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Man and Game in Eastern Africa

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that such methods could be profitable only where game populations are high and unlikely to be seriously affected thereby.

Spears and missiles

The spear is the traditional weapon of primitive tribes throughout the world and the one most frequently used in Africa for hunting. The problem is not so much how to kill with a spear except, perhaps, in the case of elephants, as how to get close enough to do so. In general, one of three or four methods may be used. Animals can be stalked, chased on foot or horseback until they are exhausted or, if enough hunters are available, whole herds may be surrounded.

Spears too, are often used in combination with other weapons that I shall discuss later. Thus, the principal weapons of the Azande or Niam-Niam tribe in Zandeland are spears or lances, tipped with iron at the point or with antelope horns, and the *trumbash*, a throwing missile shaped like a boomerang, made of wood or iron and used for flinging at hares, small antelope or birds. At the same time, 'many of the Niam-Niam, being forest negroes, carry bows and arrows. The latter are contained in a small quiver and are poisoned. Also all Niam-Niam carry a small knife with a blade like a sickle. When a Niam-Niam gets his money he at once buys only the one necessity of life: a bag of durra, the rest goes to the purchase of spears, because spears are the important trade goods in Zandeland. Forty spears will buy a very nice young woman, and all the lads save up for that luxury'.[6]

Congo pygmies normally hunt in groups of three or four. If they find a herd of elephants one attacks and, when the animal turns to run, the others rush in from several directions and likewise plunge spears or swords into its body. In some regions the hunter goes alone, on foot and equipped with a heavy-bladed spear. He wears no clothes to catch in thorns and other obstructions, and his body is smeared with dung to conceal the human scent. On finding a herd of elephants resting during the noonday heat, he stalks a chosen animal, taking advantage of wind and cover, until he is within three or four yards of its head. Then he bounds forward and spears it, darting away into the bush before it has time to retaliate.

A. L. Cureau (1915) gives these details of how the Negritos or pygmies of tropical Africa 'know how to creep noiselessly amid the underwood of the miry forest and take their stand upon the outer edge of the boughs broken in some thicket by the shoulders of the elephants, whose gigantic size is shown by the tufts of hair hanging upon the raphia thorns and by the muddy stems impressed upon the

[6]Millais, 1924.

trees when they brush against them. The little hunters half cover themselves with this dunghill of rotten leaves and worm eaten wood, where they wait long hours in the animal stench of the elephant hairs. When the dim light of morning or evening shows the clumsy outlines of the great pachyderms in the greenish glimmer of the bush, the little man lets the herd go by; but when he sees the last animal, the oldest elephant, which forms the rear-guard, the small hunter suddenly leaps between its legs, plunges a lance with a broad, barbed head into its belly, and then with a bound conceals himself behind a tree from the rage of the wounded giant. This is but the first act of the tragedy, for the elephant dies very slowly unless some vital organ has been reached by the first blow. Away dashes the monster through the forest, and its little enemy must needs follow its trail, sometimes for one day, sometimes for two, harassing it all along the way, and getting possession of it only at a great distance from the starting point. Then he must return to the village for reinforcements'.

On occasions, a hunter will sit in the branches of a tree, waiting for his prey to walk beneath: 'Another method of slaying the elephant is practised by some of the upper Dôr and Baer tribes: a strong lance, with a handle five feet in length, the extremity shaped like a club, diameter about four inches, is laden with a stone, fixed to it with cords, and plastered over with clay, the whole being made as heavy as it can be managed. With this instrument a negro, conversant with the noonday haunts of the elephants—invariably under the shade of large trees—ascends one of them, and, laying himself out on a branch, quietly awaits the arrival of his prey; and when one of them is directly under him, with all his force he sends the spear into his back or shoulders. When the blow has been well directed, the animal bounds about for a short time, increasing the wound by the oscillation of the spear, and thereby accelerating his death'.[7]

The Dinkas of Bahr el-Ghazal province, Sudan, until recently hunted white rhinos in a similar way, by means of a wooden frame under a tree, many miles from the nearest habitation. It consisted of an upright beam in the ground, about 12 feet from the bole of a growing tree, and a cross beam joining the top of the upright to the tree about 12 feet from the ground. A man sat above the cross piece on a small platform and speared the rhino as it walked underneath. A very big, heavy, elephant spear was used and was driven down into the backbone behind the shoulders of the passing animal. This type of hunting was done on moonlit nights during the rains. Rhinos are in the habit of walking along the same tracks every day or night. A track was therefore selected which passed conveniently near to a suitable shady tree and a frame built over the pathway. Branches and

[7]Petherick, 1861.

'Kudu, Roan Antelope, Ariel and occasionally Tiang, Waterbuck and Hartebeest, are hunted with dogs. In the rainy season, when the deep going lessens their chance of escape, they are sometimes caught in the muddy ground, surrounded by numbers of natives on foot, and finished with the spear. The Buffalo is so difficult an animal to kill, and the value of his meat and hide being proportionately so small to the risks and dangers of the chase, that it is rarely he is attacked, and then only for the sake of the reputation which attaches to success. On the other hand, the Elephant, whose meat and ivory is highly prized and of great market value, is not similarly immune. The hunt often entails the definite sacrifice of horses, which rarely survive any period in the tsetse-fly areas, where elephant are usually found. . . .

'The lion is only hunted as a defensive measure. So long as he confines his attention to game, he is accorded due respect and left severely alone. But once he begins to apply his strength and cunning to the killing of native cattle, he becomes an expensive pest to be destroyed as rapidly as possible. When such a lion appears in certain districts, local natives combine to take action in an organised hunt. The active inhabitants of several villages, some mounted and all armed with spears, surround the spot where the lion has been located. Those mounted place themselves so that they can take advantage of their superior height and mobility and observe when the lion breaks cover. This he does several times before he makes a final stand. Then realising he is surrounded, he charges the unbroken ring of natives, to meet his death on their spears. It is rare for the attackers to escape without injury, and several usually receive wounds which they wilfully neglect for the sake of conspicuous and coveted scars. . . .

'Natives from West Africa, passing through or temporarily residing in the Sudan, are sometimes met using the bow and arrow. It is exceptional to find one who kills antelope, but many are expert shots and clever stalkers. A common ruse of theirs is to mount the stuffed carcase of a Ground Hornbill as a head-dress and, thus disguised, crawl through the grass towards their quarry. The "throwing stick" is a favourite weapon in certain parts of the Western and Central Sudan. It consists of a flat crescent-shaped piece of wood three feet in length and sharpened on both curves. It is used for the destruction of nothing larger than the guinea-fowl or that much relished delicacy expressly forbidden by the Koran, the hare. . . .'.

Two methods of killing gazelles in Somalia were described by the explorer J. H. Speke (1864). Two men would ride round the animals in large, but gradually diminishing circles, gradually manoeuvring them close to a bush in which a third was concealed so that he could shoot them with his bow and arrow.

'The other plan for killing them is extremely artful, and is done on horseback, and therefore on the open plain. Fleet animals, like antelopes and gazelles, always endeavour to head across their pursuers, no matter in which direction they go. The Somalis, therefore, taking advantage of this habit, when they wish to catch them on ponies, which are not half so swift as the gazelles in fair open chase, economise their strength by directing their animals' heads towards the leading gazelle, and thus inducing the herd, as they continue heading on, to describe double the circumference of ground their ponies have to traverse. In process of time, the gazelles, by their extra exertions, begin to flag and drop, and the hunters rush in upon them, and cut them up in detail'.

On another page, Speke wrote: 'When out shooting specimens, I often saw the Somali chasing down the Salt's antelopes on foot. I killed many of them myself right and left, when running like hares, with common shot, much to the astonishment of the Somali, for they are too small a mark for their bow and arrow shooting. The little creatures cannot stand travelling in the midday sun and usually lie about under favouring trees which line the water courses. Knowing this weakness, the cunning Somali hunter watches him down from feeding to his favourite haunts, and, after the sun shines strong enough, quietly disturbs him; then, as he trots away to search for another shady bush, they follow gently after to prevent his resting. In the course of an hour or so, the terrified animal, utterly exhausted, rushes from bush to bush, throwing itself down under each in succession until at length it gets captured'.

A. L. Cureau (1915), who described various types of traps and harpoons for killing elephant, hippos and wild oxen, mentioned an unusual method of attracting smaller game: 'The antelopes' timidity and swiftness make it a difficult prey, but the tribes who inhabit districts covered with jungle (the Kakas), where a battue is impracticable, know how to attract it within distance of the assagai by means of a call which they insert in the nose'.

A cunning device used in South Africa for escaping the attacks of formidable animals was described by Burchell (1824). It consisted of a number of black ostrich feathers 'tied round a thin stick of the size of the shaft of a hassagay, which is thus covered for two or three feet along the upper part of its length; their points turning outwards. This *feather-stick* often renders the natives an important service when hunting or attacking the larger and more ferocious wild animals. If in approaching too near, these creatures should suddenly turn upon them, their only chance of escaping, is by immediately fixing the feather-stick into the ground, and taking to flight. As this apparatus is always carried in a manner to be most conspicuous, the animal seeing it standing up beside him, mistakes it for the man himself, and

vents his fury upon it: by this stratagem the man gains time, either to escape to a place of safety, or till his companions come up to his assistance. In this manner the life of one of my Hottentots was once saved from an enraged rhinoceros'.

Hamstringing

One of the difficulties in hunting big game such as elephant with spear or sword lies in preventing escape of the quarry before it can be killed. For this reason several native tribes as already mentioned, resorted to the practice of hamstringing, the most dramatic accounts of which are probably those of Bruce (1790) and Burton (1867). Although the method varied in different places the principle was the same. One hunter would attract the elephant's attention while others would either hamstring it or plunge a sword or spear into its entrails. As recently as the beginning of the present century, as many as 800 elephants were killed annually in this way by the Rizigat and Hamman Arabs.

The explorer, James Bruce (1790), who discovered the source of the Blue Nile gave this picturesque description of the hunting methods of the Nubian *agageers*[14] that he witnessed shortly after he had reached the source of the Blue Nile. 'As soon as the elephant is found feeding, the horseman rides before him as near his face as possible; or, if he flies, crosses him in all directions crying out, "I am such a man and such a man; this is my horse and that has such a name; I killed your father in such a place, and your grandfather in such another place, and I am now come to kill you; but you are an ass in comparison of them". This nonsense he verily believes the elephant understands, who, chased and angry at hearing the noise immediately before him, seeks to seize him with his trunk or proboscis, and, intent upon this, follows the horse everywhere, turning and turning round with him, neglectful of making his escape by running straight forward, in which consists his only safety. After having made him run once or twice in pursuit of the horse, the horseman rides close up along-side of him, and drops his companion just behind on the off-side; and while he engages the elephant's attention upon the horse, the footman behind gives him a drawn stroke just above the heel, or what in man is called the tendon of Achilles. This is a critical moment; the horseman immediately wheels round, and takes his companion up behind him, and rides off full speed after the rest of the herd, if they have started more than one; and sometimes an expert Agageer will kill three out of one herd. If the sword is good, and the man not

[14]According to Capt. C. R. S. Pitman the word is probably a corruption of *bagheera*, i.e. the Bagheera Arabs who still occupy that part of the country (Carrington, 1958). See, however, p. 148.

afraid, the tendon is commonly entirely separated; and if it is not cut through, it is generally so far divided, that the animal, with the stress he puts upon it, breaks the remaining part asunder. In either case he remains incapable of advancing a step, till the horseman returning, or his companions coming up, pierce him through with javelins and lances; he then falls to the ground, and expires with the loss of blood'.

