beside me for a good quarter of an hour. She then got up and put her horn under first one of my feet and then the other, lifting them up and putting them back down. When I still did not move she went round behind me and prodded me in the rear with her horn. She could not have made her views more clearly known had she the power of speech. I could not, alas, make her understand about buffalos being dangerous for me even if they did not bother her.

22 September

Samia was very happy because we could go into the Marula today. She decided to demonstrate her ever increasing strength by putting her horn under the log upon which I was sitting and lifting up both log and me with seemingly very little difficulty.

26 September

Samia espied some green leaves and, with a certain amount of hesitation, managed to clamber on to a rock from where she was just able to reach them. If I were not giving her plenty fodder she would be in real trouble with these drought conditions. She eats a lot of papyrus and wild date palm fronds but neither are of much food value. There is roughage in abundance but protein is in very short supply, almost all the animals are starting to get thin.

2 October

There was a major uproar in the middle of lunch, as Samia, having broken the barricade again, had got her horn stuck in the wire of the fence. Luckily I was able to lay my hands on the wire clippers and she understood and kept still while I freed her. In the afternoon I took her down to the Marula. She must have had a fright down there recently as she will no longer go on her own and shows great caution when she follows me. I wonder what it was. Today she was quite unnerved when the baboons had a noisy family dispute, but remained calm when a pair of kingfishers used her back as a perch.

13 October

Prince Bernhard of the Netherlands paid us a visit and to my relief Samia behaved perfectly. VIPs may be no more fragile than anyone else, but if they get tipped over by a little rhino it would be bound to make front page headlines and would not do the rhinos' reputation much good. She also behaved beautifully for some TV people who came to include her in a film they are making about poaching.

3 November

There is so little for Samia to eat in the bush that she spends much of her time standing by the garden gate complaining. She is losing weight, so I have increased her ration of horse nuts and lucerne and the gruel content of her bottle.

22 November

Samia somewhat unnerved me by gently lifting the British High Commissioner off his feet, but to my relief he took this demonstration of her affection the right way. She is far from affectionate with the little abandoned eland that I am trying to hand-raise. She refuses to have anything to do with it and snorts angrily at it and behaves as if she were very jealous. I dare not leave them together, which means the eland has to be locked up in the stable the whole time.

Samia's Diary

25 November

She found a nice big log and tipped it over and started to lick under it. Alas, the residents were not termites but black ants which swarmed up her face and bit her. To my astonishment, instead of rubbing her face against her legs to get rid of them, she picked up first one front leg and then the other and rubbed them down her face the way a dog or a cat would do. I do not know if this is natural behaviour for a rhino, or if she has copied my dogs,

30 November

We were charged by a very irate Geri who, I fear, has lost all her offspring. Samia backed off from the warthog, who is a quarter her size, with some very startled grunts.

23 December

Samia bashed in the door of the little eland's stable - I am sure she did it out of jealousy. Later she did a very good balancing act with a log on her nose. I wonder if a rhino could be trained to handle timber the way Indian elephants do.

1988

19 January

I had some guests to lunch and Samia made a fearful uproar in the middle of it - why do crises always occur when we have guests? This time it was only Masikio the giraffe who had come to call. Samia calmed down as soon as I went out to her and when I walked close to him she followed to heel - this looks rather absurd since she is now so much bigger than me. Masikio peered down at us from his vast height with his huge, long-lashed eyes, quite unperturbed by the commotion he had caused.

22 January

Samia was out by herself all day and according to Orogai went a couple of kilometres to the north. She did not come back until nearly six in the evening, and when she did return, she came galloping down the hill to greet me. I was very relieved to see her home again.

3 February

Godot spent the night with us. He had another tree down and a go at the reinforcements around Samia's night boma. I was very thankful that the men had done their work so well and that everything held.

5 February

Samia went to the water tank to have a mud bath in the overflow. She then had great fun banging the lid up and down with her horn - that really takes some strength. It takes six men to lift it off and I cannot even shift it one centimetre. Rhinos really do enjoy making a noise when they find something good to bang about.

7 February

Godot nearly got into the night boma last night and I had to park the Suzuki outside. I do hope that he does not flatten it before the reinforcements arrive.

9 February

Again Samia was out all day, and I joined her in the afternoon. She urinated on a rock and I noticed that her urine was very thick, cream-coloured and strong smelling. She sucked it up with a rather revolted look on her face (with which I could only agree) and then made flehmen. I have noticed her do this several times and know there must be a reason for it, but cannot think what it might be. It probably concerns territory or sex.

15 February

Samia celebrated her third birthday by eating my hat which was not quite what I had in mind as a rhino birthday cake.

18 February

We finally had rain, albeit very little. Samia celebrated by going crazy and heaving boulders around with her nose, including the one I was sitting on. I wish I could devise some way to measure her heaving capacity, it must already be considerable.

22 February

Godot arrived at the house at 2 pm and Orogai reported that Samia was about a kilometre away to the northwest, near the buffalo boma. This was a potential crisis, for I am fairly certain that Godot will bash Samia up badly if they meet. So Orogai was installed in the poultry run behind my house to watch Godot's movements and report on them with his hand-held radio, while Francis drove me to look for Samia. When we found her, she trotted straight to me when I called and followed me to Francis' Toyota. I jumped in the back and called to her again and Francis drove off with Samia galloping behind. Orogai radioed to say that Godot was close to him and the bantams. Meanwhile, Samia galloped all the way home after the Toyota and I

got her safely locked up, virtually under Godot's nose. It was a close call.

26 February

Reports of the endless crises with Godot reached the Wildlife Department. So Dieter came up and surveyed the damage he has caused and agreed that it would not do. He said he would arrange to have Godot translocated. Sad as I am, I also feel very relieved, for sooner or later he is bound to cause a major catastrophe if he stays here.

5 March

We walked up to the Top Plain where Samia ate dried grass and twigs and zebra droppings. After our return she broke the barricade and once more opened the gate and got into the garden. She came to find me in the kitchen and got wedged in the dining room doorway. A rhino has a peculiarity of design - which is presumably due to its great weight - it cannot bend its spine the way most animals do, nor can it turn its head to look over its shoulder. Therefore if something behind it alarms it, it will do quite a remarkably quick jump around, reversing its direction. Under normal circumstances this causes no problem, but when Samia does it she can knock me over if I am standing beside her and do not move quickly. In the house it is a recipe for total disaster. Luckily she had the sense to stand still while I grabbed a gallon of cooking oil, poured it over her and then backed her out. If she had not had the sense to stand still until I came to the rescue, I think she would have pulled our little wooden house down over both our heads. She was then very good and followed me up to the stable and agreed to be closed in until I had her supper ready.

9 March

Samia's mother, Solja, calved today and I tried to tell Samia she had a sibling, but I suspect I did not succeed. On our walk I crossed the marsh in a new place and she followed me with the utmost caution, testing every step in the mud before putting her weight on it - whether she actually realises how much heavier she is than me I do not know. Zebra droppings are forming an appreciable part of her diet at present. I wonder if this is because zebra have a less efficient digestive system than, for instance, the eland, and so excrete more usable matter?

13 March

We have had three days of rain and it has sent Samia quite mad. With eyes rolling she tipped a huge boulder into the middle of the road

and there it will have to stay until someone comes along with the strength to move it. I cannot even begin to budge it.

27 March

I have had to keep Samia locked in for the past six days as Godot has been here the whole time. She resented it bitterly, and I spent as much time as possible sitting with her to keep her calm.

3 April

Dieter captured Godot who is now safely parked in the holding boma - so Samia is free again. I have started to wean her and cut lunch out today.

10 April

As part of the weaning process, Samia has to learn to stay out at night on her own. We have had fair rains hence the vegetation is good, and Godot is safely out of the way. So tonight is Samia's first night of freedom. I am 'sleeping' with the bedroom door open, clutching a hay rake and an electric cattle prod ready to go to her rescue should her wails of outrage change to genuine fear.

11 April

I went out at dawn and Samia gave me the most rapturous welcome. She does not seem to be cold or in any way physically affected by having spent the night out, although she spent the entire time wandering up and down the fence using the whole range of her very considerable vocabulary to voice her distress.

12 April

Samia wailed again during the night but only until about midnight. She must have gone off, and then come back just before dawn, and is none the worse for wear whatever adventures she may have had. I think I was more nerve-racked than she this time.

13 April

Last night she did not complain at all but was very tired this morning.

14 April

Orogai reported that Samia was in the Marula last night, and so were both Juno and Kelele and the buffalos. We do not know if Samia actually met up with any of them, but their tracks were in the same place.

15 April

This morning Samia seemed really cold for the first time since she has been out at night. There is no doubt that she has been a bit stressed and has lost weight in this weaning process, but the browse is now good and I will not do anything unless she deteriorates further. On our walk she ate some dried skin off a long-dead eland and also chewed on a leg bone for some time. She then made the most determined efforts to get on my lap but this will not do - she must weigh over three quarters of a ton now!

21 April

Today Samia was totally weaned. There were loud complaints but I refused to weaken. I know Stumpy is still nursing Bahati but Samia must be independent before I go to Europe to put Karl, whose health has deteriorated badly, in a nursing home next month.

22 April

Good rains enabled Samia to have a wonderful time playing in the pools and mud. Mud and water flew in all directions accompanied by great eye rolling and some fairly persistent efforts to get me to join in. Her ears are cold and she has a drippy nose and looks thin but is happy and full of bounce, so I will not do anything about her sniffles.

2 May

More rain - the drift is a real river. I waded across and at first Samia screamed with fear but as I took no notice, she followed and then discovered that playing in the river is wonderful fun.

9 May

We walked up the valley and I sat on my favourite rock watching the kudu and then turned to see behind me a large rhino backside. My first thought was, "surely Samia can't have grown that big" - and then in the next second I realized the backside was Makora's. In the same moment I saw Samia, flanked by a dog on either side. This absurd trio was stalking the vast behind. I did not dare call out because I knew that all four - two rhinos and two dogs - would rush to me. Eventually the backside realized it was being stalked and Makora turned round, gazed at the crazy trio, snorted and walked off leaving them all looking a bit abashed and me vastly relieved.

14 May

I took Karl to Europe leaving Samia properly by herself for the first time since she was born.

4 June

I returned home and was told that Samia had not been near the house for at least two weeks. Orogai knew where she was lying up, about a kilometre southwest of the house, and we drove up to see her. We parked the car and walked to within about thirty metres of where she was lying. Very quietly I called her name - she gave two tremendous snorts and jumped to her feet. Then after hesitating for a few seconds, she came to me at full gallop, with ears pricked forward and making the greeting 'huff-huff'. As she reached me I crouched down and she jammed on her brakes and pressed her face into mine while I held her nose between my hands and gave her my greeting 'huff-huff'. She then proceeded to smell me all over, pressing her nose gently against me. When I got up she walked back to the car at my side and then galloped after it back to the house. For the rest of the day she stayed near the gate, calling me continually. In the evening we went for a walk and she stayed really close. It was not until dusk that she wandered off on her own again. She has lost quite a bit of weight in my absence but is obviously well. Orogai said she had met up with some of the female rhinos - Juno, Rongai and Shaba. I was delighted at the wonderful welcome she gave me.

5 June

Samia came home soon after dawn and called me. She was very affectionate and obviously pleased that I went straight out to her and petted her, for she responded with a variety of 'eeeks' and much blowing in my face.

6 June

Today Samia did not come to the house until late afternoon and then came for a walk with me and the dogs. If she is anywhere near the house she comes home at full gallop as soon as she hears the dogs barking, as this precedes the excitement of our daily expedition. Today she followed me as usual, but then something gave her a bad fright and she galloped off and then came galloping back again. She was badly upset and stayed close to me, trembling for nearly an hour before calming down. The dogs, however, were not upset by whatever it was.

10 September

Orogai reported that Samia had been in the Marula at dawn with Rongai and Julali, Stumpy and Bahati and Shaba and Jupiter. At 6:30 am she was opposite the house with Shaba and Jupiter. When they moved off to the south she came home to greet me.

4 October

On my evening walk I heard Samia's breathing greeting long before I saw her. She came trotting over to join me and the dogs and gave me a beautiful welcome. It is very dry again and she is looking thin, so once more I am giving her a little lucerne and horse nuts for I do not want her to be undersized. She is, I think, a little bit smaller than Bahati despite the fact that her mother is a good deal larger than his.

17 October

I was feeling depressed and Samia quite definitely reacted to my unhappy mood to the most astonishing extent, pressing against me and laying her head on my knee, not wanting to play at all. I am increasingly convinced that the power of telepathy is something much stronger in many animals than in us. The way in which Samia responds to my moods has happened too often for it to be coincidence.

4 November

I was hosing Samia and the car down together, when the former unexpectedly turned her head right towards me and I sprayed directly at her nose - but before the water touched her she clamped both nostrils tightly shut. I have never seen her do that before. I have seen hippos and camels do it, but few other animals can close their nostrils. In the hippo it would seem to be an adaption to living in water, in the camel to living in areas of sand storms. What would have caused a similar adaption in rhinos?