'Dextrous, too, as the riders are, the elephant sometimes reaches them with his trunk, with which he dashes the horse against the ground, and then sets his feet upon him, till he tears him limb from limb with his proboscis; a great many hunters die this way. Besides this the soil, at this time of the year, is split into deep chasms, or cavities, by the heat of the sun, so that nothing can be more dangerous than the riding'.

In Sir Richard Burton's account, 'three *aggageers* came galloping across the sand like greyhounds in a course, and judiciously keeping parallel with the jungle they cut off his retreat and turning towards the elephant; they confronted him, sword in hand. . . . In the way of sport, I never saw anything so magnificent, or so absurdly dangerous. No gladiatorial exhibition in the Roman arena could have surpassed this fight. The elephant was mad with rage and, nevertheless, he seemed to know that the object of the hunters was to get behind him. This he avoided with great dexterity, turning as it were upon a pivot with extreme quickness, and charging headlong, first at one and then at another of his assailants, while he blew clouds of sand in the air with his trunk and screamed with fury. Nimble as monkeys, nevertheless, the *aggageers* could not get behind him. . . . It was only by the determined pluck of all three that they alternately saved each other, as two invariably dashed in at the flanks when the elephant charged upon the third, upon which the weary animal immediately relinquished the chase and turned upon his pursuers. . . .'.

The same method was used for hunting the rhinoceros: 'The two rhinoceros were running neck and neck, like a pair of horses in harness, but bounding along at tremendous speed within ten yards of the leading Hamran. This was Taher Sherif, who, with his sword drawn, and his long hair flying wildly behind him, urged his horse forward in the race, amidst a cloud of dust raised by the two huge but active beasts that tried every sinew of the horses. . . . With the greatest exertion of men and horses we could only retain our position within about three or four yards of their tails—just out of reach of the swords. On they flew, sometimes over open ground, then through low bush, which tried the horses severely; then through strips of open forest, until at length the party began to tail off and only a select few kept their places. . . . One effort more and the sword flashed in the sunshine, as the rearmost rhinoceros disappeared in the thick screen

Rhinoceros hunt. From S. W. Baker (1867).

of thorns. . . . Taher Sherif shook his bloody sword in triumph . . . but the rhinoceros was gone. He could not reach the hamstring, as his horse could not gain the proper position. . . .'.[15]

Sir Samuel Baker (1890) has also commented on hamstringing as a way of crippling game: 'The Hamran sword-hunter is a merciless but wonderful horseman, and should three or four of these fellows form a party, they will frequently kill seven or eight giraffes during one hunt. The long and extremely sharp blade is exactly suited to this kind of sport, as the hocks of the giraffe are so high above the ground that they can be reached by the sword without the necessity of stooping. The speed of the horse is naturally imparted to the weapon, therefore when riding alongside, upon the left of the flying animal, the slightest blow will sever the hamstring, and all further movement is impossible. If the giraffe moved like ordinary quadrupeds, it could continue upon three legs, but the fact of its moving the legs of each side simultaneously renders it entirely helpless when one has been disabled'.

In most parts of the world, a brave and successful hunter is regarded with honour and respect. 'In the Somali country, as amongst the Kafirs, after murdering a man or boy, the death of an elephant is considered *the* act of heroism: most tribes wear for it the hair-feather and the ivory bracelet. Some hunters, like the Bushmen of the Cape, kill the Titans of the forests with barbed darts carrying Waba-poison. The general way of hunting resembles that of the Abyssinian Agageers described by Bruce. One man mounts a white pony, and galloping before the elephant, induces him, as he readily does—fire-arms being unknown—to charge and "chivy". The rider directs his course along, and close to, some bush, where a comrade is concealed; and the latter, as the animal passes at speed, cuts the back sinew of the hind leg, where in the human subject the tendon Achilles would be, with a sharp broad end knife. This wound at first occasions little inconvenience: presently the elephant, fancying, it is supposed, that a thorn has stuck in his foot, stamps violently, and rubs the scratch till the sinew is fairly divided. The animal, thus disabled, is left to perish wretchedly of hunger and thirst'.[16]

Describing native hunting methods in the Sudan, Captain H. C. Brocklehurst (1931) wrote: 'The Baggara, or cattle-owning Arab, who usually hunts on horse-back, dismounting only for the final combat, never allows his spear, a long flat-bladed weapon which will cut as well as pierce, to leave his hand. The southern Sudani and Nilotic Nago, whilst employing on occasion a similar but narrower weapon, more usually reverts to the short thin throwing spear, sometimes

[15]Burton, 1867.
[16]Burton, 1856.

Pitfalls

Pitfalls have been used from time immemorial to trap African game: they are probably the oldest known form of animal trap. A stone-age engraving in the Font-de-Gaume cavern in France shows the outline of a mammoth on which has been superimposed an enigmatical tectiform device which probably represents some form of trap.[18] Pliny[19] wrote of elephant traps, adding a picturesque legend which has no factual basis: 'In Africa they take them in pit-falls; but as soon as an elephant gets into one, the others immediately collect boughs of trees and pile up heaps of earth, so as to form a mound, and then endeavour with all their might to pull it out.'

Pitfall traps are usually constructed on some well-known animal tracks such as the approaches to a drinking place. They have smooth, sloping sides and are covered with branches and a layer of earth. Some are furnished with spikes at the bottom; others converge below ground level so that the legs of the trapped animal are pinned together and escape becomes impossible.

The Ndorobo, who shoot birds and the Colobus monkey with poisoned arrows, obtain larger mammals by digging narrow pits across their tracks. These pits are prepared at various angles and the game driven towards them: the animals stumble into the narrow pits and fall, breaking their legs and sometimes their backs. The largest animals are caught in regular game pits.[20]

Paul Kollmann (1899) described as follows the hunting methods of various tribes around Lake Victoria: 'Large stretches of the savanna land, so rich in wild animals, are enclosed with thorn hedges, in which openings are left here and there. In front of these openings a long trench is dug lengthwise, and covered with dry branches and grass. When an animal tries to get through an opening of this kind it breaks through the deceptive covering and falls into the trench. When it is taken in this way the hunter either spears it or kills it by cutting its throat. I also saw large hunting-nets with open meshes, which were stretched on stakes, just such as we use in marking out a district for driving game. The hunters do not generally venture to attack the numerous rhinoceroses, though they like eating the flesh, which is not unlike beef.

'In the extensive woods in the Ruwana Plain, as well as in Nata, the traveller often comes across small hunting-boxes and pitfalls for game. These are deep, narrow pits covered with thin brushwood dug in scattered places in the wood, or in great numbers to the right and to the left of the footpaths. On one occasion I counted over 200 in a

[18]Carrington, 1958.
[19]C. Plinius Secundus (A.D. 23-79) *Nat. Hist.* Bk VIII Ch. 8.
[20]Bland-Sutton, 1911.

half-hour's walk. In Nata I saw several such small pitfalls arrayed like a chessboard. Near the Ruwana River I saw a peculiar contrivance for catching game on a large scale. Two high walls of pilesades, pretty far asunder at first, gradually converge like a wedge leaving an exit at the narrow end. Just outside the exit numerous pitfalls covered with foliage were dug, and lay round in concentric semicircles, so that the game driven through the double hedge had to pass them, and naturally fell in. In addition, the Washashi[21] catch their game with large nets. Hippopotami are hunted with harpoons'.

A typically vivid account of the trapping of elephants in pitfalls was given by Sir Samuel Baker (1890). 'The night arrives, and the unsuspecting elephants, having travelled many miles of thirsty wilderness, hurry down the incline towards the welcome river. Crash goes a leading elephant into a well-concealed pitfall! To the right and left the frightened members of the herd rush at the unlooked-for accident, but there are many other pitfalls cunningly arranged to meet this sudden panic, and several more casualties may arise, which add to the captures on the following morning when the trappers arrive to examine the position of their pits. The elephants are then attacked with spears while in their helpless position, until they at length succumb through loss of blood'.

Captain H. C. Brocklehurst (1931) who has already been quoted in this chapter, listed various traps used in the Sudan by which more animals are killed than by any other means. These include the wheel trap[22] and the box trap composed of heavy boulders in the shape of a tunnel with doors at each end. These doors made of flat slabs are carefully balanced in an open position and fixed to a baited platform in the centre of the tunnel. If the bait is touched, the balance of the doors is upset and they fall into place. These traps are used in hill countries for the destruction of leopards, hyaenas and jackals.

Game pits were never used much by the Pambia who live in the hills between Tembura and Li Yubo in the southern Sudan. Instead, these people used to drive game up a hill which ended abruptly in a precipice. On the other hand, when a game reserve was proclaimed in 1949 at Bengengai in the Zande District, it took over two years before more than 2,000 pitfalls had been filled in. Indeed, in order to be effective, game pits have to be extremely numerous. 'Along the banks of the river about here [Victoria Falls] we found that the natives had dug a great number of pitfalls, about ten feet in depth, to entrap hippopotami, elephants, or buffaloes, which, being always placed in

[21]A tribe allied to the Masai. J. L. C-T.
[22]See p. 38.

the pathways made by the animals, are most difficult to detect, even when one knows there are such things about'.[23]

One of the reasons why so many pitfalls must be dug is that animals soon learn to avoid traps of all kinds. Thus, the sagacity of elephants at pitfalls is commented on by David and Charles Livingstone (1865). 'Elephants and buffaloes seldom return to the river by the same path on two successive nights, they become so apprehensive of danger from this human art. An old elephant will walk in advance of the herd, and uncover the pits with his trunk, that the others may see the openings and tread on firm ground. Female elephants are generally the victims: more timid by nature than the males, and very motherly in their anxiety for their calves, they carry their trunks up, trying every breeze for fancied danger, which often in reality lies at their feet. The tusker, fearing less, keeps his trunk down, and, warned in time by that exquisitely sensitive organ, takes heed of his ways'.

Some years later, P. H. G. Powell-Cotton (1902) found that the hippos of Lake Tana were no longer caught in pitfalls which were out of repair. 'The natives said the hippos had grown too cunning, and they no longer caught any in the traps, unless it might be a wounded animal, blinded with pain and fear, while bolting back to the water'.