5 November

I spent the whole morning at a meeting where we discussed the pros and cons of de-horning our rhinos in view of the current shifta - a big gang has just massacred all the Meru Park rhinos. When Samia joined me down in the Marula I told her about the discussion. To my surprise she rolled her eyes wickedly and then proceeded to give me a lengthy demonstration of just what a little rhino can do with her horn if she really tries. Oh, to have had a video camera with me.

14 November

Samia had a good go at both the Suzuki and the barricade today and nearly demolished both. She had both front feet right up on the top post of the barricade and when she does that she now towers over me and looks enormous. She weighs over a ton.



Samia loves being hosed down, but has also been known to eat the hose.

1 December

While I was out walking I heard Samia's "welcome" breathing and turned. The wind was blowing directly from her to me so I knew she could not have scented me. When she came into view, moving along at a smart trot, I saw she had her nose down to the ground. This is the first time I have seen her track me.

4 December

At long last Samia has managed to open the rear door of the Suzuki. She has tried many times but only now is her horn long enough to succeed (it is 16 cm). Of course, she promptly removed the sack containing the horse's lucerne, standing on her hind legs to do so. I rewarded her with the lucerne but removed the sack from her possession.

Samia's Diary

10 December

In the late afternoon Samia came galloping home from the north. As she rounded the corner of the fence she started her greeting breathing. She rushed up to me in great excitement and then went on up the hill stopping twice to turn and 'eeeak' at me. I did not follow so she trotted back to me, put her head between my legs and did her very best to push me up the hill. I refused to be pushed. Why she wanted me up there I do not know.

12 December

There was something big in the Marula this afternoon. Whatever it was, was hidden in the papyrus and I did not see it; but Samia stood up three times, putting her front legs on my log, peering forward intently and towering over my head. I suspect that it was either a buffalo or another rhino, in either case I felt very safe with Samia there. Later when my dog Buffalo suddenly stopped and growled with all his long, shaggy hair on end, Samia came straight to me and stood in front of me in a very watchful manner. Nothing materialised, but again I felt very safe.

24 December

Samia broke the barricade and the lights on the Suzuki and tried very hard to join my small Christmas Eve party.

1989

1 January

Samia put her head right under water in her pool and then gave a huge hippo-like snort which sent the water up in a fountain. Perhaps the rhino's ability to close its nostrils is an adaption to an originally riverine environment? She still uses me as a fly swatter, and I always carry a paper or magazine with me to use as such. The friend to whom I pass on my copies of the 'New Scientist' has commented on their being somewhat bloody.

25 January

A camera crew came up to film a TV commercial starring Samia. Her behaviour was perfect - she walked between a tent and a vehicle as required and has very much earned her cheque which is a more than welcome contribution towards the running expenses of the sanctuary.

28 January

Samia's vagina seems very slightly swollen and she is spraying more than usual. Can she be coming into season for the first time already? Dieter inspected and said she could be.

8 February

I have had a new barricade made for visitors' cars. The two compartments are closed by very heavy metal pipes over six metres long. Samia found the point of balance on them and carefully removed all three, one at a time, poised on her nose.

9 February

Another TV crew arrived, this time to film Samia for the BBC, with Desmond Morris. She behaved beautifully, it was me who was nervous.

15 February

Samia is four years old today. She is big, in lovely condition and very beautiful.

28 February

I heard snorting last night. In the morning I examined Samia carefully and found she had a small cut, about 4 cm long and 3/4 cm deep, up beside her vagina. It does not seem to hurt her. Senanang said that Kelele's tracks were below the house in the gully, I wonder if Samia met him during the night?

12 April

My beloved Sambo was put down today at the age of eighteen years and four months. For the first time in nearly a year Samia spent the whole night at the front gate, and throughout the night I heard her gently calling to me. If she did not stay because she knew I was deeply upset, then it was a most remarkable coincidence. The evidence that she had been there all night was quite obvious, and was remarked upon by all my household staff.

13 April

Samia spent the whole day near the house and when I went for my evening walk she joined me. She stayed very close and made no attempt to play in the mud and water. I do not believe this was coincidence. She left after dusk.

15 May

Samia heard me and the dogs in the distance and followed us part way, then lost us. She then went and waited under one of my favourite trees. I saw her there on my return, and she gave me a lovely welcome. Although she is not very good at tracking, she does at least have a very good memory for all my favourite haunts.

During my life I have had dealings with many and varied animals, as varied in character as in species. Four of them have had outstanding personalities. In Ghana there was an Akun eagle owl called Heavenly Horace. He was a bird of charm, humour and intense curiosity who flatly refused to return to the wild. He was my friend for eight years, from the time he was brought to me as a fledgling until he died. The second was a chimpanzee called Berta. When she was sent to me by the Ghanaian Game Department she was almost dead with terror, pneumonia and diarrhoea. Raising her to the stage when she could join a group of young chimps to be rehabilitated to the wild was a real battle, but one of the most rewarding experiences I have ever had. Berta taught me so much in the seven months I had her. Then there was my dog, the beloved Sambo, who was my friend for eighteen years and who literally saved my life three times. Samia is without doubt the fourth outstanding animal personality in my life.

When I brought the newborn rhino calf home on that fateful day in 1985, I had no illusions as regards the time, worry and expense that would be involved in raising her. I wanted not only to give her her life but also a chance to live it freely within the 10,000 acres of the sanctuary. I wanted her to live as naturally as possible, not as an adjunct to my life but as part of the social structure formed by the other rhinos. I was not hoping for any reward other than the satisfaction of seeing her live and become self-supporting and independent.

She has, however, repaid me a thousandfold for all my troubles and anxiety. She has given me her love, her trust and her friendship. I have increasingly noticed that our roles are now changing. If something alarms her she no longer hides behind me but has a tendency to stand in front of me. She does not visit me daily, sometimes two or three days lapse between visits, but when she comes to the house she comes because she wants to, not because I



Samia is now completely independent, but visits the house regularly
(Gerry Ellis)

go in search of her and call her in. There is no higher reward for raising a wild animal than this.

For once we have had very good rains, and Samia is at last putting on a lot of condition and growing fast. On one of her recent evening visits she made a breathing pattern I did not understand. "No more horse nuts", I said stupidly. When she realized I did not understand, she spread her hind legs out and lowered her backside into the position she takes when I de-tick her tits and private parts. It was very obvious what she was asking me to do and needless to say I obliged. So I am still of some use.

A wholly unexpected bonus that she has given me is that by raising her and trying hard to understand her, I have also been given an insight into the intelligence, the gentleness and the methods of communication of her much misunderstood species. Despite her very poor eyesight and despite the fact that her manipulative ability is limited to her upper lip and horn, her intelligence, her ability to work out problems that have nothing whatsoever to do with instinctive behaviour, her sense of fun which goes beyond mere playfulness, and her extreme sensitivity to my moods, have all combined to make me deeply aware of

what a remarkable animal the rhino is and how horribly maligned it has been by humans.

On 13 December, 1990 the event I had been fearing since she was very small occurred - she met the new breeding bull Osupat. She should of course have met him in the company of her mother who would have protected her if necessary and also helped to introduce her. Instead she had to manage on her own. I was told over the radio that they were both in the valley south of the house and fairly near to each other. When I arrived on the east side of the valley, they were on the west side and Samia was carefully stalking Osupat, ears pricked, step by cautious step. I watched with my heart in my mouth, but as she approached him he lay down - it was quite obvious that he did this on purpose. Very carefully she sniffed him and he got up. Terrified she shot off backwards. He turned his back to her and let her creep up again. Alas they were too far off for me to hear how they breathed at each other, but when I left them they were feeding side by side.

Life in the Sanctuary

Do not forget your brethren, nor the green wood from which you sprang. To do so is to invite disaster. Loren Eiseley

Lewa Downs is an area of great natural beauty but too harsh to be described as pretty. It is an area of upland grass plains, dotted with thorn trees and bushes and divided by deep wooded valleys. In all directions the views are vast and are dominated by distant mountains. To the south is Mt. Kenya, glittering with the snows and glaciers that feed all our springs and rivers. During much of the day the peaks are hidden in cloud, but in the mornings and evenings the grand solitary mountain is a splendid sight. To the north, the land falls steeply down to the Samburu Reserve and the semi-desert that stretches to Ethiopia, its flatness broken by occasional mountains. To the northwest rise the ragged peaks of the Mathews Range, to the northeast is the great flat-topped mountain, Ololokwe. To the west several ranges of tree-clad hills run north down to the flat lands, to the east the Nyambenis do likewise. Wherever you look there are mountains and sky, an infinity of space.

Although not as arid as the Samburu lowlands, the climate here is dry. In a good year we may receive over 500 mm of rain; in another year none, or at least not enough to bring forth adequate plant growth. Such drought years bring disaster to both cattle and wild animals, and ranching is not easy. In 1984 the rains failed. Ian had to kill all his new-born calves - a heart-breaking job to any rancher. He would pass the house with the back of his pickup loaded with pathetic little bodies, and would drop one off for my dogs.

In 1985 there were good rains and although many of the cattle died of a viral pneumonia, the wild animals flourished. In 1987 the rains were scant and there was a major die-off of both cattle

and wild animals. The kudu and eland got thinner and weaker and one by one disappeared. Zebra, still looking fat, dropped down dead: not only the Burchell's but also the more drought-resistant Grevy's. Warthogs faded from fat bustling little dynamos to listless near skeletons. Even the baboons lost the weaker members of their troops. Only the Grants gazelle and the giraffe seemed unaffected and the vultures flourished and so, to my surprise, did the bush-pigs which I came also to suspect of feeding on the plentiful carrion.

Because of the altitude we are seldom too hot, and certainly not when I recall Ghana. The days are usually warm and windy and are almost always sunny. The glare, the incessant wind and the dust sometimes drive me nearly crazy - but the nights are beautiful, cold, clear and still. It is a real desert climate. Often, after the generator has been turned off, I go out into the garden alone with the stars and the loveliness to listen to the night.

Sometimes the silence is broken by my unseen neighbours. Zebra come down to drink, making the characteristic noise that is between a bark and a bray. The baboons in the Marula have loud nightmares, no doubt amply justified as a leopard lives there too - when his strange rasping cough breaks the stillness, the whole world seems to wait and listen, for all other sounds suddenly cease. Occasionally I hear the spine-tingling roar of a distant lion. Loud snorts are common, for the rhino and the buffalo that make them come right up to the garden fence at night. Sometimes the dogs create an uproar and I wonder what they are hearing or smelling. Frequently, especially during full moon nights, I overhear on the radio that the alarm on the fence has gone off. Then I wait unhappily and worry. Is it *shifta* or merely two giraffe bulls having a *contretemps* over the top of the wire? Or a tortoise wandering along the fence line, touching the lowest wire with his shell? This last is not easy for the people on night duty to identify.

Life here is gloriously full of the unexpected. No two days are ever alike, no one day is predictable. Each morning I get up and wonder what crisis or adventure the day ahead will hold. Even the events that are a bit unnerving at the time can make me laugh later. One thing unknown here is boredom.

The rhinos themselves, the focus of the sanctuary, are an unending source of incident and interest. In the early days when we were house-building, Morani found that much of our equipment

was to his liking. He was an animal of musical tendencies and delighted in the noise he could cause with his horn on our old Land Rover. He would give it a mighty wallop and then, with ears pricked and evident joy, would stand back to listen to the splendid reverberations.

In those early days I had my horses in the stables just above the house, where Samia later had her home. One night I awoke to the most alarming crashes coming from that direction. Fearing the worst, I grabbed sandals and a torch and ran in my nightgown to see what disaster had struck - but when I got to the stables all was quiet and the horses were both intact. I shone the torch around and the beam alighted on the horn and nose of a very large rhino. I was paralyzed with fear until I realized that it was Morani. Then I spoke to him gently and he gave me his greeting huff-huff. In the light of the morning I saw that the commotion had been caused by his playing drums on the cement mixer - it was newly designed with some very distinct dents. During the 1984 drought Morani spent much of his time close to the house. He wrecked two wheelbarrows and several buckets, and invariably chewed up halters and ropes when I forgot to hide them. He also consumed vast quantities of horse manure.

Neither Morani nor Makora like horses or donkeys, and Morani chased my little mare Topsy several times, not only when she was alone but also when she had me aboard. Far more frightening, though, was the ostrich hen with chicks who chased us every time she saw us. I had the fear of God put into me several times as Topsy hared off over appallingly rough, boulder-strewn ground with the wretched, long-legged fowl in hot pursuit. One memorable morning after she had chased us, Topsy and I then managed to have close encounters with not one or two or even three, but four rhinos. Returning home to breakfast somewhat shaken, I quite clearly heard my father's voice saying, "Well, you have been warned." The next day I asked Francis to build me another stable up by the East Gate. From there I could ride outside the sanctuary and, with luck, avoid encountering so many hazards.