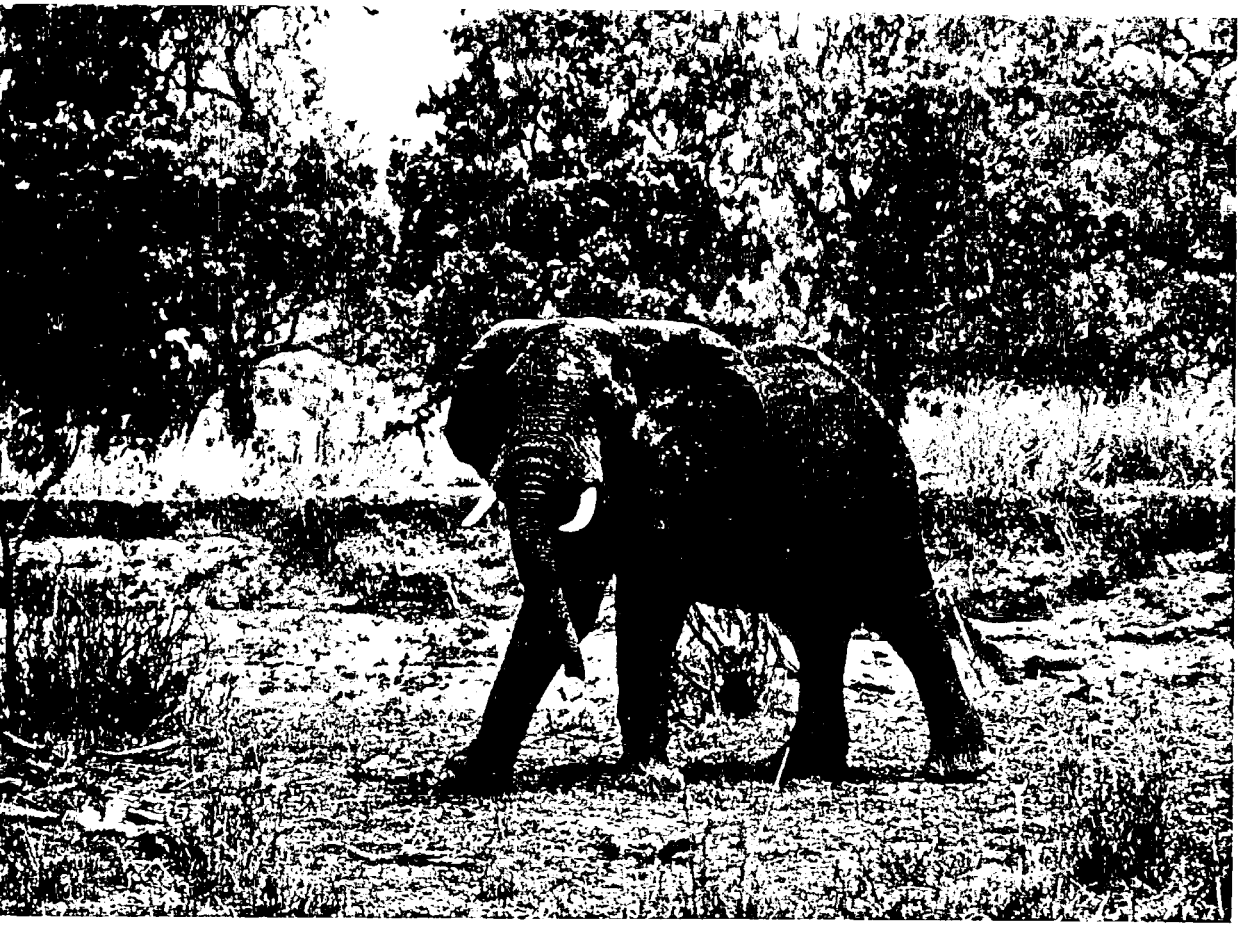
The laborious communal effort required to dig large numbers of pitfalls, and to drive the game towards them, has rendered this method of trapping unpopular during recent years. There are simpler and more deadly means of achieving the same effect.

Footsnares

More efficient than pitfalls are footsnares. These are the oldest form of trap to be recorded and were depicted in a fresco of pre-dynastic age found at Hierakonpolis, Egypt. They probably date from Neolithic times and consist of a ring of pliable twigs resting above a shallow pit. From its periphery towards the centre are fixed numerous thin strips of wood, sharpened at the point and a noose of plaited hair or hide is laid on the ring and attached to a log of wood. The whole trap is then covered with sand. When an animal puts its foot into the snare, the ring clings to its leg and prevents the noose from slipping off. The encumbrance caused by the log then renders the animal vulnerable to spears or poisoned arrows. Footsnares of various sizes have been devised to catch game varying from elephant to duiker. Small pits, containing an iron spike, have often been used to lame animals so that they are unable to walk far and can afterwards be killed at leisure.

[23]Selous, 1881.

Bull elephant, Murchison, Uganda



Elephant displaying,
Luangwa, Zambia

Black rhinoceros,
Amboseli, Kenya

White rhinoceros, Umfolosi, Zululand

The most graphic description of footsnares comes as usual from the pen of Baker (1890): 'The sure find for rhinoceros is in the neighbourhood of a peculiar red-barked mimosa. This is the much-loved food, and the appearance of the bushes will immediately denote the presence of the animal; they are clipped, as though by pruning shears, all the shoots being cut off in a straight line where the rhinoceros has been browsing. This neat operation is effected by the prehensile lip and the shear-like teeth. Another proof of rhinoceros will be found in the vast piles of dung, nearly always against the stem of a considerable tree; it is a peculiar custom of this animal to visit the same place every night, and this regularity of functions brings it into the traps which are cunningly devised by the natives for its capture.

'A round hole, the size of an ordinary hat-box, is dug near the tree. This is neatly formed, and when completed, it is covered with a wooden circle like the toy wheel of a child's waggon. The spokes are made of flat bamboo, with sharp points overlapping each other in the centre, in the place where the nave would be. This looks rather like a sieve when fitted carefully as a cover to the hole. If any person were to thrust his fist through this elastic substance, the points of the bamboo would prevent his hand from being withdrawn, as they would retain his arm. In the same manner this sieve-like cap would retain the leg of an animal, should it tread upon the surface and pass through. Accordingly a noose is laid upon the surface. The rope is constructed specially, of great strength, and the end is fastened to a log of wood that weighs about 200 or 300 lbs. This is buried slightly in the earth, together with the cord. A quantity of dung is thrown carelessly over the freshly turned ground to conceal the fact. The rhinoceros, like many other animals, has a habit of scraping the ground with its fore foot when it visits the nightly rendezvous; during this action it is almost certain to step upon the concealed trap. The foot sinks through, and in the withdrawal the noose fixes itself upon the leg, prevented from slipping off by the pointed support beneath, which remains fast, adhering to the skin.

'The moment that the rhinoceros discovers that its leg is noosed, it makes a sudden rush; this draws the noose tight, and, at the same time, the jerk pulls the buried log out of the trench. The animal, frightened at the mishap, gallops off, with the heavy log following behind. This arrangement is excellent, as it leaves an unmistakable trace of the retreat, which can easily be followed by the trappers on the following morning. At the same time, there is not the same risk of the rope breaking that would be occasioned by a steady pull. The log, which trails behind, catches in the innumerable bushes and thorns, causing great fatigue, until the rhinoceros, thoroughly wearied, is obliged to halt. When discovered by the hunters, it is

Following the noosed rhinoceros. From S. W. Baker (1890).

generally entangled by some attempt to turn, which has hooked the log around a tree; the fight then commences, as the beast has to be killed with spears, which penetrate the hide with difficulty. Accidents frequently happen when the rhinoceros, thoroughly enraged, succeeds in snapping the rope'.

My final example comes from H. Melladew (1909) who wrote about the Sudan in the year 1880. 'On the parched plains to the north we found nothing but giraffe, various kinds of antelope, and a few ostriches. The latter are sought after by native hunters who follow their employment singly, living for long periods of time alone in some part of the desert known to be frequented by those wary birds. Once I came upon one of these men, and found him sitting in a natural hut formed by a thickly overhanging bush, busily employed in making his ostrich traps. These consist of a ring, 9 inches or so in diameter, twisted from the split leaf stem of the dome-palm, through which all round, like the spokes of a wheel, a number of pointed spikes of the same material are passed, the tips almost meeting in the centre of the ring. These traps are laid on the ground and lightly covered with sand in places where ostriches are wont to congregate. Should a bird step upon such a trap, his heavy foot in the loose sand slips through the ring, the points clung again firmly upon the leg, which, thus encumbered by the whole trap, makes the ostrich a comparatively easy victim. Whether many are caught by this somewhat primitive contrivance I could not ascertain; the hunter, a bold old man, was a curious specimen of his kind; his only clothing was a narrow strip of leather round the loins, and a few beads encircling his neck; his sole companion a donkey, who fetched his weekly supply of water from the far-off water-hole; his only food some dry dhurra, his only arms a knife, spear, and shield'.

Nets and nooses

A method of hunting, employed mostly in forested regions such as parts of the Congo, is to fix a large net across an open space and, with a number of men, drive into it small game such as puku, oribi and reed buck. These are then stabbed with spears or shot with arrows whilst they are entangled. Loop nets are used by the Wanyamuezi to trap game.

In addition to their bows and poisoned arrows, the Mbuti pygmies use nets for hunting. In this case, they have to join together in bands: the males guard the nets and kill the animals driven into them by the women and children. The pygmies are completely adapted to life in the forests—unlike most races they do not try to control their environment but adapt themselves to it. Short of stature, with light skin and stocky bodies, they have inhabited the north-eastern Congo rainforest

mountain. Those who remained by the waggons, were busily employed in cutting up the meat of four Elands, brought home the day before, into large slices generally less than an inch in thickness, which they hang on the bushes to dry. . . . All the bushes around us, covered with large flaps of meat, was to me, at this time, a novel sight; but it was one of those to which, in the following years, I became completely habituated; as the nature of the life we led rendered it a regular business.

'Within the colony, this animal is becoming daily more scarce; the boors, as well as the Hottentots, preferring its meat to that of any other antelope, and therefore, on every occasion, hunting it with the greatest eagerness. The principal cause of this preference, and at the same time, a very remarkable circumstance, is, its being the only one of the antelope genus, on which any considerable quantity of fat[6] is ever to be found; no other species yielding a hard fat from which candles may be made. . . . It is a practice, whenever it can be done, to drive their game as near home as possible, before it is shot; that they may not have to carry it far: but this cannot easily be done till, by a long chase, the animal begins to flag'.

Forty years later, eland were evidently becoming even more scarce: 'The eland is too bulky to run far; and, if pressed down wind by the horseman, his nostrils become so clogged with foam, that in ten minutes a very moderate nag compels him to stand still, panting, and awaiting the thrust of the knife, which is often used by the Boërs on such occasions. Hence, the eland is now very rarely found in the colony, as all have been killed, except perhaps a very few in the Winterfelt. Beyond the Orange River, in certain localities, this antelope is often found in small numbers, and, on account of the delicacy of his flesh, is hunted with avidity'. So wrote George Nicholson jr. in 1848, adding: 'But, after all, it is to the Eastern province, and beyond the Orange River, that the true sportsman will repair. Nowhere within the colonial boundary will a very great quantity of game be found, till the range of mountains called the Nieufeldt, the Winterbergen, and the Sneeuwbergen—different portions of the same chain—be passed. All the large herds of quaggas, gnoos, and springbucks, which Le Vaillant and other writers mention as having seen to the south of these mountains, are now scattered and dispersed by the incessant pursuit of which they have for so many years been the object; but, having emerged from the hills, and entered the boundless plains beyond, the accusation of exaggeration which has assailed the accounts of all those who have attempted to describe the living masses of wild animals seen, is at once acknowledged to have been unjust, and

[6]It is on account of this, and the excellence of its meat that, today, attention is being given to the possibility of domesticating the eland. J. L. C-T.

gives place to wonder and delight, as one contemplates the free and graceful movements of these wild herds in their own clime, and associated with the strange scenery of these regions'.