The dogs, especially the large black hairy hound known as Buffalo, could sometimes be excessively foolish concerning rhinos. Once, up on the Top Plain, Buffalo took off at full speed after Juno, circled her twice at a gallop, and then came racing back to me. I watched with my heart in my throat, but although Juno

looked very perplexed she made no attempt to retaliate. Had it been the irascible Godot, the incident could have had a more dramatic ending. On another occasion, Remus the little collie was chasing some yellow-necked spurfowl through long grass and ran right over what he might well have thought was a large rock. It was a recumbent rhino, but fortunately only the placid Morani who merely got up in a bit of a hurry and did not take umbrage. I had not realized he was there until he emerged. Rhinos can be both noisy and conspicuous when they wish, but also, like elephants, can move incredibly silently and can do the disappearing trick in a most uncanny fashion.

When we started the sanctuary, Peter Jenkins cheerfully remarked that we would probably have a few vehicles bashed up by the rhinos. So far we have been very fortunate. Neither Morani, Makora nor Samia have improved my Suzuki, but their jousting has all been in the nature of good fun, rather than malice aforethought. In fact, they are remarkably considerate of my little car.

Once, in a terrible hurry and driving far too fast, I came downhill round the sharp bend towards the drift only to meet Morani walking up towards me at the sharpest part of the corner. I jammed on the brakes and did a smart skid. I did not touch him, but I did cover the poor animal with dust and must have given him a bit of a fright. When the dust cleared, he was standing just in front of the bonnet. The only way I could extricate myself was by going forward first, which meant bumping Morani. I apologized to him and he calmly backed down the hill, so that I could straighten the car. Then I backed up the hill and out of his way.

My next encounter around the same corner was with Godot. This time the positions were reversed. He was coming downhill and I was going up slowly. We were not more than five metres apart when I saw him. I slammed into reverse and retreated as fast as I could. Godot gave a furious snort and took one jump towards me. Then, to my great relief, he thought better of it and turned away.

Both Makora and, more particularly, Morani took a great deal of interest in the generator which lives in a little cement-block house outside the garden enclosure. My household staff, Henry, Benjamin and Kiptamoi, take it in turns to switch the engine off every night. One night it did not go off as usual. I went on reading not thinking much about it until nearly midnight. Then I de-

ecided that I had better investigate as I did not want the engine to run all night. I went out of the garden gate and, walking towards the generator house, called out to ask why the engine had not been turned off. A very unhappy voice replied out of the darkness that the engine could not be got at because a rhino was blocking the doorway. Sure enough, the beam of my torch revealed Morani's large backside sticking out of the little hut.

By the end of June 1984 Karl had finished building our new home and we invited some of our neighbours to a house-warming party. I started getting things ready in the morning, but my cooking operations were badly disrupted by having to go and watch Godot mating Rongai - one rarely gets the opportunity to see rhinos at it. However, by eight o'clock all was prepared. The dogs were locked up, the front gate open and our guests started to arrive. I was handing drinks around when I noticed that quite a few cars were parked up on the road with their headlights still on. When I went out to investigate the cause of the hold-up, I found Morani standing in the middle of the open gateway looking hopeful. I shut the gate quickly in his face and he backed off. Then I re-opened it and our guests drove in, while Morani stood to one side looking reproachful.

On the whole human visitors are few. The Craigs' tourist camp, Wilderness Trails, has the capacity for sixteen people and another company, Ker and Downey, has camping rights on Lewa Downs - both bring their guests to the sanctuary. During the tourist months, mid-December to the end of March and mid-June to the end of September, we may have as many as four visiting vehicles a day. Other people only come by special arrangement with me or the Craigs.

However, many animals other than rhinos and cattle live in the sanctuary. All those that lived here before the fence was erected are still here - with the exception of the elephants which we intentionally fenced out, and the lion and spotted hyena which Ian tries to keep out. Wild animals have an extraordinary ability to get through any fence except chain link. If a leopard or lioness jumps through the fence without touching the ground *en route*, it will not get a shock. My attitude towards such predators is coloured by my experiences in Ghana and is therefore different from Ian's. With every conceivable justification, Ian does not appreciate it if predators eat too many of his cattle. Lions amongst



Grevy's Zebra

cattle are rather like foxes in hen houses, for at times they appear to go berserk and kill far more than they can eat. One night, lions killed sixteen cattle and ate only part of one. Marauding lions cause financial losses above and beyond the cattle they actually kill or even maim. Their attack on a boma terrifies the whole herd, so the cattle scatter to the four winds; it often takes several days and many man-hours to round them up again and in the meantime they will have lost much condition.

Once lions have learned how easy it is to kill domestic stock, which is so conveniently penned up at night, they will ignore the wild animals and ransack the bomas instead. In just one month in the middle of 1989, one pair of lions making the rounds of Lewa killed over sixty of Ian's cattle and several camels as well. No rancher can take this sort of loss, even a tolerant one such as Ian who appreciates that lions have to kill, and who is willing to 'give' them a cow now and then. Yet who are we to condemn the lions even for their occasional apparently wanton slaughter? We humans are guilty of far worse and lack the saving grace of necessity.

A lion's brain and body have evolved with the idea of killing and with the skill to kill. But they only kill out of necessity, because as carnivores they have to kill to live.

We humans have not evolved as such specialised killers; yet, driven by insatiable greed, we have developed killing techniques which both in scope and brutality surpass those of all the natural killers a thousand fold. Gone are the days of simple spears and arrows. We now mow down whole herds of elephant with machine guns, even mothers and calves, just to have their tusks to carve into wholly unnecessary ornaments. We massacre herds of zebra by driving them on to stretched-out blades of artfully concealed band-saws, so that the agonised animals, their legs sliced off, drop down by the score, just to supply the meat markets of large towns. Who are we to condemn lions as wanton killers?

It is not only the lions that cause crises. Both the spotted hyena and the leopard can also wreak havoc with domestic stock, generally sheep and goats. During my twenty years in Ghana I saw all these predators become virtually extinct. Leopards are not difficult to trap, and in Ghana they were caught regularly and, so that their valuable skins should not be spoiled, were killed by having red-hot metal rods thrust up their rectums. The agony they must have suffered before dying still haunts me. In Kenya, leopards which have become a 'nuisance' are also trapped. But since they are legally protected here, they are not killed but are translocated to safer places. Since neither sheep nor goats are kept in the sanctuary, many such trapped sheep-killers have been released here.

In August 1990 an unusually large male leopard which had been making a nuisance of himself up at the Mt. Kenya Safari Club, was translocated down here by the Wildlife Department - I was not consulted. One evening I was in my bedroom, three of the dogs were in the house and Caspar was on the verandah outside my door. Suddenly I heard him scream and rushed out, slipped, lost my footing and took a header. I must have landed virtually on top of the leopard, I never really saw him but I gave him such a shock that he dropped the unfortunate dog. Caspar lived through the night and survived the plane trip to Nairobi next morning, but died in the car on the way to the vet.

The leopard, fully aware that he had made a kill and regarding the poor dog as his property, returned next evening to search for his supper. The other dogs were under lock and key, but I man-

aged to shine the torch in his face quite by accident - he made the most awful noises at me and gave me a terrible fright. He was just a few feet away and looked more the size of a lioness than a leopard. He then proceeded to terrorise me for the next few evenings and nights - I could hear him snarling on the verandah. Eventually, to my vast relief he left the sanctuary and went some miles to a village where it appears that to date he has consumed some thirty dogs and nine sheep and is far from popular.

Even though leopard are legally protected, this does not necessarily mean that their survival in other areas of Kenya is wholly ensured. If, as in West Africa, their wild prey is killed by man so that there is nothing left for them to eat but domestic stock; and if they are consequently snared, trapped and poisoned with the consummate skill and relentless purpose that the West Africans bring to the task, then the leopard might become extinct here too, and it could happen in a frighteningly short space of time.

We had some spotted hyenas in the sanctuary who were killing calves. I used to love hearing them howl at night but I knew they were doomed. Ian tried and failed for many nights to shoot them. Sadly he told me that the only alternative was to poison them, by poisoning the carcass of a calf which they had killed and to which they were likely to return. I knew he hated to do this and that it really was a last resort. He promised that his head tracker would follow up and remove any poisoned hyena so that their corpses would not in turn poison the vultures or other carrion eaters. I heard him issue instructions that the corpse when recovered should be dumped down his brother William's old long-drop (an outside lavatory consisting of a seat over a twenty foot hole). William at that moment was in London getting married and would shortly be returning with his young and beautiful bride, and a new long-drop had already been dug.

Several days later I heard that a hyena had taken the poisoned bait and disappeared, presumably to die, but that no one could find its body. A few evenings later I was tracking Godot with Shambaini at the bottom of the main valley. We crossed the stream and there, very well concealed in the middle of the stream, was the horribly bloated body of the culprit hyena. I had no idea what poison Ian had used but the body, which looked as though it would burst that very night, was certainly a hazard to man and

beast. Some of our guards were living in a small camp downstream, and the rhinos and many other animals drank from the stream. I felt something had to be done, and there was not much time to do it as dusk was starting to fall. Together Shambaini and I lugged that dead hyena up the very steep bush-covered hill, heaved it into the car and then drove off in search of the correct long-drop. The thought of the reaction if the hyena went down the wrong hole was most unnerving.

Cheetah come and go in the sanctuary, for the fence is no great barrier to cats. Although the spaces between the wires look small, even the big cats can leap through them. At the time of writing we have a pair of these lovely, long-legged cats. I sometimes see them and when I do it always brings a great joy to my day. Recently I was driving up towards the East Gate with Remus racing in front of the Suzuki. Suddenly a cheetah jumped out of the long grass on to the road just ahead of him. Remus slammed on his brakes and so did I. The cheetah hesitated and then continued loping on its way. While Remus and I were still recovering our wits, a second cheetah arrived in the middle of the road, and again looked at us and departed. When I related this to Senanang the next morning, he remarked that it was lucky for Remus that it had been cheetah and not leopard, as leopard have a notorious liking for dog meat.

Alas, the cheetah began killing quite a few calves. Since Ian had just lost over a hundred head of cattle to one pair of lion he became, most understandably, exasperated. I became very nervous on the cheetahs' behalf but, since in Kenya they are also 'protected', I know that if the worst comes to worst they will not be shot but translocated. However, I would still fear for them, for cheetah are delicate animals to handle and thus difficult to move and, most selfishly, I should miss them and their graceful beauty.

Buffalo had been in the sanctuary area but moved out of their own accord during the fencing operations. Soon after the fence was completed, a big bull buffalo broke through it and moved back into the sanctuary. We were pleased to have him back. At night buffalo can be very dangerous to people on foot and are generally more feared than lion. We thought that to have buffalo in the sanctuary would be good added protection for the rhinos - especially buffalo like the old bull who had just joined us, for he had a rather bad (or, from our point of view, good) reputation for

chasing people. To keep our new bovine guard content, Francis and Ian captured a few buffalo cows and released them inside the sanctuary. We now have a nice herd of twenty-six.

One day when I was out rhino-ing with Orogai, I heard over the radio that a buffalo was en route to the East Gate. In due course she arrived, lying sedated in the back of a pick-up. Shortly after she was driven through the gate, a helicopter appeared. From its lower regions descended a rope and at the bottom of the rope dangled a small black object. To my intense astonishment the helicopter hovered overhead and deposited one baby buffalo in a net at my feet. It was then explained to me that the gift of mother and child was the result of a combined military operation. Ian had persuaded the British Army that catching buffalo would be good training for its helicopter pilots. Thanks to these various efforts we soon had a nice little herd, and several calves have been born here. Sadly some cows and calves died in the 1987 drought, but the numbers are already recovering.

After rhino and elephant, giraffe are my favourite animals. To me they are the most lovely and elegant creatures, and the reticulated giraffe of northern Kenya, with its wonderfully patterned, rich russet coat, is surely the most beautiful of all. To our great relief they adapted to the fence reasonably well. Bulls have even managed to fight over the fence, bashing their heads against one another over the topmost wire. In contrast the eland have not adapted to being fenced either in or out and regularly cause crises by trying to get through the wires.

Giraffe, however, can cause crises too. On one occasion in the early days I was on my way to the horses up at the East Gate, when I heard over the radio that a giraffe was entangled in the fence up on Fumbi, the area to the north. I drove there as fast as I could, the bags of horse food still in the back of the car. Ian called me over the radio to tell me that if the animal was down I must see that the head was kept above the level of the body, or it would die.

When I arrived at the scene of the disaster, I found the giraffe, a big male, lying prostrate outside the fence with his hind legs badly entangled and his head and neck stretched out on the ground. I am not very agile at getting through fences but with a certain amount of pushing and pulling I made it, and then asked that the sacks of horse food should follow me. I sat on the sacks

and managed to pull the giraffe's head up on to my lap. The giraffe was not too happy about this so I had to keep a very firm grip on his ears to try to make him keep still, hoping that the elevation was adequate to keep him alive.

I was just about organised when the fence gang arrived on the scene with tools to cut the wire. Although they had only the best intentions, their arrival thus laden was too much for the unfortunate animal who now struggled frantically and managed to free himself. However, I did not realise he had done so. Everyone was shouting at me in Swahili but I did not understand what they were saying, for I was far too busy trying to control the giraffe's head to pay attention. Although horribly encumbered by me, the poor creature eventually managed to lurch to his feet. It was not until, clinging to his ears, I was hoisted a metre or more into the air that I realised what had happened and let go - returning to earth with a bump. Luckily the giraffe had no serious injuries and cantered away while we all had a laugh at my slightly bruised expense.