Lions were not uncommon near Cape Town as late as 1707. By 1842, however, the last lion south of the Orange River had been killed: in 1865 the last lion was shot in Natal. In 1848, Nicholson also wrote: 'A very few years ago, great numbers of them were to be found in the Boutebok "flats", at no great distance from Graham's Town, but the zeal and skill of some rare Nimrods in the regiments stationed on the Eastern frontier have notably diminished them'. He went on to describe how lions were approached by a party on horseback who then dismounted and fired from behind a rampart formed by backing their horses towards them, adding: 'The horses often suffer if the first volley poured in is not successful; but, not infrequently, the hunters have been either killed, wounded, or desperately frightened on such occasions'.

In the second volume of his *Travels*, published in 1824, W. J. Burchell wrote that as early as 1812 the rhinoceros had been almost expelled from Cape Colony; 'it being very rarely to be seen within the boundary: and hippopotami, formerly so numerous in the Zeekoe river, are no longer, unless accidentally, to be found there; but have all retreated to the Black River or Nagariep, where they may, for the present at least, live more undisturbed'. On the other hand, he mentioned that game was still plentiful in the region south of the Kalahari: 'The forests or groves of those countries, as far as hitherto explored, are known to abound in elephants. Their tusks are collected by the natives, partly for their own use in making ivory rings and other ornaments, and partly for barter with a few Hottentots who occasionally visit them for that purpose; but it is yet to be ascertained, whether the whole of the ivory thus collected by the Bachapins finds its way into the Colony. . . .'.

Game was common in the region of Tunobis in the Kalahari Desert about one hundred years ago, for Charles Andersson (1856) wrote: 'From the absence of water within a distance of two or three days' journey of the place, the number of animals that nightly congregated here to quench their thirst, was truly astonishing. To give the reader an idea of the immense quantity of game hereabouts, I may mention, that in the course of the few days we remained at Tunobis, our party shot, amongst other animals, upwards of thirty rhinoceroses. One night, indeed, when quite alone, I killed in the space of five hours (independently of other game) no less than eight of these beasts, amongst which were three distinct species.[7] And it is my belief that if I had persevered I might have destroyed double the number'. Again,

[7]Not so. J. L. C-T.

Central eastern Africa

The situation regarding the game in Central eastern Africa is somewhat less depressing than it is further north and south, largely because European penetration of the area has been so much more recent. When the white man first came, wild life was certainly far more abundant and widespread than it is today but, fortunately, there has not yet been enough time to reap such extensive havoc as has taken place in South Africa.

Before the whites came, there was no poverty in eastern Africa. The population was approximately static, adjusted by tribal customs and a high infantile mortality rate. Hunting was strictly organised territorially and effective close seasons, coinciding with antelopes' breeding times, were rigidly enforced. Some non-hunting tribes occasionally also ate meat, but their spasmodic individual forays against the wild animals did little harm, whilst the nomadic pastoralists ate no meat at all. 'Another factor which helped to preserve individual species is the totem system whereby a certain animal is sacred to a tribe or section thereof, and therefore cannot be molested. So long as animals were killed solely for human needs, i.e. for meat, skins, etc., and not for commercial gain there was no cause for apprehension. But, of course, the principal safeguard the game had at that time was the fact that rarely was a tribe at peace with its neighbours, and in consequence everywhere there were considerable areas of "no man's land" which the respective tribes found wisest to avoid'.[13]

Ethiopia was one of the first countries in this part of Africa to be visited by Europeans. Of its fauna, James Bruce wrote in 1790: 'Among the wild animals are prodigious numbers of the gazel, or antelope kind; the bohur, fassa, feeko, and madoque, and various others; these are seldom found in the cultivated country, or where cattle pasture, as they chiefly feed on trees; for the most part, they are found in broken ground near the banks of rivers, where, during the heat of the day, they conceal themselves, and sleep under cover of the bushes; they are still more numerous in those provinces whose inhabitants have been extirpated, and the houses ruined or burnt in time of war, and where wild oats, grown up so as to cover the whole country, afford them a quiet residence, without being disturbed by man'.

'The elephant, rhinoceros, giraffa, or camelopardalis, are inhabitants of the low hot country; nor is the lion, or leopard, faadh, which is the panther, seen in the high and cultivated country. There are no tigers in Abyssinia, nor, as far as I know, in Africa; it is an Asiatic animal; for what reason some travellers, or naturalists, have called him the

[13]C. R. S. Pitman *loc. cit.*

tiger-wolf, or mistaken him altogether for the tiger, is what I cannot discover. Innumerable flocks of apes, and baboons of different kinds, destroy the fields of millet everywhere. . . .'.

At about the same period, W. G. Browne[14] (1799) gave the following account of wild life in Darfur, western Sudan: 'The wild or ferocious animals are, principally the lion, the leopard, the hyena (Fûr. *murfaên*, dubba, Ar.) the wolf, the jackal, *Canis aureus*, the wild buffaloe: but they are not commonly seen within the more cultivated part of the empire, at least that which I have visited, excepting the hyena and the jackal; the former come in herds of six, eight, and often more, into all the villages at night, and carry off with them whatever they are able to master. They will kill dogs, and asses, even within the enclosure of the houses, and fail not to assemble wherever a dead camel or other animal is thrown, which, acting in concert, they sometimes drag to a prodigious distance; nor are they greatly alarmed at the sight of a man or the report of fire-arms, which I have often discharged at them, and occasionally with effect. It is related that upon one of them being wounded, his companions instantly tear him to pieces and devour him; but I have had no opportunity of ascertaining this fact. . . .'.

'In the countries bordering on the empire of Fûr, where water is in greater abundance, the other animals mentioned are very numerous, and much dreaded by travellers, particularly on the banks of the *Bahr-el-Ada*. To those already enumerated, may be added, the elephant, the rhinoceros, the camelopardalis, the hippopotamus, and the crocodile. The elephant is seen, in the places he frequents, in large herds of four or five hundred, according to report. It is even said that two thousand are sometimes found together; but I do not suspect the Arabs of extreme accuracy in counting. . . . His hide is applied to many useful purposes. The African elephant is smaller than the Asiatic[15], and probably of a different species. The meat is an article of food in great esteem with them. The fat forms a valuable unguent, and the teeth, as is well known, supply the merchants with immense profits'.

'The buffaloe is not found tame in Soudân. The wild one is hunted by the Arabs, and serves them for food. The hippopotamus is killed for his skin (which is remarkably tough, makes excellent shields and whips not wholly unlike our horse-whips); and for his teeth, which are much superior to ivory. The horn of the rhinoceros, to which animal the Arabs have applied a term somewhat less appropriate than the Greek, but still characteristic, (*Abu-kurn*, father of the one horn),

[14]Later murdered in Teheran at the age of 45 on his way to Tartary.

[15]See p. 141.

makes a valuable article of trade, and is carried to Egypt, where it is sold at an high price, being used for sabre-hilts, and various other purposes. The more credulous attribute to it some efficacy as an antidote against poison. The antelope and the ostrich are extremely common throughout the empire. The civet-cat is not seen wild in the quarter which I visited, but is frequent enough farther to the South. Many are preferred in cages in the houses of the rich. The women apply the odour extracted from them to add to their personal allurements; and what is not thus disposed of becomes an article of trade.

'The lion and leopard, though common in a certain district are not found near the seat of government. The Arabs hunt them, strip off the skin, which they sell, and often eat the flesh, which they conceive generates courage and a warlike disposition. They occasionally take them young, and bring them for sale to the Jelabs, who sometimes carry them as presents to the great men in Egypt'.

Half a century later, we read that: 'The hippopotamus is found in the Taccazy, but I believe nowhere else in Tigrè. The lake Tzana and other waters of the Amhara country are plentifully stocked with the animal: there is a tribe called "Commaunt" that subsists entirely on fish and the flesh of the hippopotamus; the hide is used for making whips'.[16] This indicates a nice balance between the hippo and its human predators.

The Ethiopian fauna was still apparently extremely rich even in 1877 when E. A. de Cosson wrote: 'In the low wooded valleys by the rivers, elephants, hippopotami, rhinoceri, lions, leopards, panthers, buffalos—in short, most of the larger animals indigenous to Central Africa are to be met with; while there are endless varieties of gazelle and antelope kind on the higher plains. . . . The ivory, though of excellent quality is never very large'.

Turning now to East Africa; a century ago, Sir Richard Burton (1860) said of the fauna of the lake regions of Central Africa: 'In the jungles quadrumana are numerous; lions and leopards, cynhyaenas and wild cats haunt the forests; the elephant and the rhinoceros, the giraffe and the Cape buffalo, the zebra, the quagga (?),[17] and the koodoo wander over the plains; and the hippopotamus and crocodile are found in every large pool'.

'Wild animals abound through these jungles, and the spoor lasts long upon the crisp gravelly soil. In some districts they visit by night the raised clay water-troughs of the cultivators. The elephant prefers the thick jungle, where he can wallow in the pools and feed delicately upon succulent roots and fruits, bark, and leaves. The rhinoceros loves the dark clumps of trees, which guard him from the noonday sun,

[16]Parkyns, 1853.
[17]The question mark is Burton's.

and whence he can sally out all unexpected upon the assailant. The mbogo, or Bos Caffer, driven from his favourite spots, low grassy plains bordering on streams, wanders, like the giraffe, through the thinner forests. As in Unyamwezi, the roar of the lion strikes the ear by night, and the cry of the ostrich by day'.

Five years later, David and Charles Livingstone wrote as follows about the game around latitude 16°31'S.: 'A short way beyond the Ruo lies the elephant marsh, or Nyanja Mukulu, which is frequented by vast herds of these animals. We believe that we counted eight hundred elephants in sight at once. In the choice of such a stronghold, they have shown their usual sagacity, for no hunter can get near them through the swamps. . . . In passing the Elephant Marsh, we saw nine large herds of elephants; they sometimes formed a line two miles long'.

Now a quotation from Speke's Journal for 13 August 1858 when he was on his way to Lake Tanganyika: 'Travelling through the Nindo Wilderness today, the Beluches were very much excited at the quantity of game they saw; but though they tried their best, they did not succeed in killing any. Troops of zebras, and giraffe, some varieties of antelopes roaming about in large herds, a buffalo and one ostrich, were the chief visible tenants of this wild. We saw the fresh prints of a very large elephant. . . .'.

Next, in 1872, H. M. Stanley said of the country just east of Lake Tanganyika: 'I was able to shoot several animals during our stay at Mrera. The forest outside of the cultivation teems with noble animals. Zebra, giraffe, elephant, and rhinoceros are most common: ptarmigan and guinea-fowl were also plentiful'.

On 13 August 1874, Frank Oates (1881), on his third attempt to reach the Zambesi, wrote in his journal: 'Today, soon after starting I ascended a kopje near the waggons, and saw a large herd of quagga [zebra]. Counting roughly, I made out a hundred. It was a beautiful sight. All around was the sea of bush, with here and there bare patches, and here and there kopjes, some of the latter far distant. . . . The quaggas were quietly moving on, or standing and playing, or brushing away the flies. It was a scene such as I used to fancy must be common, and probably was so when the accounts I have read were written, and may occur often still in more remote districts'.

J. F. Elton (1879), H.M. Consul at Mozambique, recorded an immense herd of over 300 elephant—some of them bathing, others sleeping in the grass or wallowing in the marsh—at the north end of Lake Nyassa in October, 1877. Constantly throughout his journals one comes upon references to large herds of game animal, hippopotamuses, crocodiles and so on.

When Joseph Thomson (1885) arrived in Tanganyika he too was still able to see plenty of game. His description well conveys the

excitement and splendour of the sight: 'There', he wrote, 'towards the base of Kilimanjaro, are three great herds of buffalo slowly and leisurely moving up from the lower grazing grounds to the shelter of the forest for their daily snooze and rumination in its gloomy depths. Farther out on the plains enormous numbers of the harmless but fierce-looking wildebeest continue their grazing, some erratic members of the herd gambolling and galloping about, with waving tail and strange uncouth movements. Mixed with these are to be seen companies of that loveliest of all large game, the zebra, conspicuous in their beautiful striped skin—here marching with stately step, with heads bent down, there enjoying themselves by kicking their heels in mid-air or running open-mouthed in mimic flight, anon standing as if transfixed, with heads erect and projecting ears, watching the caravan pass. But these are not all. Look! Down in that grassy bottom there are several specimens of the great, unwieldy rhinoceros, with horns stuck on their noses in a most offensive and pugnacious manner. Over that ridge a troop of ostriches are scudding away out of reach of danger, defying pursuit, and too wary for the stalker. See how numerous are the herds of hartebeest; and notice the graceful pallah (impala) springing into mid-air with great bounds, as if in pure enjoyment of existence. There also, among the tall reeds near the marsh, you perceive the dignified waterbuck, in twos and threes, leisurely cropping the dewy grass. The warthog, disturbed at his morning's feast, clears off in a bee-line with tail erect, and with a steady military trot, truly comical. These do not exhaust the list, for there are many other species of game. Turn in whatever direction you please, they are to be seen in astonishing numbers, and so rarely hunted, that unconcernedly they stand and stare at us, within gunshot'.

The situation had not yet begun to deteriorate further inland at the edge of the Congo, for T. H. Parke wrote in his diary for 23 July 1887: 'There are several villages on the opposite bank of the Aruwimi; there are also plenty of bananas there but none on this side. There appears, however, to be plenty of game: judging from the footprints, I should say that there are thousands of elephants in our vicinity; but it is absolutely impossible to shoot anything as the forest is so dense'.

The following entry, a week later, shows that the impact of commercial hunting had not yet reached that part of the country: 'We found twelve elephants' tusks (about the value of £400) lying uncared for about this village. They are used by the natives as seats; they do not know the great commercial value of ivory, for no traders have ever penetrated so far into the forest'.

Between the years 1853-1879, however, some 3,706 tons of ivory were exported from the Sudan through Suakin, most of it destined

for India and the East, according to Denman (1957) and even greater quantities for Zanzibar, and elsewhere. It is therefore not surprising that by 1881, Frederick Courtenay Selous (1893) had already spent ten years of his life 'elephant hunting in the interior, and every year elephants were becoming scarcer and wilder south of the Zambesi, so that it had become almost impossible to make a living by hunting at all'.

Writing in *The Field* in 1908, Selous said much the same of buffalo: 'Throughout the whole of that part of Africa south of the Zambesi there are now but very few buffaloes, comparatively speaking, left alive. In this part of the continent these fine animals have entirely ceased to exist over vast areas throughout which they once ranged in great numbers'. This was due to rinderpest (p. 84) as well as to shooting. He added that in many parts of tropical Africa elephants continued to exist in enormous numbers, but that big tuskers (over 75 lbs) were very much reduced in numbers. In 1902, almost every official in Uganda succeeded in shooting the two elephants allowed him on his licence each year, one or both of which frequently had tusks over 100 lbs in weight and tusks in the region of 150 lbs were not uncommon. By 1908 even, these were very scarce.

By 1886, the game north of the Limpopo River had long been exterminated as illustrated by the following quotation from Walter Montagu Kerr. 'While here I scoured the country for miles in search of game, but without any luck, although in bygone days there used to be an abundance of sport in these parts. That was before the war of extermination had been fairly started. Now, through the common property of gunpowder and the familiarity of arms to the natives, this region has been laid waste. You may travel not only for miles but for days in the veldt without seeing a living thing, save a few birds and, perhaps, a duiker. By no means a long time ago the shrill trumpeting of the elephant might be heard echoing among the kopjies which bank the river on the north; hundreds of giraffes browsed and found shelter in the luxuriant mopani forests; in short, almost every species of wild animal to be found in South Africa was common among the now silent groves which fringe the Inkwezi.

'The native hunters, with their rude-looking arms, have been the exterminators. The finely-finished, specially-made rifles of the keen white sportsman have done little harm among the big game, compared to the havoc made by these imperfect-looking weapons, with their clumsy sticks covered with hide, and altogether resembling a gas-pipe with a frozen clod of earth at one end'. This may have been special pleading, but it is true that in many parts Europeans have done even more harm to wild game by introducing fire-arms to Africans than by their own greedy hunting.

Conditions were better in the more inaccessible southern Sudan, and General C. G. Gordon (1881), en route for Gondokoro, wrote in his diary of March 1874, 'We saw a huge troop of wild buffaloes yesterday, looking as black as coals. They are the most ferocious animals, and by far the most dangerous to shoot of any wild animal.[18] . . . We saw nine camelopards, two days ago eating the tops of trees; they looked like steeples. Very many hippopotamuses bellowing all night and fighting. . . . Crocodiles in abundance, and all sorts of strange birds'.

Shortly afterwards, Emin Pasha[19] [Eduard Schnitzer] (1888) recorded many instances of the plentifulness of game animals in Equatoria. One 'paradise of elephants is named by the Liria people Kadenokoka; the Latuka people call it Kittagong. . . . Kigalias and euphorbias grow on the elevated spots, while hundreds of elephants march about in troops, not exactly improving the road, which is so trodden down by them that one has the greatest difficulty in steering one's course unharmed between the holes and ditches'.

Again, 'elephants are to be found in great numbers in the woods of Kafu [Equatoria]; lions prowl round the cattle enclosures in couples, leopards and hyenas; besides jackals, crowds of antelopes, gazelles, and wild boars abound on the tablelands and valleys'—this from G. Casati (1891) who spent ten years in Equatoria Province, Sudan.

Further south, Sir Gerald Portal (1894) recorded that around Lake Naivasha 'the prairies were literally covered with game', especially Thomson's gazelle. 'Zebras, too, were present in fair numbers, though very wild, and a few hartebeest and Grant's antelope added to the variety. . . .'.

The game between Mombasa and Khuyu at this time has been described by G. F. Scott Elliot (1896) in the following words: 'Game is abundant everywhere, a kind of small bustard and guinea-fowl being very common. Occasionally a tiny gazelle, "paa", with large ears, springs out of the thorns and vanishes down the path. I saw footprints of giraffe, and came across ostriches more than once. . . . From Languru to the beginning of the Kikuyu bush is a very gradual ascent, and forms the well-known Athi plains. The abundance of game is still extraordinary, in spite of the amount of exterminations which has been practised by certain persons. A toll of 380 head in three months fell to one "sportsman", which, considering that a little antelope meat is a great blessing to the caravans on this road, seems quite inexcusable. A curious feature is the abundance of the *Kongoni*, or hartebeest, the most timid as well as the ugliest of them all. . . .'.

[18]See, however, p. 126, J. L. C-T.
[19]Governor of Equatoria province, Sudan, during the Mahdia: relieved by H. M. Stanley in the expedition of 1888.

From there to Lake Victoria: 'It gives a curious impression to march day after day over lovely grass plains covered with zebra, hartebeest, and other antelopes, past beautiful lakes where geese, ducks, and other water-fowl almost cover the water, then perhaps through a dense virgin forest with magnificent timber, and all the time to see no human beings whatever. Yet the country is healthy and in every way suited to Europeans, while we have hundreds of people in England who do not know where to turn for employment'.

Later, however, Scott Elliot wrote: 'Game in Karagwe is usually conspicuous by its absence. The most important animal is the rhinoceros . . . as a rule these animals do not charge out of sheer wickedness. In this country, however, the natives appear sometimes to collect in large bands and spear them, and this may account for their timidity. . . . Other game is very rare. I once saw a troop of zebras, and on two or three occasions we came across hartebeest.

'The number of elephants now existing in British territory is not by any means a large one. . . . They still exist not very far from Kikuyu to the north-east and apparently extend all round Kenia, and from there on to Mont Elgon. I came across numerous traces of them in the Mau forest, between Raomi and the Guaso Masai. There are also probably some left in Sotik and Lumbwa. From Elgon they appear to be found along the Somerset Nile to Unyoro and the Albert Nyanza (in Chagwe, occasionally, coming within four days' journey of Kampala). There appear to be plenty in the forest district around Kivari, between the Mpango river and Ruwenzori and, as I have mentioned, they are always to be found somewhere between Chukarongo and Kasagamas on the east side of the mountain. A few probably still exist in the Nyamgassa river, a little north of the Salt lake. There are also a few on the eastern shore of the Albert Edward Nyanza, north-west of Makowallis, and a little south-east of my route. This probably exhausts the localities for the East African sphere, unless some are still left on Kilimanjaro. In the German sphere of influence there may be some on Kilimanjaro, but they are probably completely absent now from Karagwe, Urandi, and the whole eastern shore of Tanganyika. The belt of papyrus (on the Kagera river) is about 80 yards wide on either side, and the water is, as usual, full of hippopotami. . . .'.

These comments certainly imply that the game in certain parts of Kenya was becoming more scarce towards the end of the last century. At the same time, I think that it may never have been very plentiful in some of the places visited by Scott Elliot, who mistakenly blamed its scarcity on the activities of hunters. It is sometimes difficult to assess the changes that have taken place because, naturally enough, travellers tend to remark more on the presence than on the absence of game.

uncommon. Ivory declined in size and quantity after about 1910. Before this time the chiefs used to sell a lot of fine tusks that had been buried in past times to keep them safe from raiders, a custom no doubt dating from slaving days. In those days tusks weighing 80 lbs or 90 lbs were not rare and 50-60 lb tusks were common. It was soon learned that tusks under 15 lbs in weight or cow ivory were confiscated and such were sent clandestinely into the Congo or the traders in Wau who quickly made them into bracelets or smuggled them down to Omdurman.

During the rains, elephants would turn up in the most unlikely places: one was shot in a garden in Yambio and they used to visit the head of the Gomonaikpe, a mile or less from Tembura. South of the Sue there were large herds and for some years it was impossible to get a lone runner to go from Tembura to Yambio, on account of one which was always near the main road. These herds used to migrate northwards from the Congo border in the late rains and back again in the dry weather (p. 94).

In 1924, C. Christy wrote: 'The case of the White Rhinoceros seems a fairly hopeless one. . . . In the British Sudan comparatively few individuals now survive. . . . In the Meridi and Yambio districts in 1916 I came across them many times during my long roads in the bush. The fact that I saw two or three animals with horn of what seemed to me extraordinary length is perhaps evidence that there at least they are not molested. The forested and rocky islands up and down the Ituri river are favourite places for elephants. They are more or less safe retreats in which solitary old bulls and sometimes small herds hide in the daytime. During 1911, . . . an English elephant hunter, with a small canoe and two men, and almost no equipment, shot twenty-eight elephants'.

Ten years later, in 1934, about 250,000 head of lechwe were still living in the valley of the River Kafue in Zambia and another 150,000 round Lake Bangweolo. Today they have been reduced to a tenth of their former numbers.