The next crisis with a giraffe occurred the following year, when I received a message telling me, to my great surprise, that a giraffe had disappeared down a hole. I could not visualise anywhere on the sanctuary a hole that could be big enough, but Gilly who was with me assured me that I had heard correctly. We drove straight over to the North Valley to see what on earth could have happened. Sure enough, the tips of two giraffe horns were visible just above ground level. We looked down and saw a very exhausted-looking giraffe wedged in a narrow erosion gully. The poor beast must have been stuck in there all night, for he appeared to be in a bad way.

Francis, at this crucial moment, was on his way to Nanyuki so we had to send frantic messages over the radio for him to come back. In the meantime we had to do what we could. I remembered that I had a very long and strong rope at the house and sent for it, and then managed to knot it around the giraffe's waist. By then about fifteen people had arrived and with my knot in place we all started to heave on the rope. Alas, the knot came undone as we were pulling and as the rope came free we all shot backwards down another equally deep hole which was so hidden by long grass, none of us had noticed it. I landed right at the bottom with about six people piled on top of me. They all scrambled



Giraffes at Lewa Downs

out with their usual agility but I, who even when young was not very agile, had to be hauled out. I then went headfirst back down the first hole. Errada and someone else holding me by the feet and dangling me in the vicinity of the giraffe's waist where I tried to improve on my previous knot. We then all pulled again. This time the knot held, but our combined strength was not enough to shift the huge animal. Eventually both the tractor and Francis arrived and, with his customary efficiency, Francis took charge of the rescue operation. Slowly the giraffe emerged. Luckily he stood still, but trembling, while Francis untied my knot and then he gingerly moved off. For a few days he did not look very happy and his ears drooped so sadly that our trackers called him 'Masikio', the Swahili word for 'ears'.

A surprising sequel to that adventure has been that from that day on Masikio has shown no fear of people. It is as if he knows that we saved his life. He visits both my house and Francis' regularly and it was always Masikio who caused crises with Samia by making himself at home in what she considered her domain. He used to peer over the fence with interest at my bantams too and they would be shocked into making such an uproar that on several occasions I rushed out thinking that they were being devoured by a herd of mongooses. Eventually they got used to being studied by a giraffe, and even Samia has become used to him.

The reticulated giraffe, with its rich red-gold coat divided by white lines, formerly ranged throughout Somalia, parts of Ethiopia and the north east corner of Kenya. Now, due to heavy poaching and civil wars, it is extinct throughout most of its range and a very reasonable proportion of the surviving population is here on Lewa Downs where we now have an estimated seven hundred plus. Eighteen months ago in a game count in the sanctuary we counted 79 of these giraffes. In January 1991 that figure had risen to 172. Something has to be done as they have started debarking the trees, causing serious die-off - particularly of the seyal acacias - and these trees, especially in a semi arid area, are vital for the black rhinos to which we must give priority.

We are not allowed to cull them, and anyhow the thought of killing these beautiful and gentle creatures is appalling to us all. Instead the idea is to translocate them to the Meru National Park. This park had its game virtually wiped out by shifta but now that Peter Jenkins is back there as Park Warden, the situation is improving. We are all very keen that our surplus giraffe - about four hundred - should go there. The only problem is money - we estimate that it will cost us in the region of US\$ 127,000 to move them and somehow or other I have to find this money.

I have mentioned our trackers many times. All of them are Ndorobo, to me the most remarkable people. By tradition they are hunters and gatherers and they have an incredible wealth of knowledge of the forests and the plants and wild creatures which they contain. In the old days the Ndorobo hunted many of the animals, but always within the productivity capacity of the ecosystem. Now they no longer hunt, but they still gather honey and

many wild products. To make a livelihood in rapidly changing Kenya many of them now seek employment outside their forest homes and some from nearby come to work in the sanctuary. I am happy that they are able to make use of their traditional expertise in a modern enterprise. To them, and in particular to Errada, then Orogai and now Senanang, I owe all I know of this area. As we go round the sanctuary they tell me the names and the uses of all the plants; which trees, bushes and herbs are eaten by which animals; which are poisonous and to which species; which (a most surprising variety) can be used as medicines and for which ailments; and which can be eaten by humans and how. I am sure that with any one of our Ndorobo I could walk unprovisioned from here to Lake Turkana - a month's walk through arid thorn scrub, mountains and desert - whereas by myself I would be dead in a few days.

Watching the Ndorobo track an animal is a whole experience in itself. Each leaf, stone and blade of grass tells them a story. They see things which I would never notice and can tell from the most minute signs what animal has passed, and when and at what speed it was travelling. Without doubt they must think that I am impossibly unobservant and clumsy but never once in all these years have I seen them show the slightest annoyance with me. Amusement, yes, but that is fair enough.

I remember once trying to follow Errada up a dry waterfall. I had nearly reached the top when I slipped and tumbled down in a cloud of dust. I can still see the mixture of concern and amusement on Errada's face as he peered down at me. Another time Orogai and I were trying to get a good view of Shaba and Jupiter who were at the bottom of a very steep wooded valley. I skidded and went whooshing downhill. The noise of my descent startled both mother and calf and they galloped off down the valley. Fortunately I got hitched up on a tree *en route* which brought me to an abrupt halt. Poor Orogai did not know whether to laugh or cry as he came to give me a hand back up the hill.

Another time, again with Orogai, we got too close to Juno and her calf before he saw them. He started me up the nearest tree and then scrambled up another himself as Juno came to her feet with a sudden snort. In the meantime, I had got myself into a real mess. My hair, hat and the string on my spectacles were all so tied up in the thorns that I could climb no higher. Nor, with my spec-

tacles dislodged, could I see what I was doing. Juno emerged from her bush, snorted at my feet with disgust and then trotted off, tail in air and calf at heel. Orogai had to use his knife to disentangle me.

Compared with the enormous rewards of living here, the hazards are small. The worst, as far as I am concerned, are Ian's bees. Ian, like the Ndorobo, is a bee-keeper and I am terrified of bees. This is a source of constant amusement to all our trackers, for the Ndorobo love bees and their products. They use the honey to make mead, and also eat it and the wax, the pollen-filled cells and the dead bees inside them - the whole comb thus providing them with a very balanced and nutritious diet. Traditionally honey served as a medium of exchange, and formal gifts of honey are still essential to Ndorobo rituals. Our trackers have the most astonishing empathy with bees, not only their own bees at home, but any bees. When a swarm arrived in my bantam run I locked myself in the house while Senanang came to deal with them. He handled them with his bare hands and with no form of protective clothing; bees crawled all over him and not one stung him. Had I not seen it (through a tightly closed window) with my own eyes, I would not have believed it.

The other hazards to my peace of mind are snakes and scorpions. The snakes are nowhere near as numerous as they were in Ghana, but we do see some. Egyptian and spitting cobras are inevitably attracted by the rats that follow human settlement and infest grain stores, but these quick-moving snakes usually slither rapidly out of the way when they feel human footsteps approaching. Puff adders are more dangerous because their superb camouflage and lazy habits make it easy to step on them inadvertently. The scorpions are tiny compared to the huge glossy green and black horrors we had in Ghana, but they pack a far more powerful wallop. They also have a very disconcerting habit of arriving in the bath via the plug hole.

However, the joys of living here far outweigh such minor inconveniences. When Karl and I were wondering where to site our house, David told us of a place that was, in his view, magical; a place he called the Marula. When we saw it we could only agree. It is a deep, hidden and wholly unexpected gorge. Although we made our home directly above it, the gorge remains hidden. Below the house you climb down to a waterfall shaded by a huge

fig tree. Only three times since we have been here has the water actually flowed over the fall. When the river does run, it floods and it is wildly exciting. But even when there is no water, there is a permanent pool at the bottom of the waterfall, a deep, dark, beautiful pool on which the sun never shines. It is fed by a spring and so never dries up. Sometimes I see big silvery fishes glinting in its depths. On very rare occasions I have seen the lovely curved form of an otter playing down there - but usually the pool is still and silent. Below it is an area of papyrus swamp, edged by yellow fever trees and wild date palms. In the gorge it is always cool and green and quiet, blessedly far away from the dust and wind and glare above. It is a very special place for both me and Samia.

In the very early days I used to sit on the edge of the waterfall and look down and wonder who, apart from the noisy, conspicuous baboons, lived there. I had not yet plucked up courage to go down and explore, when one evening I heard the most appalling crashing noises, followed by loud splashes. Quite obviously some very large animal had arrived in the swamp at speed. I was convinced that it was either one of the rhinos or one of Ian's beautiful Boran bulls, but whatever it was might be in trouble and I had to investigate since no one else was about.

I clambered down with difficulty and started to explore - it was all very quiet. Then I saw a big male waterbuck looking wet and breathless standing near the pool. A few minutes later two large brown eyes and a wet black nose came into focus near my feet. It was a second big male waterbuck, and this one seemed to be stuck and half-drowned. I said "shoo-shoo" hopefully, but although the beautiful big eyes blinked, there was no further response. Obviously stronger action was required. I managed to wade out into the mud and water behind him and, groping around, discovered his tail. I heaved at it with all my strength, shouting at the same time. With huge sucking noises he came unstuck and managed, with a parting heave from me, to get up on to the bank. For a few moments he stood there, dripping and trembling, then slowly moved off. The other waterbuck had vanished.

Another time as I sat on the edge of the waterless waterfall, Remus, the little colt, somehow managed to fall over. Luck was with him and he missed all the bits of rock he could so easily have hit *en route* and plunged straight into the pool. For what seemed

an eternity he disappeared from my sight, but in due course surfaced looking none the worse for wear but clearly very frightened.

I started going down to the Marula regularly when Samia was old enough to negotiate the steep slopes that enclose it. The dogs always came, too. They knew they were totally forbidden to hunt and slowly the other occupants of the area came to accept us. A pair of grey-headed kingfishers decided that Samia could be a useful adjunct to their insect-hunting operations and they often used her back as a perch. Very occasionally, if I managed to sit still enough, they would use me. Once, taking off from Samia's back, one of the kingfishers plucked a pale pink scorpion, 5 cm long, from behind me, right from the log I was sitting on, and battered it to death on a rock. One evening the male captured a huge insect and took it to his mate who was perched on a nearby branch. As she accepted the bribe he grabbed her by her top-knot and mated her, talking volubly all the while, and when he had finished he flew off leaving her to devour her supper. Another evening I saw the male catch and eat, in a little over an hour, three small lizards, one scorpion, two grasshoppers and six assorted small insects. Where such a diminutive bird put it all I do not know.

My greatest pleasure in the Marula has been my acceptance by the greater kudu who visit it regularly. The largest and most spectacular of the African antelopes, they stand over one and a half metres at the shoulder and the males may weigh up to three hundred and twenty kilograms. Both sexes are greyish brown and marked with 6-10 vertical white stripes. The male has huge spiral horns. I make a point of never trying to hide, of never staring at them and of always moving slowly. Sometimes I speak to them or to Samia and sometimes I read out loud to them. After a while they just look at us and then carry on with their normal affairs.

My most astonishing encounter in the Marula took place just after Christmas in 1987, when I was down there with Samia and Buffalo. Samia was browsing behind me while Buffalo sat on the log beside me. He was trembling but I thought this was only due to the big bull kudu who was feeding no more than twenty metres away. Then there was a sudden small movement in the papyrus in front of me and I found myself looking into the beautiful, hate-filled eyes of a big male leopard no more than four metres away. For a long time we just stared at each other. The great cat must

have been lying there concealed in the reeds for at least half an hour, perhaps waiting for the baboons to return from their daily foraging expedition. (Francis and I once heard a leopard kill a baboon in the gorge and the noises were fearful.) Whatever he was doing there, my presence must have been a sore trial to him. Slowly he rose to his feet, turned and then vanished from my sight into the papyrus. By then both Buffalo and I had the shakes. Samia, however, was quite unconcerned. Either she had not scented him or else she realised that she was too big for a leopard to tackle. A few weeks later, a leopard killed a young zebra above the house. I went out the following dawn when he had returned to his kill and had a magnificent view of him outlined against the eastern sky. I suspect it was the same leopard.

I enjoy our evening walks as much as the dogs and Samia do. I try to avoid rhino and buffalo (by that time of day I generally know where they all are), but there are always other animals and many birds to watch for and learn about. Slowly the dogs have acquired some 'bush sense' and know that baboons and warthogs are not to be chased. One evening we unexpectedly met a porcupine and they wisely refrained from tangling with him as well. However, on another evening Buffalo dived under a thorn bush from which there immediately emerged awful sounds. I grabbed him by the tail and hauled him out. To my horror he appeared with a tail in his mouth - a fluffy white tail. The owner, and I had no idea what it might be, was still under the bush making dreadful noises. I got Buffalo to sit and extracted the tail from his mouth, then with it in hand and no clear plan in my head, I crept into the bush. There I met the owner - a zorilla, a sort of African weasel, black and white and fluffy, and with all the courage of his kind. Apart from the loss of his tail he did not appear to be injured but was so enraged that there was no way I could have handled him to check. Some weeks later I saw a zorilla without part of its tail and presumed that it was the same one alive and well.