In this chapter I have tried chiefly by means of quotations from the accounts of travellers and others, to indicate how game populations have declined in eastern Africa. This decline has been due partly to excess hunting with fire-arms, both by Europeans and Africans, and partly to the indirect effects of human settlement closing migration routes, altering the vegetation, introducing and disseminating disease and generally making life intolerable for game animals: these factors are discussed in the following chapter.

CHAPTER IV

FIRE-ARMS AND HUMAN SETTLEMENT

IN Chapter II it was pointed out that native hunting methods are not sufficiently effective to endanger populations of game animals. In the last chapter I tried to indicate the extent to which the African fauna has declined since the advent of Europeans. Here I shall discuss the various factors that are jointly responsible for this decline. They include the effects of fire-arms, in the hands both of Europeans and Africans, poaching, human settlement in its various aspects, and the introduction of disease by imported domestic stock.

Big-Game hunting

It is impossible to distinguish between the effects on game populations of shooting and of human settlement, because the two are almost synonymous. Professional, or market hunting, will seldom exterminate a species, because it becomes uneconomic unless game is abundant. But the farmer or stockbreeder can always find time to kill the odd animal living on his land. Indeed, to be fair to the great hunters of the past, it should be emphasised that the majority of them not only possessed exceptional physique and courage but were unselfish, gentle and had a deep understanding of and sympathy for their quarry. Many of them were wonderful shots. Those reared on the Karoo, for example, made it a point of honour not to shoot the great bustard anywhere but through the neck—say at 100 yards, and many could do the same to an ostrich as it ran past.

Hunting yarns and adventures lie somewhat beyond the scope of this book and, in Chapter VI, I have quoted as far as possible examples which illustrate the character of the game rather than of its hunters. For accounts of some of the adventures of the latter, the reader is referred to an excellent book by D. D. Lyell (1924) as well as to the hunters' own reminiscences. As an example of one of these characters, it is, however, perhaps worth giving Sir Samuel Baker's opinion of W. Cotton Oswell who lived and hunted about 1850: 'Oswell was not merely a shooter, but he had been attracted towards Africa by his natural love of exploration, and the investigation of untrodden ground. He was absolutely the first white man who had appeared upon the scene in many portions of South Africa which are now well known. . . . He was a first-rate horseman, and all his shooting was

from the saddle, or by dismounting for the shot after he had run his game to bay'.

Other great hunters included Baker himself, C. H. Stigand, F. C. Selous, A. H. Neumann, Cornwallis Harris, R. J. Cunningham, W. D. M. Bell and C. R. S. Pitman, to mention but a few. R. G. Gordon-Cumming was quite exceptional in being cruel and sadistic. Several times he fired as many as 35 rounds at an elephant before it died. Once he was shooting at one from 11.30 a.m. till sunset, and admitted firing 57 rounds before the animal expired. Unlike other hunters, he usually opened fire at 100 yards or more, which was probably why he did not kill cleanly, as he used only small charges of powder. Even so, the barrel of his favourite weapon once burst, which shows that he was not without some justification for this. The following is an extract from his book, *Five Years of a Hunter's Life in the far Interior of South Africa* (1850).

'I came in full view of the largest bull elephant I had ever seen. He stood broadside to me, at upward of one hundred yards, and his attention at the moment was occupied with the dogs, which, having winded him, were rushing past in search of his exact position, while the old fellow seemed to gaze at their unwonted appearance with surprise. Halting my horse, I fired at his shoulder, and secured him with a single shot. The ball caught him high upon the shoulder-blade, rendering him instantly dead lame; and before the echo of the bullet could reach my ear, I plainly saw that the elephant was mine. The dogs now came up and barked around him, but, finding himself incapacitated, the old fellow seemed determined to take it easy, and, limping slowly to a neighbouring tree, he remained stationary, eyeing his pursuers with a resigned and philosophic air.

'I resolved to devote a short time to the contemplation of this noble elephant before I should lay him low; accordingly, having off-saddled the horses beneath a shady tree which was to be my quarters for the night and ensuing day, I quickly kindled a fire and put on the kettle, and in a very few minutes my coffee was prepared. There I sat in my forest home, coolly sipping my coffee, with one of the finest elephants in Africa awaiting my pleasure beside a neighbouring tree. . . .

'Having admired the elephant for a considerable time, I resolved to make experiments for vulnerable points, and, approaching very near, I fired several bullets at different parts of his enormous skull. These did not seem to affect him in the slightest; he only acknowledged the shots by a "salaam-like" movement of his trunk, with the point of which he gently touched the wound with a striking and peculiar action. Surprised and shocked to find that I was only tormenting and prolonging the sufferings of the noble beast, which

bore his trials with such dignified composure, I resolved to finish the proceeding with all possible dispatch: accordingly I opened fire upon him from the left side, aiming behind the shoulder; but even there it was long before my bullets seemed to take effect.

'I first fired six shots with the two-grooved, which must have eventually proved mortal, but, as yet, he evinced no visible distress; after which I fired three shots at the same part with the Dutch six-pounder. Large tears now trickled from his eyes, which he slowly shut and opened; his colossal frame quivered convulsively, and falling on his side, he expired. The tusks of this elephant were beautifully arched and were the heaviest I had yet met with, averaging 90 lb. weight apiece. In case any fair reader may misinterpret my motive for killing this elephant in the manner which I describe, I will remark that my object was *not* to uselessly torture the animal, but to put an end to its life and pain in the quickest manner possible. I had often lamented having to inflict so many wounds on the noble animals before they fell. To many sportsmen, or persons understanding such matters, this explanation is not required'.

Clearly, most people today are neither 'sportsmen' in this sense, nor would they accept such an explanation. Fortunately, this kind of behaviour is a thing of the past and, even then, it was exceptional.

The power of modern firearms is well illustrated by the following extract from the Annual Report of the Uganda Game & Fisheries Department for 1950: 'Two elephants were killed recently in Achole with one shot. The bullet passed through the brain of one and entered the neck of the second, killing both instantly. Such incidents are not uncommon with high-velocity rifles'. Conditions were very different in the old days when hunters used double 14 or 16-bore muzzle-loading shotguns with barrels cut down to a length of 24 ins. to make them handy in thick cover. The bullets were spherical and hardened for penetration.

W. C. Oswell, who went to South Africa in 1844 and has already been mentioned in this chapter, used a double 10-bore gun (which he afterwards lent to Baker for his expedition to the source of the Nile). Oswell had several narrow escapes, on one occasion from two white rhinos, one of which he shot. When he approached, the wounded animal drove its horn into the flank of his horse throwing it into the air with the force of the blow. Oswell's head was badly cut on the stirrup iron but, luckily, the rhino went off. Oswell followed it on another horse, killed it and returned to despatch his own injured horse. On another occasion he was gored in the thigh by a female rhinoceros. In 1848-9, in company with Dr. David Livingstone,

Oswell travelled through the Kalahari Desert and discovered Lake Ngami.[1]

Cornwallis Harris (1844) was even more of an explorer than a hunter but, like Henry Faulkner and W. C. Baldwin whose book, *African Hunting—from Natal to the Zambesi* (1863) first attracted F. C. Selous to Africa, he was also an excellent shot. William Finaughty killed 133 elephants on one trek, but the most he ever shot in one day was 10. A. H. Neumann, perhaps the greatest elephant hunter of all time, once killed 14 in one day and 11 in another. On one occasion his rifle misfired and he was badly hurt by an elephant which knelt on him and jabbed its tusk through his arm and between his ribs. Other great hunters of more recent times include R. J. Cunningham, Captain C. R. S. Pitman and Captain R. J. D. Salmon. The two latter, being game wardens, have carried out most of their hunting in the course of their duties in elephant control.

If shooting were confined to professional hunters, its effect on game populations would be comparatively slight, as I have said, but when all the local inhabitants, Europeans and African, join in, the situation becomes more serious. Shooting is then not a sport but a means of winning honour, food and wealth.

Thus, Captain M. S. Wellby (1901) complained that the Abyssinian method of hunting elephant was quite opposed to his own ideas of sport, 'for from a safe distance an entire party of fifty or a hundred strong pepper the victims with volleys, and sometimes meet with success. An Abyssinian who has killed an elephant is looked upon in the country as a man of some parts. Menelik himself on one occasion shot one, and there were rejoicings in consequence. I was told that he fired the first shot, and then three hundred men fired the second. . . .'.

Arnold Hodson, writing about 1929, said much the same. 'The Abyssinian's idea of sport is totally different from ours. To him an immature elephant with no tusks counts just the same as a hundred-pound tusker with us. A Dajazmatch who shall be nameless, amused me much at Maja by giving me an account of an unsuccessful elephant hunt he once made on the Orno River. He told me, "We found a big elephant there one day. I had two hundred men with me and we all opened fire on him, but he went on running and running. We followed after for several hours, but shot all our ammunition away. We saw lots of blood, but never got him. Are they not bad animals!".'

The Ethiopians were not the only people to use massed fire arms against big game. 'The people of the southern hills, bordering the Dar Homr, were at one time great elephant hunters. Their usual

[1]Lyell, 1924.

method was to encircle a herd and then concentrate the fire of their old Remington rifles on one or two of the nearest beasts. These elephant hunts generally ended in a sea of gore, but, during recent years, have become much less frequent owing to these mighty animals being very scarce all over Southern and Western Kordofan due to their wholesale slaughter by the Messeria tribe. A few Nuba in the extreme south-west have copied from the Arabs the method of riding down the giraffe on horseback and killing it with spears as it runs, but in the majority of cases this animal is hunted and despatched by arranging a trap which cuts the hamstrings'.[2]

Nor were Europeans innocent of similar behaviour. In 1924, D. D. Lyell wrote: 'When I went from Nyasaland to British East Africa in 1911 for a short trip, I saw the veld between Kyabe and Deepdale Drift full of fired cartridge cases, showing that a great number of parties had been blazing ammunition at game'. With considerable acumen, he added: 'Vast changes have taken place in Africa during the last 100 years. Improvement in firearms may not have had such an effect on the reduction of animals as the constant noise and disturbance in their haunts'.

Sir Alfred Pease (1913) recorded a hunter who killed in one place some 94 Soemmerring gazelle and left a plain covered with rotting carcasses, not to mention cripples, without getting a record head. He added: 'Some hideous work has been done in the name of sport'.

Of a place near Chiramo, Edouard Foá (1894) wrote as follows: 'Opposite, on the left bank of the river, there was indeed a plain where unfortunate buffaloes, persisting in stopping there, were slaughtered, sportsmen of the locality firing upon them while smoking pipes in hammocks carried by shrieking men in white shirts and red caps. The local administration ended by forbidding this butchery; but there were still pseudo-sportsmen who killed in a morning seven or eight buffaloes without troubling themselves even to take away the bodies which they left to the vultures'. Near Mossamudes, Angola, in 1879, van Zyls stampeded 104 elephants into a marsh and killed them all whilst they were bogged.

Many of the old hunters gave up following elephants when they began to inhabit more densely wooded country where tsetse flies abounded, because it was impossible to take horses there and it is not only infinitely harder work following elephants on foot, but much more dangerous.[3] Considerations such as these, however, did not deter the African who was just as short-sighted as the European about game conservation and often even more courageous, as we have

[2]Fife, 1927.