One particularly beautiful picture, the last frame in an evening walk, remains most clearly in my mind. When Samia and I were walking down the hill towards the house, I heard Karl starting to play the piano - he played beautifully before his health went. Samia stopped, ears pricked, to listen. Beyond the house, across the valley, three rhinos were browsing. All stopped, pricked their ears and looked towards the house intently.

The Future

Extinction is an act too great for man, he bungles it by obscene malice. Mass death should be left to mountains, left to glaciers, it should be left to the sand that covers the boasting of fratricidal kings.

Loren Easley

In an ideal world the future for the African rhino would be to roam unmolested in the wilderness areas of the continent where for forty million years the species have evolved, and in numbers large enough to ensure the continuation of genetic variation. At first glance this seems possible, in Kenya at least. To the north of the sanctuary right up to the border of Ethiopia there appears to be a perfect wilderness area. It is an arid land of thorn bush, mountains and desert inhabited only by the semi-nomadic pastoral peoples who, with their cattle and camels, goats and sheep, have shared the land with the rhinos for centuries. Fifteen years ago Karl and I travelled through this area, over to Lake Turkana and up to the Ethiopian frontier. My diary records all the larger wild animals we encountered: elephant, giraffe, zebra and antelopes of many species.

Alas, today the wilderness full of wild animals is only a vanished dream. Now, wherever you travel in this vast area, you see few wild animals. The human population has increased and will continue to increase. The number of men carrying guns has also increased, primarily because of the shifta problem. The shifta are incredibly well armed with highly sophisticated weapons and the local people, fearful of attacks by these bandits, have responded to the threat by increasing their firepower. In this conflict the animals are the losers. Any rhino released in the area would not stand a chance. For instance, Tsavo National Park, which is over 20,000 square kilometres in size, once had what was estimated to be the highest population density of black rhino in the world.

Now there are so few left that a sanctuary had to be built in which to gather a few of the scattered remnants of the once huge population, in the hopes that they may meet and breed.

Rhinos are easy to kill, for they tend to be creatures of habit and, having few natural enemies, sleep heavily. They can cope with the complications of their normal existence but they cannot cope with man's killing skill. The Africans have always been adept at devising clever methods of killing by using traps, poison and snares. Now they have guns as well and not just rifles, but submachine guns - due to the iniquitous trade in arms, Africa is full of such weapons. The few rhinos left are now worth a fortune to their killers and still more to the dealers and traders. Most Africans are short of money, many are hungry and some are insatiably greedy. The temptation to kill rhinos and elephants for their horns and ivory is overwhelming. The actual killers in the field, the people who take the most risks, are the least to blame; for in many cases they are employed to kill and only a relatively small proportion of the profit goes into their pockets. It is the dealers, few of whom are African, who are really to blame for this vicious trade, and the people who use the end products, none of whom are African. Unless people like Esmond Bradley Martin can prevail upon the governments of the world to stop the trade in horn and ivory; and unless enough people become aware of what is happening and concerned enough to join him in this action, I see no future for the rhino except in well guarded sanctuaries.

The sanctuaries should be as big as finances permit, but at present security is of paramount importance and size cannot be bartered for it. To a certain extent animals within a sanctuary must be managed, but they must be managed for their own welfare and this must be the only consideration. By management I mean that during drought periods it may be necessary to supplement their feed. It may also be necessary to exchange breeding males in order to avoid inter-breeding and to ensure genetic variability. I most adamantly do not mean that rhinos should be 'farmed' for their horns or herded like domestic animals so that they lose their independence, intelligence and natural immunity to the diseases endemic in the area. Man is all too clever at breeding animals to suit his own purposes. In order to make them easy to handle he breeds from the more docile individuals, reducing the

native intelligence and sense of fear of the species. Man is not very good at letting animals breed to serve their own purposes, the evolutionary processes of adaptation and mutation and the continuation of the species.

One sees this wrong sort of breeding in zoos. Because zoo animals are kept in confined spaces and have to be handled, the individuals that breed most easily and the ones the zoos prefer to breed from are those least stressed by noise and the presence of large numbers of people and those that are quiet to handle. None of these characteristics may help the animal to survive in its natural setting, nor are they the traits best suited for the perpetuation of a stock of wild animals. In areas of West Africa where lion had been exterminated, some governments - wishing to increase their tourist potential and realising that in Africa national parks without lions are not tourist attractions - imported lions from zoos and safari parks in Europe and dumped the unfortunate animals in the middle of newly gazetted national parks. The lions, used to receiving daily handouts, were quite unequipped to hunt for themselves, so very naturally moved to the nearest human habitations and helped themselves to goats, sheep and children. George Adamson's legacy to the world is that he has proved, and left all the relevant documentation behind him, that lions can be rehabilitated into the wild and taught to kill for themselves, but that the process is both lengthy and costly.

Some zoos of Europe and America have been reasonably successful in breeding the white rhino but far less successful in breeding the more endangered black species. No one, to my knowledge, has yet attempted to rehabilitate a zoo-bred rhino back into the wild, and such rehabilitation might prove very difficult. The black rhino is an incredibly versatile animal, and, given the chance, could continue to be a great survivor. It can endure extremes of both heat and cold, from the deserts of Namibia to the montane forests of the Aberdares. It can live in plains, swamps and mountains. In each area it knows what to eat and how to survive the stresses of that particular environment. However, much of its behaviour is learned, rather than instinctive. I believe that if the Namibian desert rhino were to become extinct (and there are now well under a hundred left), it would not be possible to re-introduce rhinos from a very different environment into that harsh habitat; they simply would not have learned the skills from their

mothers that would enable them to survive. Surely it is much more sensible to save the black rhino *in situ*, and in much of Africa this means in sanctuaries.

At present sanctuaries are necessary not because of a lack of space - there is still mountain, desert and thorn scrub enough to support tens of thousands of rhinos. Sanctuaries are only essential because of security. Only man can protect the rhino from man. The loss of rhinos in all of the national parks in Kenya, despite the goodwill and good intentions of the government, has proved that only special sanctuaries, be they state-run or private, can afford the rhino the degree of security necessary to ensure its survival. Only when - if - the price of rhino horn drops dramatically, will sanctuaries perhaps no longer be necessary.

The whole matter of the trade in rhino horn and elephant ivory has been dealt with at great length in books and articles by Dr Martin, and I strongly recommend them to all who are interested in this aspect of the subject. Dr Martin sets out every use man has devised for rhino horn in great detail, from status symbol dagger handles in the Yemen, to cups in China which will cause any liquid containing poison to froth when poured into them, and medicines for almost every conceivable ailment.

In order to thwart poachers, many people have suggested that rhinos, at least those in sanctuaries, should be darted, relieved of their horns and then left to go about their own business again. What effect would that have on the rhino? The most obvious use of the horn is for fighting, both aggressive between rival males and defensive, such as the protection of the young. But apart from this, and especially during periods of drought, the horn is much used as an aid to feeding. Branches, otherwise out of reach, can be hooked down with it and whole bushes can be battered. In the 1987-88 drought, Juno was particularly active in this respect and much devastation followed in her wake. The horn is also a useful instrument for digging - I have observed both Morani and Samia digging up bulbs and roots to eat on many occasions. Samia also uses her horn to debark dead trees and turn over logs. Although I only saw her doing this in the 1987-88 drought when she was uncovering termites to eat, I should not be surprised if other rhinos sought such protein supplement in times of acute stress.

Male rhinos make much use of their horn in mating - which

unfortunately adds fuel to the rumour that powdered rhino horn acts upon humans as an aphrodisiac. I have seen both Godot and Morani use their horns in the splendid dust-sweeping ceremony that precedes mating and when generally excited. Samia, with her little horn, does exactly the same thing in moments of intense excitement. I have also watched Godot use his horn to send trees and bushes flying in annoyance when Sofia was forcing him to keep his distance. It was obviously a displacement activity, a means of working off his frustration. He used his horn both in affection and anger; I have seen him use it to caress Rongai, and to punish both Juno and Stumpy. Samia sometimes caresses me with her horn and also prods me with it to try to steer me in the direction she wants me to go. I have seen Kelele do the same to Rongai - although he prodded his mother with considerably more force than Samia has ever used on me.

The argument, both verbal and written, as to whether or not to de-horn the rhino has raged in Kenya ever since I have lived in the country; and people more eminent than I and vastly more experienced take opposite sides. Having watched the various uses to which rhinos put their horns, I used to be much against the idea. It seemed to be both an abuse of the animal and an admission of failure on our part. However, since the massacre of the Meru rhino in October 1988, I have changed my mind. I would prefer our rhinos to be de-horned and alive rather than reduced to stinking heaps of carrion.

I am convinced that the rhino is sufficiently intelligent to adapt its behaviour to managing without a horn, although in a few instances it might need help. In bad droughts, for instance, we might have to supply some fodder to compensate for the animals being unable to hook down branches and dig up roots and bulbs. Moreover, we would have to make sure that lion and spotted hyena were few, for these predators would be dangerous for young calves whose hornless mothers would be unable to protect them. Ngare Sergoi could be used as a testing ground for observing the effects of de-horning on rhinos. We have enough detailed observations on mating to make at least an informed guess as to whether or not de-horning upsets the rhino's breeding behaviour; and many other questions about the effects of de-horning could also be answered. The advisability of the policy on a large scale could then be decided on the basis of observations here.

rather than on the basis of hypotheses and guesses. Only one aspect of de-horning brooks no discussion. If you are going to de-horn at all, you must de-horn all the rhinos in a given population.

What clinched the argument in favour of de-horning in my mind, was the danger factor. The sanctuary was my idea, and as such not only the animals in it but the other people involved are, to a certain extent, my responsibility. Ian and Francis and our men would be facing large gangs of shifta armed with submachine guns, while themselves armed only with a half dozen old rifles. Were they to be mown down, I should feel to blame. The shifta have never come on to Lewa Downs. Like us they have a good intelligence network. They know that, despite our inferior fire power, we have a plane, field glasses and radios, and our people are well paid and hate and fear the Somalis. They also know that if they come here, whatever they do to us or the rhinos, some of them will die in the process. In the past we have heard shooting to the north below the escarpment, but that is as near as they have come.

However, after the Meru massacre we all met and decided that to avoid a similar disaster in Ngare Sergoi we should de-horn our rhinos, but since all wild animals in Kenya technically belong to the government, we had to ask the Wildlife Department for permission. The department turned down our application. Since then we have planned to experiment with de-horning two white rhinos, which can be owned privately, and releasing them outside the sanctuary - but as I mentioned earlier, the death of one of these rhinos after a fight with Makora has caused a setback.

The question of 'ownership' of wild animals is a sensitive one. In Ghana in the old pre-Nkrumah days, the land belonged to the various tribes. It was administered by the tribal chiefs and elders for the benefit of their people. The land, trees and animals were harvested on the basis of sustained usage. The rivers were sacred, as were the forests that grew on their banks and the hilltop forests - and trees could not be cut down. The old religious taboos protected the rivers, the soil and the forests. The animals were hunted but within the limits of their breeding potential. They were protected at certain times of the year and in certain places. The hunters of each tribe were men appointed by and responsible to the chiefs and elders.

Then came 'progress' and a thirst for power by western-edu-

cated politicians. The whole tribal system and the chiefs stood in the way, so both had to go. The idea of land as a form of capital was accepted. Profit became the prime motive and for profit the land was raped. The forests, the soil, the rivers and the animals all disappeared at the most alarming speed. I saw it happening during the twenty years I lived in Ashanti. When the tribes still owned the land, the land was cherished. When it became either private property or state-owned, it was exploited for the quickest possible gain with a total disregard for the consequences. As the average soil cover in Ghana is only about 10 cm over hard laterite, disaster was the almost immediate result.

For nearly thirty years now I have believed that the whole concept of land as a form of capital, be it public or private, is wrong. Land should not be merely regarded as a commodity from which to produce income, but as something infinitely more valuable. It is not ours either to rape or over-utilise, but should be held in trust for future generations and utilised only within the limits of its regenerative capacity. Until people and nations develop a trust concept, as so many African tribes used to have, the present rate of depredation will not merely continue but will accelerate, leading us all to disaster. This, I believe also applies to the wild creatures that live on the land. Unless the trust concept is paramount, state ownership all too often results in a free-for-all grab. In countries that hold to the concept of private property, it is perhaps more practical to encourage the trust concept in individuals. If the animals belong to the land-owner or occupier and are seen by him to be of benefit to him, he may take the trouble to protect them. Of course many landowners are greedy and will continue to kill the animals and cut down the trees to reap short-term profit; but there are other kinds of landowners, people like the Craigs of Lewa Downs and many of the other ranchers in this area. They are people who love their land and wish to leave it richer, not poorer, and who are already putting into practice a form of trust concept.

Such people are prepared to tolerate a certain amount of financial loss for the sake of wild animals. If the wild animals belonged to the ranchers and they were free to utilise them - within the limitations laid down by the government for the protection of endangered species - for the maintenance of a constant yield, these ranchers would encourage more wild animals on their lands and

would be content to keep fewer cattle and goats. Cattle are better adapted to lush environments and when overstocked can damage arid lands badly; a changeover from cattle to wild animals would benefit both the soil and the vegetation of the arid ranch lands. Studies on 'game ranching' have shown that, without doubt, decreasing the number of domestic animals and increasing the number of wild ones in arid areas not only benefits the land itself, but also benefits people: it makes land that is unsuitable for agriculture more productive and hence more profitable.

Increasing the number of wild animals not only increases the biomass that a given area of land can well support but also brings another economic benefit - tourism. Holiday-makers are usually not willing to take expensive trips to view cattle and goats, but every year hundreds of thousands come to view wild animals. Combining tourism with ranching makes maximum use of semi-arid land as well as bringing foreign exchange into the country. In Kenya tourism is now the major foreign exchange earner and also one of the biggest sources of employment in the country. This multiple use of land has proved to be very successful both in Zimbabwe and in South Africa. In South Africa there are now more wild animals than there have been since the turn of the century. They are bringing more profit to the people who own land in the arid areas than cattle alone ever did.

Many people are now aware and increasingly worried about the rate at which plants and animals are becoming extinct. Although extinction of species has always been part of the evolution of life in this world, the rate of extinction has increased greatly in the past decades. Almost all recent extinction has been due to man's activities. Often a species becomes extinct because man destroys its habitat, but in some cases all the members of a species are simply killed. This is what is happening to the rhino.

To my way of thinking, to drive any species over the brink to extinction is a crime, and just about the worst crime that man can commit, for it is irreversible. Many organisms are disappearing before we even know they exist. These are the tiny plants and creatures that live in one area of the world only, each in its own ecological niche, perhaps on an island, or a patch of forest, or some small underground cavity. Their passing is deplorable both in itself and for ourselves, for loss of knowledge and potential in science and medicine. All living things are important, and in the

whole fragile structure of life on earth we do not know which things by their passing could upset the balance of the planet's life support system.

At the moment we must develop, temporarily I hope, an 'ark' concept of conservation. This means we must do our utmost to conserve areas throughout the world which can be protected and where small pockets of wild animals can be reasonably free. These pockets will need to be managed, not only for security reasons, but also to ensure genetic interchange - but they will not be glorified zoos. These scattered arks - national parks, reserves and private sanctuaries - will safeguard species from being pushed into the abyss of extinction. The day may come when the human population explosion is brought under control, and a time may even come when our species deserves the name it has, in all arrogance, given itself - '*sapiens*'.

The rhino's passing would not upset the balance of life on earth, but it would deprive the world of a magnificent and intelligent animal, the likes of which we would never be able to see again. Its passing would be for no good reason, for it is not dangerous to man nor does it compete with him. It is being exterminated simply out of greed and this is a wholly deplorable crime.

People sometimes ask me why I fight for the rhino and not for some other species. The answer is very simple, by coincidence. When we retired to Kenya in 1976 I very soon realised that the rhino was in serious trouble. My life in Ghana and my work with the Game Department there had made me very aware of how quickly man can exterminate animals. I believed that every one who cares about life on this planet must try and act to save it. I had some money and decided that I would use it to try to help save this animal that was the closest in my immediate neighbourhood to being exterminated. By coincidence I met the Craig family, people deeply aware and sincerely committed to conservation. They were brave enough to agree to an experiment to provide a refuge for an animal I knew nothing about except that it desperately needed help. From what everyone told me I was prepared to find the rhino a dangerous animal, and a dull one compared with the chimpanzees with whom I had done much work in Ghana. I discovered I was wrong on both counts.

For many years I have believed that all life is one. By itself each living particle, from a cell to an elephant, may be unimportant,

but each is part of our magnificent living planet. Our human species has evolved as just one part of the whole - but we have developed such means of destruction that we now hold the future of this intricate and glorious world in our hands. We now have the power to destroy the world. We also have the power, if we can hold our greed in check, to let the world continue.

We talk endlessly about our rights but very little about our duties. I believe our most important right is the right to give, I do not believe we have any right to grab. I have lived much alone, and some modern priorities seem strange to me. I do not understand why physical possessions should be regarded as important and take priority over mental wealth.

I have also thought much about boundaries, the narrow lines that divide yesterday from today and today from tomorrow and the lines that differentiate one life form from another. How does one species during the passage of time evolve into another, while other species remain unchanged for millions of years? What divides our brains from the brains of other creatures? How do their brains work? Is understanding between us possible? Many creatures live in a world of scent and sound and possibly other and older methods of communication. We live in a world expanded but also limited by speech and language. The spoken and written word has made us what we are. It has enabled us to store and to share knowledge, to convey the most profound thoughts. It has made us powerful in the extreme, but it has created a chasm between us and all other forms of life. Safe in our presumed superiority we forget that other living creatures may be different and older than us, but not necessarily inferior. In our constant search for knowledge I fear that we are in danger of losing other qualities - wisdom and compassion. Knowledge alone can be a very dangerous weapon.

We may think that we are communicating with an animal when we issue it with an order and it obeys, but this is only a one-way system: we command, the animal obeys, or gets punished for disobeying. If the animal tries to communicate with us, ninety-nine times out of a hundred we do not notice, and the hundredth time we do not understand. Only a few people, those who live in sympathy with and close to animals - like George Adamson with his lions, Dian Fossey with her gorillas and untold 'ordinary' people, from little old ladies with poodles to nomadic herdsman with

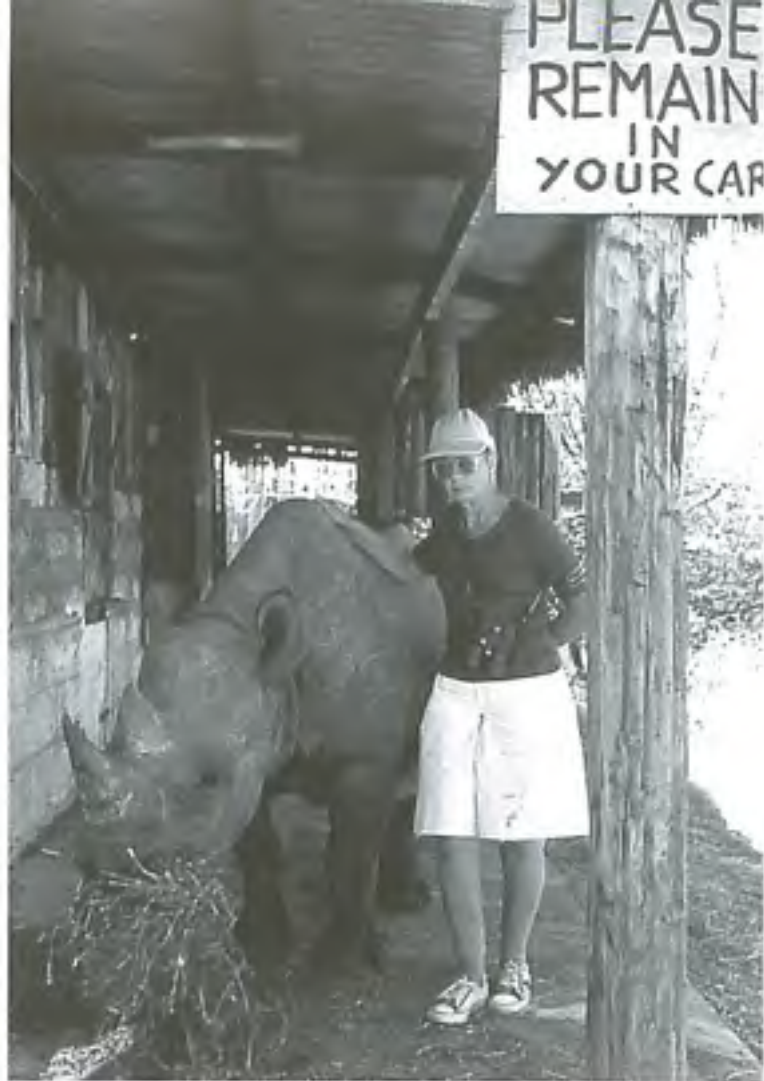
cattle - try to communicate on a two-way basis, endeavouring to understand what their animals are telling them. The potential for communication is there. One day - if we do not blow ourselves up first - perhaps a wiser, more sympathetic and gentler race of man may arise. He may be able to surmount the communications barrier that exists between us and all the other species of animals on earth. What a breakthrough that would be, and how infinitely more exciting than landing gadgets on the moon and Mars.

However, for this breakthrough to happen, animals must continue to exist. Of particular importance is the survival of the great mammals, who possess well developed brains and whose thought processes are closest to ours. As they live in a different world from ours, much of their intelligence may be beyond our present comprehension, but of their intelligence there is no doubt.

During the twenty years I spent in Ghana, I had a great deal of experience handling and raising a wide variety of animals, domestic as well as wild, including antelopes, monkeys and chimpanzees. I have always had a strong suspicion that few animals are stupid except for those domestic species the brains of which have been bred out of them to suit our convenience. When an animal seems stupid to us it is usually due to a lack of comprehension on our part, combined with a lack of interest as to what does go on in the mind of a creature that lives in a world quite different from ours.

While in Ghana I did a lot of work with primates, especially chimpanzees. A creature like a chimp is so like us that it takes no degree of imagination to recognise its intelligence. We can see it in the chimp's eyes, in its expressions, in its manipulative ability, in the way in which a young chimp, like a child, is intensely curious and tries to copy behaviour from others. It is relatively easy to 'understand' a chimp, and the crowds in front of the chimpanzee houses in zoos indicate that the average city dweller feels some sort of sympathy with and interest in the animals. But when we are confronted with a rhino, a creature with bad eyesight, that lives in a world of which we know nothing, understanding - and hence sympathy - is not so easy.

All five species of rhino are at present being so hunted that they are galloping headlong towards extinction, bounded out of this beautiful world for no better reason than human greed. If enough people cared and understood, this would not happen.



At home with Samia (Gerry Ellis)

The slaughter could be stopped. It is in our power to save the rhino, a glorious animal in its own right, and a delight and source of inspiration for future generations of mankind.

In September 1986 Morani was taken from the sanctuary to the orphanage in Nairobi. There he was held until early in June 1989 when he was transferred to the newly created rhino sanctuary on the Ol Pejeta ranch. While the boundary fence was being com-

Rhino

pleted, Morani was kept in a well-guarded 100 acre paddock. At the end of June I had to go to Ol Pejeta and I was asked if would like to see him again. When we went to his paddock he was feeding some way off. He lifted his head, pricked his ears and slowly walked towards me. As he drew near I dropped to my knees and made the greeting breathing. He stepped nearer and then, gently avoiding touching me with his horn, pressed his nose against my face. It was enough.

And the Years that Followed After

It is now five years since *Rhino* was published, five years of births and deaths, of progress, set-backs, disaster and learning all inter-mixed. My husband, Karl, who had suffered a stroke just as I was beginning to write the book, died four years later in hospital in Switzerland. Francis Dyer, who has been with me since the very beginning as manager, and his wife Bimbi, have had two handsome sons, Harry and William. The boys have brought much joy to all our lives and I am sure that when they grow up they will ensure that our work with rhinos carries on. The Lewa Wildlife Conservancy has come into existence and by absorbing the Ngare Sergoi Wildlife Sanctuary has vastly increased its scope and future potential.

My beloved Samia proved that a hand-raised rhino can adapt to a wild environment and become a successful part of a wild rhino society. She not only mated but also produced a calf, the birth of which must have been the most exciting and satisfying moment of my life. She successfully raised her calf for seven months and their tragic death was devastating to me personally. But it also was astounding proof of the impact she had made on people. The hundreds of letters I received from friends and total strangers, beautiful and caring letters, helped me so much to handle her loss and to continue to work for her species.

Other rhinos have died; others have been born, their deaths bringing us sorrow and their births great joy. More rhinos have been brought in, some have been moved out. Here is a brief summary of the main events of the last five years (1991-1996) on Lewa Downs.



Samia and Anna

The creation of the Lewa Wildlife Conservancy

Already by the close of 1991 it had become apparent that even 4,000 hectares was not adequate for us to breed genetically viable populations of black and of white rhinos: these huge mammals need space. Thus it came about that early in 1992 the Craig family made the enormous decision to turn the whole of their Lewa Downs ranch into a rhino sanctuary. When this decision became known, the Kenyan government requested that the 6,500-hectare Ngare Ndare Forest Reserve that lay up on the lower slopes of Mt Kenya to the south should be included. This meant an increase in size from 4,000 hectares to 25,000 hectares.

We were very pleased at the suggestion, for access to the forest would be of great benefit to the black rhinos in particular, and especially during periods of drought. But the inclusion of the forest involved several important things. Firstly, it was no use giving the rhinos all this space if their security was thereby decreased. We had to erect over a hundred kilometres of new electric fencing and to more than treble our security force and our expenditure thereon. Secondly, as the forest was Government property,

to put rhinos there and to protect them meant opening up a new realm of co-operation between the public and private sectors.