[3]Livingstone was told that a European who hunted elephant on foot would die soon—guns were unreliable in those days!

these numbers would be doubled in 30 years. In fact, by 1936 the annual death rate from all causes had reached 2,300 and the population was still increasing.[7] It is not sufficient for sportsmen merely to kill the big tuskers. Elephants with small tusks often do great damage and are usually more fertile.

Where it is protected, the hippopotamus, like the elephant, may increase so rapidly in numbers that it causes overgrazing and becomes a pest. The obvious solution to problems such as these is to crop surplus animals and thus provide a welcome source of meat for local populations whose normal diet is otherwise deficient in protein. Indeed, game ranching becomes inseparable from game conservation and is discussed in Chapter X.

Tsetse control

The nineteen twenties and thirties were among the worst decades for the plains game of central eastern Africa for, during this period hunters in cars, armed with modern rifles, killed off in a few hours more creatures than they could have stalked in a month. In addition, many animals were slaughtered in the interests of tsetse control.

Between 1932-59, no less than 550,594 game were shot in Rhodesia alone, excluding the many beasts wounded, but not killed outright by inexperienced marksmen anxious to claim their bounty. In one year 3,219 baboons, 61 wild dogs, 35 hyaenas, 19 leopards, 4 lions, 55 elephants, 8 rhinos, 312 zebras, 950 bush pigs, 4,503 wart-hogs, 377 buffaloes, 50 wildebeest, 301 water-buck, 777 reedbuck, 1,357 sable and 306 roan antelopes, 291 elands, 4,937 kudus, 5 of the rare nyalas, 1,788 bushbuck, 2,219 impalas, 12,566 duikers, 1,037 klipspringers, 134 oribi and 1,206 oryx—a total of 36,552 animals—were butchered.[8] Certainly the slaughter of game shows some tangible results and is simple and cheap, but the long term efficacy of this method of tsetse eradication is questionable.

South Africa, Tanganyika and Uganda have also from time to time suffered from tsetse control schemes, during which hundreds of thousands of wretched ungulates have been butchered. In Natal alone, half a million animals were slaughtered during the twenties. In Uganda, several pockets of carefully preserved black rhinoceros have been sacrificed, along with some of the few surviving herds of eland, roan antelope and kob. In all, some 60,000 antelopes were destroyed there during the years 1952-62 without any economic use being made of the meat and hides.

I do not propose to write at length about the problems of tsetse control, but the method of mass butchery can only be regarded with

[7]Melland, 1938.
[8]Grzimek, 1960.

horror and revulsion, especially as it has little scientific justification.[9] It has been shown that wart-hogs and bush pigs may supply up to 88 per cent of the blood sucked by tsetse flies in East Africa. Buffaloes account for a further 5 per cent. Roan antelopes, kudus and bushbuck between them can yield another 15 per cent while domestic cattle, sheep and goats are also regularly bitten. The most common grazing animals, such as hartebeests, topi antelopes, zebras and wildebeest are not bitten at all, while tsetse flies rarely attack eland, duikers, waterbuck, impalas, baboons, monkeys, dogs, cats, hyaenas and birds.[10]

Poaching

With the establishment of game reserves and the ban on hunting except under licence, a new crime—poaching—was created. Two of the more serious factors that threaten the extermination of African game are the use of motor-cars for hunting and the immense number of muzzle-loading guns[11] in the possession of African natives. Poachers also use traps of various kinds, poisoned arrows and so on.

A recent development used by poachers in the arid area behind the East African coastline consists of a bow with a poisoned arrow which is discharged when a string is touched. This device almost exterminated the game between Malindi and the Tsavo River. Also in recent years, blocks of wood studded with poisoned darts have been buried in the tracks used by elephants and rhinoceroses. They are effective only against animals with large, soft feet but, if any such should tread on them, they are doomed.

Poachers use the traditional hunting methods described in Chapter II which are both wasteful and extremely cruel. In addition, introduction of steel wire, has given them a new and very effective weapon. Wire is cheap and can be strong enough to hold an elephant: two pieces of $\frac{1}{16}$in stranded steel wire can hold a full-grown buffalo. Long lines of wire nooses are laid out and zebra, wildebeest, antelope, elephant and rhinos get trapped by the leg or neck. The noose is attached to a tree stump or to a heavy log which the wretched animal can barely move. Its struggles tighten the wire which bites into the flesh, causing a festering wound so that the unfortunate beast dies a lingering, agonizing death. Wire does not distinguish between males, females and young, but it is silent and, when used in reserves, does not advertise the poacher like firearms do.

One can scarcely blame the protein-hungry native who kills for food. This is a minor menace, however. Most poaching on a big scale

[9]Glover, P. E. (1965) *I.U.C.N. Publ.* (N.S.) No. 6, 84 pp.
[10]Weitz, B. & Glasgow, J. P. (1956) *Trans. R. Soc. Trop. Med. Hyg.* **50**, 593-612.
[11]Ten years ago, over 30,000 muzzle-loaders were registered in Tanganyika and this number must have been far exceeded by that of illegally owned guns.

is directed towards the production of commercially valuable products such as ivory, leopard skins, rhino horns, and zebra tails for fly-whisks. From most of the tens of thousands of animals killed annually by poachers in eastern Africa today, the trophies are cut out and the meat simply left to rot.

Then there are the commercial venison hunters who shoot at night the animals dazzled by the headlights of their cars. And the soldiers who turn machine-guns on elephants, zebras and gazelles. Africa is a large continent, while greed and stupidity are hard to control in any country.

Disease

About 1880, the cattle disease rinderpest was accidentally brought across the Red Sea and introduced into eastern Africa. From cattle it infected the wild game which, in turn, re-introduced it to cattle. So serious was this that many pastoralists turned to agriculture, thereby increasing the population pressure in forested areas such as Kilimanjaro and Meru.

The first great rinderpest epidemic began in 1891. Buffalo died in thousands and occasionally dead giraffe, water-buck and bush-buck were seen. Eland, kudu and roan antelope also suffered. At Ngomini in N.E. Kitui which was a great cattle centre before the epidemic, only a few score beasts survived and the desiccated corpses of many thousands of victims were piled up like walls outside the villages.

This outbreak was the worst epidemic known in the recent history of Africa; it spread rapidly south through what was then German East Africa, crossed the Zambesi, reached Bulawayo about 1895 and by the end of 1896 it had reached the Cape. During the last year of the visitation its progress was remarkably rapid, viz., about 1,000 miles; it was probably spread to a great extent by the transport riders. Since that devastating attack there have been minor epidemics of the disease. In 1904, eland were dying of it near Naivasha, and the Masai then lost over 600 head of stock. Although sporadic outbreaks still occur, the disease is now well in hand.[12]

When F. J. Jackson (1894) returned from Uganda in July 1890, he saw, between Baringo and Naivasha, herds varying in size from 100 to 600 buffalo six times in a single day. Count Teleki, while at Njemps in January 1888, shot no less than 53 buffalo in a month according to Höhnel (1894). In the same district, in 1893, J. W. Gregory (1896) did not see a single individual. Five years before, the buffalo had been almost the commonest of the big game of East Africa. 'The explanation has been supplied by Gedge, who followed Jackson a few months later. Several times a day his caravan had to diverge from its path, to

[12]Hobley, C. W. (1922). *Proc. Zool. Soc. Lond.* **1922**, 1-15.

avoid the stench from a rotting carcase—in fact he saw fifteen in one day; but he did not see a single living buffalo. Cattle disease had swept through the country, and destroyed them all'.

Sir Gerald Portal (1894) described the effect of rinderpest in Kenya as follows: 'The absence of game, the paucity of birds, and the eternal wild sighing of the giant juniper trees all had a somewhat eerie and depressing influence, deepened by the sight of hundreds and hundreds of skulls, skeletons, and scattered bones of the unfortunate buffaloes, which only two or three years ago used to range in vast herds over these mountains. A dreadful plague which, spreading southwards from Somaliland, overran, two years ago, the whole of East Africa, furnishes one of the most melancholy instances in the annals of natural history, of the sudden and almost complete extermination of a whole race of noble animals. Three years ago the magnificent African buffalo roamed in tens, and even hundreds of thousands over the Masai plains, over the Mau Mountains, over, in fact, the whole of what is called British and German East Africa; but now a traveller may wander for months in all the most likely or most inaccessible places, and see nothing of the buffalo except his horns and whitened bones scattered over the plain, or lying literally in heaps near tempting springs and cool watering places, to which the poor brutes had flocked to quench their consuming thirst, and to die. In South Africa, the buffalo is still to be found, I believe, in some numbers, but there he is rapidly being exterminated from the south by the advancing rifles of civilisation, while on the other side there is reason to fear that this same dread plague, having done its fatal work in the east, is steadily and relentlessly pursuing its course southwards, so that unless in the meantime the virulence of the epidemic mercifully dies out, the South African buffalo will inevitably share the fate of his northern cousin. The stately eland, which was never so numerous as the buffalo, appears to have succumbed to the same plague, and the natives assert, though with what truth I know not, that there is not one left in East Africa. . . .'.

A few years later, Major A. St H. Gibbons (1904), writing of his 1898-1900 expedition, said that, after proceeding through the Kariba gorge, 'the numerous buffalo skulls encountered on the veldt showed that the district had been ravaged by the rinderpest epidemic of two years previously. Prior to that cruel visitation this must have been a favourite resort of game, for everything was in favour of its having been so—the country, the sparseness of population, and the comparative abundance of game still surviving that most destructive of all scourges'.

It is fortunate that game populations have proved to be more resilient to disease than was at first realised. Nevertheless, by the

hat, and that I should then have fallen a victim to the elephants. On we went, and at last my instinct proved to be true, for we came quite suddenly upon the caravan and escort who had moved on, instead of remaining where we had left them as the orderly thought. I fell in the Somalis, who formed the escort, at once, and gave the words: "Ready! Present!"

'Whether it was the gleam of the rifles or the presence of a big caravan, I cannot say, but the two wounded elephants, who were now leading the herd, suddenly swerved off. This created a panic amongst the rest, and they all turned tail and fled; closely packed as before, with the two wounded ones behind. I watched them disappearing with as much joy as earlier I had watched them getting closer. I had been through both sides of a hunt, and never want to again. The two injured ones, as I watched, kept losing ground, and were evidently sorely hurt. At last, over an undulation of the ground, they passed out of our sight, which made me feel quite five years younger.

'As the reaction set in I felt completely exhausted, and was not invigorated by the remembrance that I had another five miles to walk before reaching camp. I lay on the ground, trembling from my exertions, and the porters came and poured water over me. I let it soak through my clothes and hair—it was delicious!'

Rhinoceros

The black rhinoceros has a reputation amongst some people for being a malicious monster, eager to attack every human being he meets. Others consider his charge to be merely a hasty and ill-considered attempt at all costs to get away from danger. In a recent study, A. T. A. Ritchie[4] suggests that rhinos can be divided very approximately into three groups according to temperament. The first contains rhinos in areas where they have for many years been hunted by natives using poisoned arrows. The result is a race of truculent animals whose survival lies in offensive action. Flight results in an arrow flicked into the flanks whilst a charge sends the hunter frantically diving for his life through a thorn bush and gives him no chance of using his bow.