Most important of all would be the benefit of the new electric fence to the agricultural people who lived on the slopes of Mt Kenya to the south of the forest boundary. Most of these people possessed only two-hectare plots, on the produce from which they and their families were dependent. A single elephant could destroy their entire livelihood in one night. And elephants were not the only, though by far the worst hazard for those people. Assorted antelope, pig and buffalo could also wreak devastation. The erection of this fence, 110 kilometres long and 2.5 metres high, made possible thanks to the generosity of the American Association of Zoo Keepers, the British High Commission and many wonderfully generous individuals, would thus be of huge benefit to the local people who are our immediate neighbours.

All of us have appreciated for many years that no major conservation project is going to succeed if it does not have the support and goodwill of the local population. In a poor rural area this means that the project must be of immediate benefit to them. People living on or close to the poverty line are not going to think about what is going to be of benefit to future generations, they have enough difficulty in keeping themselves and their children alive and fed. Therefore whatever is done must not only benefit them but also do so in a direct and obvious manner. This the fence did. The increase in our security operation was also of direct benefit to all the local people. Employing some 160 people directly and a further one hundred indirectly, we became the largest employer of labour in the Meru District.

Wildlife conservancies are well known in South Africa and other parts of the world but the creation of the Lewa Wildlife Conservancy was a new concept for Kenya. The Conservancy, which included and absorbed the Ngare Sergoi Rhino Sanctuary, came into being in 1993 (although it was not officially registered as a non-profit organization until February 1995). Its objects are many. The primary ones, of course, are to breed and protect both species of African rhino, and to protect all other wildlife on Lewa Downs with particular reference to the highly endangered Grevy zebra, of which more than sixteen percent of the world population is on Lewa Downs.

The Conservancy is also to prove that cattle and wildlife can co-exist and that multiple land use of the arid rangelands of East Africa benefits the land, the soil, the wildlife and the people. Another important aspect of the Conservancy's work is education. It has been instrumental in raising funds for the building of four primary schools on the periphery of Lewa Downs and in raising money for a few scholarships from these schools to secondary schools. In 1996 another long-time ambition was achieved thanks to the Rhino Trust of Guernsey and various donors; we were able to build a small health care clinic which offers medical care not only to our own staff, but also to many of our immediate neighbours who otherwise had to face long and difficult journeys to the nearest clinic.

The Conservancy wishes to go beyond supporting educational efforts for local children. We also attempt to explain to our own guests what we are trying to achieve and why we consider it to be so important, so that people come as tourists but leave as ambassadors for our work, determined to fight for the rhino's future existence on earth.

Probably the most important thing the Conservancy has done to date has been to promote the idea of communal wildlife management amongst two groups of the pastoralists who live to the north of Lewa Downs. These people have seen that rhinos and other wildlife co-exist on Lewa Downs with cattle. They have seen that this is a combination that attracts tourist revenues and they are starting to realize that wild animals may be of benefit to them instead of being in competition with them. They are realizing that revenue from wild animals can act as a buffer against the devastation caused by drought to their flocks and herds. As a result, they have already created two organizations, the Il Ngwesi Trust to our immediate north, and the Namunyak Trust in the Mathews Range beyond, to enable them to protect and benefit from the wildlife in their areas.

With funding from the Kenya Wildlife Service (KWS) and help from the Conservancy, a small lodge was built at Il Ngwesi and opened for Christmas 1996. This is the very first lodge of its kind in Kenya, built by, owned by, operated by and for the benefit of the local people. A similar small lodge is planned for Namunyak. The Conservancy maintains close contact with the two Trusts and

helps with the training of their staff. We also have a radio link, to be able in an emergency to give assistance if requested. We are rewarded by seeing that in both these areas, wild animals are returning owing to the protection they are now receiving from the local communities.

We believe that it is through projects such as these that the wildlife of those areas will continue to flourish and, equally importantly, that the people of those areas will be able to continue in their own way of life, maintaining their heritage and retaining their identity. And eventually, if the trade in rhino horn can be controlled and security is adequate, the offspring of our rhinos may be able to return to the lands across which their forebears roamed in vast numbers only a century ago.

The rhino's intelligence and social structure

All life is precious and the loss of any plant or creature is a loss to the diversity of life and its ability to continue evolving. But to lose the world's second largest land mammal, the forty million years of evolution that the five remaining species represent, and the intelligence they have developed throughout the course of their evolutionary history, is more than a tragic loss, it is a crime against humanity and our beautiful and unique planet Earth.

Most of the people whom I meet seem to be surprised when I talk about rhino intelligence. I am certain that the reason for this is the difficulty we humans have in appreciating intelligence in a creature very different from ourselves and operating within different constraints. I fully acknowledge that without my eleven years with Samia, and to a lesser extent Makora, I could have spent my fourteen years in the sanctuary learning little except details about their eating habits and similar obvious behaviour.

Samia had metaphorically to knock me on the head to open my eyes to her mental capacities because so often if you do not expect something you do not see it. In a zoo, a very large animal like a rhino has severely restricted space and lacks most forms of mental stimulation. Usually a baby rhino is taken from its mother at far too young an age, and its social contacts with other rhinos are also limited. So, being both bored and frustrated, its mental capacities are not likely to develop. Yet despite this, it is really only among zoo keepers that there is any appreciation of the rhino's capacity to learn.



Anna Merz walking with Samia and Samuel

I am going to relate a story about Makora, our white rhino bull, that convinced me, and I believe will convince you, beyond any shadow of doubt, that he was possessed of great intelligence. I have kept horses all my life and learnt from painful experience how totally panic-stricken they become if entangled, even slightly, in wire. One morning I was in my Suzuki with Senanang watching Stumpy and her calf when we noticed Makora slowly approaching us. The wind was blowing from us to him so he would have scented us. Thus his approach was intentional. The nearer he came, the odder was the appearance he presented until we both realized to our horror that he was completely entangled in a whole roll of fencing wire that he had collected from heavens know where.

As he drew level with the Suzuki, he stopped and gave what I call the greeting breathing. It was obvious as he stood there, trembling from head to foot, that he was asking for help. But what could we do? I had never actually touched him before and I had no wire clippers in the car. Slowly we both got out. While I slipped my hanky between his eye and the strand of wire pressing on it, and then my shirt between his penis and the strand of wire binding him there, Senanang found a flat stone and, using that to cut against, took his big knife and started to cut the wire around the rhino's hindquarters. As he cut the wire I talked to Makora and moved

round him, disentangling the wire as Senanang cut it.

The whole performance took some forty minutes and Makora stood motionless the whole while, but for the violent tremors that shook his huge body. As the last strand of wire fell free he moved off slowly, leaving both of us totally convinced that we had been helping an animal of the most amazing intelligence. Had he panicked, his own death, not to mention ours, would have been certain.

For many years it perplexed me why there is such a very long period of togetherness between the black rhino, and to a lesser extent the white, and its calf. Rhino 'childhood' usually lasts at least four years, even longer if no other calf is born or if one is born but dies. This is a long period in the life of an animal that only lives some thirty years and there must be a good reason. And the reason is surely not because the calf needs all this time to know what to eat or where to find water.

Now I believe that the social lessons that a rhino has to teach her calf must be the reason for this. Unlike the elephant, the rhino does not grow up as part of a herd with a devoted group of 'aunties' in attendance. But this does not mean there is no social structure among a group of rhinos; there is, but a very different one from amongst elephants. Apart from the cow-calf bond, I believe that the most important relationship is that of friendship between two or more adult females.

When a new calf is born, the mother will drive away her older calf and this can be the most dangerous moment in that young animal's life. It is neither mature nor in a position to defend itself from the possibly violent attentions of mature bulls. Invariably I have found that within some forty-eight hours of a new calf being born, the older calf joined up with an adult female with whom its mother had friendly relations, providing that she had a calf of her own, at least six months old or older, with her. The cow would then protect her friend's child against bull rhinos and other dangers, until such time as she herself calved again, when, frequently, the young animal would return to her own mother with the friend's calf in attendance. Thus if I saw a cow rhino with two or three calves of different ages, invariably the youngest and the oldest would be hers, and the middle one would be her friend's calf.

This bonding between adult females and their calves I believe to be the basis of rhino society, a situation which is wholly different from elephant society but every bit as fascinating.

Samia's life and tragic death

As Samia continued to grow and mature and become wholly independent of me, so she learned to spend more of her time with the other rhinos who lived in the vicinity of my house and whose home ranges overlapped hers, in particular Juniper, Julali and Shaba. But still, to my unending joy, she remained my friend and occasional companion, visiting the house at intervals and joining me and the dogs in our evening walks whenever she was nearby and heard us. During those years the relationship between us changed. Her intelligence informed her of my physical limitations compared with hers and she also learned to sense my fear and would act as my protector should need arise instead of coming to me for protection.

One evening in particular stands out in my memory. I had been delayed and was walking home as fast as I could with the dogs, as dusk was fast coming, when Samia, heavily pregnant at the time, joined us. Onto the track just ahead of us strolled three white rhinos, all of whom Samia knew well and all of whom were about twice her size. Her acute perception informed her both of my fear and its cause and entirely on her own initiative she trotted forth, ears flattened to her head, and snorting aggressively. The three rhinos stopped, obviously astonished at her unexpected behaviour, then beat a hasty retreat back into the bushes whence they had come. Satisfied, Samia trotted back to us and escorted us nearly home, then rubbed her nose against me and departed about her own affairs.

Above I mentioned that Samia was pregnant. Yes, it finally happened! If the huge, gentle male, Osupat, had lived and become Samia's mate as I had so hoped, this story could have had another and happier ending, but such was not to be. Rhinos do seem to be accident-prone animals, and Osupat and the bull Kikwar met and fought one dark night and both leapt to their deaths over a low cliff.

Thus it came about that Samia was in due course and on several occasions mated by the wild and savage bull Kenu (I will tell you



Samia with her baby Samuel

later how we came to have him). My trackers saw them mate and once I too witnessed it, from the top of a tree up on Fumbi. Unlike with Godot and Rongai there was little sign of affection between them, but as both were small rhinos and well matched in size, Samia appeared to be well able to stand up for herself.

Thereafter followed some amazing episodes because not only were Samia and Kenu quite frequently together in various parts of the sanctuary, but when she came home to visit with me he not infrequently followed her. This was a serious added complication to my life. Once walking the dogs near the house in the early morning I met Samia and was greeting her, when Kenu erupted out of a nearby bush with murderous intent. With the speed always so astounding in such a heavily built animal, Samia planted herself between me and Kenu, enabling me to escape home. That she would defend me against her own mate was sufficiently amazing, but that she would act thus in defense of my staff and guests with whom she had no bond at all was even more astounding, though the reports I received left no room for doubt that she had acted quite intentionally.

On another occasion I saw Samia at the garden gate and went to greet her, not realizing that Kenu was near her. As he charged she jumped between us and I froze. For nearly forty minutes I stood there, only the flimsy garden gate separating us. I could clearly sense his rage against me but she stood between us breathing in an intricate pattern of sounds that clearly controlled him and when she moved off at last he followed and I was able to creep back to the house, aware once more that I owed my life to her.

The birth of Samia's calf in April 1995 was one of the happiest events in my life and the wonderful culmination of ten years of care and love. Above all things I had wanted to prove that a hand-raised rhino could be successfully rehabilitated and this meant not only living with wild rhinos but being able to raise her own calf. I was fully aware that for a rhino to be a good mother involved being intensely protective of her calf against all the world which, even for Samia, could include me. My trackers had warned me of the dangers of the situation and I was fully expecting that the bond between us would finally break and was happy that it should be so.

For two days Samia had not been seen but this was not unusual and I was preoccupied with other things. Early that morning I had been watching Shaba and her well grown male calf opposite the house, when Kenu suddenly appeared and attacked the young male. Shaba in turn attacked him and there was an uproar. This was Kenu's second fight within two days, the previous one he had attacked Makora and would no doubt have paid for his foolishness had not Makora been dehorned and had there not also been a helicopter at the time to help separate them. This morning there was no helicopter, so it was up to me to try to separate them with a car. This was something which I would not have attempted in the Suzuki, but by now I had a big Land-Rover which was fairly rhino-proof. But I was not successful and merely got entangled with bushes and rocks. Finally Francis came to the rescue in the Super-Cub to dive-bomb them. It was in the midst of all this confusion that I was called over the radio and told that one of our trackers had found Samia, just north of my house, and that she had a baby with her!

With both joy and terror I crept through the bush behind Joseph

until we could see Samia feeding quietly. We peered around: in the long grass nearby we saw just two tiny rhino ears. There was no sound but Samia munching. I knew from previous experience that baby rhinos cry when they are in trouble, so I took the silence as a good sign. About half an hour later the calf staggered to its feet, thrust its little nose into Samia's flank and started to suckle. Samia stopped feeding and stood quietly while the calf drank first from one teat and then the other. There was no doubt that she had milk and there was also no doubt that her child was a son. Having nursed he lay down again and carefully she lowered her great body to lie at his side. Later in the day Samia left him for a short time to go and drink in the valley but she returned at once to where he lay, sniffing him carefully before starting to browse. That evening when he got up to suckle, he already seemed stronger on his feet, distinctly less wobbly.

That night I felt very fearful for them both. Would Samia, hand-raised and protected until she was big, realize that the great predators of the night, the lion, the leopard, the spotted hyena, who were no threat to her, posed a serious threat to her baby? Would she know how to keep him away from elephant? A huge herd had recently moved into the sanctuary area and with them a particularly vicious bull of whom not only I, but most of us were terrified and with very good reason. To keep the elephants at bay, Ian and Francis had erected a high electric wire round my house and the core of Samia's territory. Would she stay within this area?

On the morning of the third day of the calf's life, I was watching him and Samia with one of our trackers and was so absorbed and fascinated that I failed to notice the wind had changed, so she got my scent. Ears pricked, she came towards me. I knew how protective rhino mothers are of their calves and how solitary they are during the first year of their babies' life. I realized I should retreat, but my knees were shaking so much, that instead I sat down. Samia came right up to me, her baby at her side, so tiny and perfect and so like her when I first knew her, big ears and feet, blunt nose and oyster-saltn skin. Gently I told her how clever she was as she laid her great head on my lap and I knew that she was telling me not to be afraid.

As the calf grew in strength, it became obvious that Samia was



The young Samuel

being a perfect mother and my pride in her knew no bounds. Most mornings she would come to the garden gate at dawn and call for me almost as if she knew how nervous I still was for her at night. One morning she came and when I went out to greet her, I could not see the calf. Fear was in my throat. Then he awoke from under a nearby bush and finding himself alone he cried for her. As a complete reflex action she knocked me out of her way and rushed to him, leaving me where I had fallen in the grass. Finding he was unhurt she trotted back to me and thrust her great nose into my face, obviously perplexed at what she had done. Then, as so often in the past, she turned and offered me her tail for a pull up.

So the magical months followed each other. Samuel, as I called the calf, grew in strength and beauty. I never attempted to touch him but he learned to accept my scent. Not only did I myself learn so much about them during this period, but a documentary film was made about them by Jack and Pauline Bellamy of the BBC. They were not only skilled photographers but, even more important, people who cared deeply for the rhinos and never upset them and they completely earned Samia's trust.

It was on a moonless night in November 1995 when Samuel was seven months old that disaster struck. When Samia did not come

to visit me at dawn I went down the valley with my tracker to look for her. The valley was lovely, I had spent so many wonderful days there with Samia. Now I found her lying there, dead.

She was lying on her back below the forty-foot cliff from which she had obviously fallen. Her back was broken and death must have been instant. Samuel lay crying some few yards away. I tried to help him but could not do so, so sent Patrick to call for help. A leopard grunted nearby, but I did not see it.

When Ian came he realized what I had not, the baby's back was also broken, just above the tail. A merciful bullet ended his suffering, and the most beautiful days of my life.

The other rhinos

I am sure my readers wish to know what has happened to the other rhinos too, so I will bring this book to a close by bringing all their affairs up to date.

The bull rhino Kenu was, without doubt, the cause of more trouble and grief than any other rhino we have had. He was the last of the wild rhinos we captured and introduced into the sanctuary. For several years, we had been hearing rumours that a solitary rhino still existed somewhere in the vast area to our north, between Marsabit and Laikipia. It seemed that this animal was the sole survivor of what had once been a large population of black rhino and had only survived because he was very wary and always on the move. In January 1993, on receipt of very recent information on his whereabouts, we and the Capture Unit decided to try to capture him. We succeeded but because of the presence of Somali shifita in the area we had to move him south immediately, giving him no time for recovery. We found we had ourselves a small but very powerfully built rhino with no ears, probably caused by a near miss with spotted hyena when he was a baby.

From the start it was obvious that Kenu, as we named him, was a very dangerous animal and hated humans, for which he could not be blamed. But he was also a rogue animal towards his own species being directly or indirectly responsible for the deaths of both Samia and Shaba, both of whom were his own mates. (When we scoured the area above the cliff to try to understand why Samia and Samuel had fallen to their deaths, we found

Kenu's tracks mixed with theirs.) But what does it do to an intelligent animal to possibly witness the deaths of all the members of his social group and to grow up in solitude and under constant persecution? There is ample evidence of what it does to chimps. I tried not to blame Kenu too harshly for Samia's death. But when he subsequently killed Shaba in an outright fight, the KWS decided to move him and shortly after that he too died falling off a cliff.

The end of 1991 saw the death of the old black female, Rongai. She was one of our founder rhinos and as she had spent much time near my house, I knew her well and had spent many happy hours watching her and learning from her. A cliff was her undoing, too; she overbalanced and fell, and died in the river below.

Rongai's sub-adult daughter Julali promptly joined up with Juno and her daughter Jupiter, and Samia was sometimes seen with them too. Julali had her first calf in June 1997 but most tragically died three and a half weeks later, when an elephant-damaged tree fell on her, killing her instantly. Her calf, a male whom we have named Laringoi, is being hand-raised by Jane Craig and so far is doing well. Having had colostrum and milk from his mother, his digestion was (unlike Samia's) in good order, and his mother had already started teaching him how to browse, so we are hopeful that he will survive and flourish.

In 1993, I and my two trackers had a somewhat hilarious encounter with Juno which is indicative, I believe, that rhinos do have a sense of humour. We were watching Kenu attempting to mate Juniper and so was Juno. Mama was obviously not in agreement with these goings-on as every time Kenu managed to mount Juniper, Juno promptly knocked him off her daughter's back. However Kenu persevered and Juniper was obviously willing, so eventually Juno gave up interfering and wandered off out of sight. My trackers and I continued to follow Kenu and Juniper to observe their mating and we quite forgot about Juno who managed, on large silent feet, to get right behind us and then let out a huge snort which effectively scattered us like so many startled rabbits and informed us in no uncertain way as to her views on Peeping Toms. In January 1996 Juniper calved, but probably as a result of a subsequent mating with Amuri.

In 1992 Juno produced a very small and possibly premature male



Anna feeding Samia

calf, who sadly died after five days from an infected umbilical cord. Juniper, who had left her mother on the birth of this calf, promptly returned to her and remained with her until Juno died in December 1994. It appeared that she died trying to give birth to her next calf, seemingly because of old age.

Solia, Samia's mother, and Stumpy both had female calves in 1991 and again in 1995, all four fathered by Kelele, Rongai's son. In 1996, Solia's second calf, Zaria, herself fathered by Godot, had a male calf by Kelele. This youngster is doing very well.

In 1992, Shaba gave birth to a male calf, Shimba, who sadly died in the flash floods of 1997 when, it appeared, he lost his footing and drowned. Shaba herself was killed in a fight with Kenu at the end of 1996 while she was carrying an almost full term calf.

Mwingo, who was brought to us in 1989 having been injured and blinded in Nakuru, at long last, in July 1997, had a baby, also fathered by Kelele. The gentle Mwingo was showing every sign of being a good and highly protective mother so we hoped that her calf would survive, but one night when it was just three weeks old it was killed by a large male leopard. Could Mwingo's bad sight been responsible? I do not know.

In 1994 two white rhinos, Sungari and Gororika, both produced female calves by Makora. Both then produced male calves

in 1996, again by Makora. The third of our original white rhinos, Marembo, had a male calf in 1995.

A last message

Samia, during the eleven years of her life, had truly been both a rhino of two worlds, and possibly also the best ambassador her species has ever had. Her death left a gap in my life that will never be filled, because between us there was a reaching out towards each other, between two wholly disparate species, towards a mutual understanding. And the choice was hers. I never either controlled or tried to possess her, our friendship was her choice. Yet because of that she impressed all who saw her in the flesh or in the film the Bellamys made of her, with her gentleness and her outstanding intelligence. At Lewa, all of us are determined that the splendour which these great beasts bring to our lives shall not pass away. We realize that if the bell tolls for the rhino, all five species thereof, it tolls also for us and our children and we have vowed not to let it happen.

Appendix

Medical Data and Formulae

STANDARD CAPTURE DRUGS

M99 and Fentanyl Citrate (F.C.) are mixed together in the dart. Azaperone is injected deep intra-muscular before the antidote M50/50 is given - the effect lasts 8 to 10 hours. M50/50 neutralises the M99 and F.C. and leaves the Azaperone. Five out of 900 captured rhinos died from this treatment, and of these five, four probably had cancer of the liver. Thus it is likely that the liver did not have time to remove the M99 by the time the effect of the M50/50 was over, so that the M99 took over again and the animal collapsed and died (R. Henwood). If this happens, there is little that can be done, except to try to revive the animal with small doses of Nalorphine hydrobromide.

	M99	Fentanyl Citrate	Azaperone	M50/50
<i>Adults</i>	1 to 1.5 mg	30 mg	200 mg	6 mg
<i>Sub-Adults</i>	0.5 mg	20 mg	100 mg	4 mg
<i>Juveniles</i>	0.25 mg	10 mg	50 mg	2 mg

After injecting Azaperone, an injection of long-lasting antibiotic such as Penimycin (dosage: adult 40 ml, sub-adult 20 ml, juvenile 10 ml) is injected deep i.m. Antibiotics containing cortisone are never used as they will usually cause any pregnant female to abort. Streptopen is used to treat the eyes and dart wounds. Eyes have to be treated as soon as the animal is on the ground and covered with a sack, as Azaperone dries out the eyes and the animal can be blinded.

When Godot was captured (3 April 1988) and moved from the sanctuary another drug was used, and this proved satisfactory. He was darted with 0.82 cc Carfentanyl and then given 1.5 cc Azaperone. When his breathing was down to 3 breaths per minute, he was given another 0.2 cc M50/50 + 1 cc Azaperone + 50 cc Combiotic (Dr Dieter Rotzler).

DRUGS GIVEN TO AMBONI AT THE TIME OF CAPTURE

The drugs were given for an unknown ailment, the symptoms of which were weakness, bloody urine, dim eyes and a swollen head:

- 8/7/86 He was captured with 0.80 cc Immobilon + 2.5 cc Azaperone. He was found to have a temperature of 36°C and was immediately treated with 50 cc Longlasting Terramycin + 6 cc Multivite + 10 cc Deltacortril + 8 cc Ferrofax + 1.5 packets of Berenil (2.5 g each).
- 20/7/86 Since it was likely that he had worms, he was treated with four 6.75 g sachets of Strongid P, each containing 5.18 g Pyrantel embonate.
- 20/7/86 He was further treated with 30 cc Catasol + 30 cc Bykhepar + Longlasting Terramycin (50 cc). A severe helminth infection was diagnosed from a dung sample.
- 22/7/86 Further treatment for worms: 16 cc Imovec (not effective).
- 29/8/86 23 cc Imovec (not effective).
- 12/9/86 6 packets of Equizole (thiabendazole), 30 g in each. This was effective, and the egg count, which had been 4/6000 eggs per gram strongyle worms, fell below 1000.

DRUGS GIVEN TO MORANI FOR WOUND INCURRED FROM FIGHTING

- 27/8/86 40 cc Strypen; wound sprayed with Terramycin spray.
- 28/8/86 40 cc Strypen.

DRUGS GIVEN TO SAMIA FOR DIARRHOEA

Lectade, rice water, kaolin + Sulphaguanidine tablets (1.5 per feed).

DRUGS GIVEN TO SAMIA FOR PROTECTION AGAINST TETANUS

3 injections of Tetanol 2.5 cc each. The initial two were given one month apart when Samia was 2 1/2 years old, and the booster a year later.

DRUGS GIVEN TO SAMIA TO TRANQUILLIZE HER FOR THE JOURNEY TO NAIROBI

2/8/85 0.5 cc Azaperone (not effective).

17/8/85 0.7 Rompon intravenous (effective).

DIET FORMULA FOR SAMIA FROM BIRTH TO WEANING

10 measures Lactogen + 1 tbs Nestrum + 1 tsp Energex - increased pro rata.



*"What Joy Adamson was to lions,
Dian Fossey was to gorillas, and Jane Goodall
is to chimpanzees, Anna Merz is to rhinos. . .*

*I can promise you that, after finishing
this book, you will never see rhinos in quite
the same light again."*

Desmond Morris

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ANNA MERZ was born in England in 1931. She studied politics and economics at Nottingham University, then read for the Bar at Lincoln's Inn. On marrying she went to live in Ghana where she ran a light engineering workshop and trained and rode racing ponies. She also worked as an honorary warden for the Ghanaian Game Department and National Park and took five lorry trips into the Sahara to reconnoiter sites for wildlife reserves.

In 1976 she and her second husband Karl retired to Kenya where she set up the Ngare Sergoi Rhino Sanctuary, in 1992 extended to incorporate the entire Lewa Downs ranch. Anna Merz lived on the sanctuary from 1981 to 1996, sharing it with a number of wild animals - including cheetah, leopard, buffalo and zebra. She now lives in South Africa, and remains active on the board of Lewa Downs. She is a member of the IUCN Asian Rhino Specialist Group and has dedicated her life to the raising of funds for rhinoceros conservation and security.

Jacket photograph by Gerry Ellis