The second group contains rhinos which dwell in open plains sparsely populated by pastoral tribes such as the Masai. Here rhinos are undisturbed by man unless, as rarely happens, some individual beast, in a fit of temper, charges cattle or the women at a water-hole, when he is promptly speared. A race of peaceable animals has thus grown up, always ready to retire unless provoked beyond endurance.

These are the extreme types of rhinoceros disposition. In between

[4](1963) *E. Afr. Wildl. J.* **1**, 54-62.

lies a host of intermediates. Some are moderately even-tempered, some irritable, some are brave and others timid. Among these, the individual temperament of a rhino will, at any moment, play a part in deciding his action. Various conditions make for trouble, while others reduce the risk. For instance a cow with a calf will seldom charge home unless you are very close to her. The majority of rhinos in the third group will charge if they see a person before they hear him and are less likely to attack if they hear him first. Even so, they will not usually press home a charge unless they get too involved to withdraw. A shout or a shot into the ground will often turn them aside and a rhino that has charged and missed will seldom return to hunt for its objective.

The black rhinoceros is said to have three characteristic cries: a succession of deep grunts, uttered by the male alone and at certain seasons; a loud snort, sounded when the animal is about to charge or when suddenly alarmed; and the shrill squeal of a moribund individual.[5]

Lieut. Ludwig von Höhnel (1894) accompanied Count Samuel Teleki on his journeys in Eastern Equatorial Africa, during which Lakes Rudolf and Stefanie were discovered. On one occasion, he was following 'buffalo spoors' when he 'surprised a rhinoceros and very nearly had a mishap with him. We had only just noticed an ominous grunting in the thick bushes on our right, when crash went some branches, and a huge brownish-black beast dashed out with such tremendous impetus that I had only just time to step backwards into the bush and avoid the charge. I saw my two men fleeing before the lowered head of the rhinoceros, then I lost sight of them and all was still. In the greatest anxiety, I shouted to them, and to my delighted relief they both answered. Simba had with great presence of mind turned aside into the bush, and though he was a good deal scratched, he escaped. The other man had been in no real danger, but in his fright he had flung away my rifle, and we found it afterwards with both barrels stopped up with earth. We were a good bit upset by the surprise, and went on cautiously enough after this, expecting to see some huge beast behind every bush'.

According to Baker (1890), the black rhinoceros will attack man or beast, frequently without the slightest provocation. 'It is especially likely to attack should it obtain the wind (scent) of any person or strange animal before it appears in sight. This makes it extremely dangerous when riding through thick jungle or high grass, should a rhinoceros be somewhere concealed to leeward. I have myself been hunted out of the jungle by two rhinoceroses which thus gained our

[5]Lydekker, 1926.

wind, just as we had become aware of their existence through the presence of fresh droppings'.

On one occasion, W. A. Chanler (1896) had a narrow escape from a rhinoceros whilst he was stalking a small herd of zebra and two giraffes. 'While so engaged I noticed to my right, at a distance of about 200 yards, a solitary rhinoceros placidly feeding. We had sufficient rhinoceros meat so I did not disturb him. The wind was blowing from where I stood toward him, in short and irregular puffs. I had approached to within 200 yards of my quarry and was about to take aim, when a shrill whistle from my men reached my ears. I turned round, and just in time, for the rhinoceros upon scenting me at once made for me. The soft soil had deadened the sound of his approach. . . .'. Chanler managed to leap aside just in time to avoid the rush of the animal. He added: 'As a rule the rhinoceros snorts when it charges; but this one had not made a sound. Needless to say, I failed to get a shot at either the zebras or giraffes. However, while the men were pitching camp, they were charged by another rhinoceros, which paid the death penalty for its temerity. . . .'.

Lt.-Col. J. H. Patterson (1909) recorded a number of instances of rhinos charging people and even railway trains, without provocation. He mentioned that he had been chased on horseback many times by rhino, but only once was a really determined and persistent attack made.

No doubt the rhinoceros is dangerous, but far too many are shot in self-defence, either through carelessness or because, perhaps unconsciously, they have been provoked. And even then, provided one keeps cool, it is usually possible to avoid shooting. The rhinoceros has poor sight and is guided mainly by his sense of smell. Often he will not repeat the charge, but will simply run by, snorting and rather terrifying, with his tail up, following his nose. But he can turn on a sixpence, and has an astonishing gift for always being in a bad temper. One must be always on the alert and prepared for anything.[a]

The white rhinoceros is normally less aggressive than the black but, if suddenly disturbed, either species will come straight towards the aggressor. If the latter gets quickly out of the way, however, the rhino will usually rush straight on. On one occasion my wife and I walked to within fourteen paces of a pair of white rhinos sleeping peacefully under a tree. As we approached, they lumbered to their feet. One made off, but the other charged towards us. At a shout, however, it turned off into the long grass. No doubt the majority of such sudden charges are induced more by alarm coupled with poor vision and stupidity than with natural ferocity.

[a]Ahlefeldt Bille, 1951.

Hippopotamus

A hippo may sometimes charge if it finds its line of retreat to the water has been barred. An example of such an incident, which took place in Ethiopia, is given by E. A. de Cosson (1877). 'After again wading through the Arno Garno, we crept among the mimosa trees, our Witos leading the way with their long spears in their hand, as they said that if there were any *goumarie* (hippos) about they would perceive them long before we should. But we had hardly walked a hundred yards, when suddenly there was a cracking of branches, the trees in front of us parted asunder, and a huge black mass appeared rushing down upon us with short angry snorts, like a railway engine letting off steam. Out native hunters had got, without perceiving it, between the wind and a hippopotamus that was grazing on land, and which, finding its retreat to the lake cut off, had made up its mind to charge. The attack was so sudden that we found ourselves running as hard as we could before we well knew what we were running for; and the valiant Witos, who had been the first to turn, passed us like lightning and never stopped till they reached the river'.

A wicked hippo. From E. A. de Cosson (1877).

Of the hippopotamus, Sir Samuel Baker (1890) wrote: 'There is no animal that I dislike more, if I am compelled to travel at night upon an African river in an ordinary boat. There is no possibility of escape should a hippo take the idea into his head that your vessel is

few of abnormal size have been recorded, probably less than 50 carried tusks weighing more than 100 lb. each. One obtained from the Lake Ngami district in 1873 weighed 174 lb. but it is not known whether it came from a single-tusked elephant or not. Another killed between the Vungo and Gwelo rivers, within 70 miles of Bulawayo in 1868 or 1869 had tusks measuring over 9 ft. in length and together weighing over 300 lb. A pair of tusks of the same weight was obtained from Umzila, king of the Gaza Zulus in 1874. The elephant with the largest tusks shot by a European in South Africa was killed on the Zouga river in 1849. Although quite a small bull, the aggregate weight of its tusks was between 230 lb. and 240 lb. and their length rather less than 8 feet.

In East Africa, male elephants accompanying the herds of cows commonly have tusks of about 50 lb. each, while the average of those of other bulls would be from 60 to 80 lb. V. L. Cameron (1877), however, met in Tanganyika a caravan of elephant tusks some of which were so immense that they required two men to carry them. Some idea of their weight may be formed when it is remembered that a Mnyamwesi porter will bear up to 120 lbs. of ivory as a load.

Sir Samuel Baker (1890) mentioned that he saw in Khartoum a pair of tusks that weighed 300 lbs. and he saw a single tusk of 172 lbs. In 1874 a tusk was sold at the ivory sale in London that weighed 188 lbs. Baker added, 'These specimens are exceptions to the general rule, as the average weight in a full-grown African male would be about 140 lbs. the pair, or 75 lbs. for one tusk and 65 lbs. for the fellow, which is specially employed for digging'.

According to Lydekker (1926) the world's record for a single tusk is 226½ lbs. This came from an elephant shot with a muzzle-loader on Kilimanjaro at the beginning of the century by a slave, who belonged to a notorious slave and ivory hunter named Shundi. This tusk was exported from Zanzibar and is now in the British Museum (Natural History). It measures 10 ft. 2½ ins. in length with a girth of 24¼ ins. Its fellow is reported to have been of similar dimensions. An elephant carrying the largest tusks ever shot by a European was killed by Major P. H. G. Powell-Cotton in the Lado Enclave in 1905. These tusks scaled 198 and 174 lbs., the larger being 9 ft. long and 25 ins. in circumference.[5]

In the American Museum of Natural History there is a pair of East African tusks, of which one measures 11 ft. 5½ ins., and the other 11 ft. in length, but their united weight is only 293 lbs. Of a pair of tusks from the White Nile in 1905, one weighed 159½ lbs. and measured 7 ft. 11 ins. in length, while the weight of the other was 135½ lbs. and its length 8 ft. 3 ins.

[5]Brocklehurst, 1931.

W. D. M. Bell shot in all 1,011 elephants during his career. From his best safari (Bell, 1923) he brought back 14,780 lbs. of ivory. He estimated that the average march on foot for each elephant, including distances to and from the hunting areas, was about 73 miles and that he wore out 24 pairs of boots in a year. Of his total, 983 were large bull elephants with big tusks.

An animal as dramatic as the elephant naturally gathers to itself innumerable folk tales and myths, of which only a couple of examples are given because they fall within the realm of anthropology rather than of history or zoology. Elephants have also appeared in art since Upper Palaeolithic times.

The Wangwana and Wanyambu informed H. M. Stanley (1878) with the utmost gravity that the elephant maltreats the rhinoceros frequently, 'because of a jealousy that the former entertains for his fiery cousin. It is said that if the elephant observes the excrement of the rhinoceros unscattered, he waxes furious, and proceeds instantly in search of the criminal, when woe befall him if he is sulky, and disposed to battle for the proud privilege of leaving his droppings as they fall! The elephant in that case breaks off a heavy branch of a tree, or uproots a stout sapling like a boat's mast, and belabours the unfortunate beast until he is glad to save himself by hurried flight. For this reason, the natives say the rhinoceros always turns round and thoroughly scatters what he has dropped'.

According to Unyoro traditions, in ancient times a man had an honest son, but he himself was violent, and had taken many cattle from his neighbours. Once upon a time he ordered his son to go and occupy a neighbour's house; if he did not do so he threatened to kill him. The son went and slept in that house, but found in the early morning that the inhabitants had fled. He durst not return home, whilst by himself he would have starved; so he prayed to the 'great Magician' to rescue him, and was thereupon, together with the house, turned into an elephant.[6]

Numerous other elephant legends persist in modern African folklore and the subject has been discussed at some length by Richard Carrington (1958) and Albert Jeannin (1947). A complicated magical ritual, as already mentioned (p. 21), until very recently preceded native elephant hunts. Its object was not only to assure a successful outcome to the hunt but also to propitiate the spirit of the dead animal so that it would not avenge itself on the hunters.

Rhinoceroses and Hippopotamuses

'There are two animals, named frequently in scripture, without naturalists being agreed what they are. The one is the behemoth,

[6]Emin Pasha, 1888.

the other the reem, both mentioned as the types of strength, courage, and independence on man, and as such exempted from the ordinary lot of beasts, to be subdued by him, or under his dominion'. So wrote James Bruce in 1790 of the elephant and rhinoceros. He continued:

'Isaiah,[7] who of all the prophets seem to have known Egypt and Ethiopia the best, when prophecying about the destruction of Idumea, says that the reem shall come down with the fat cattle; a proof that he knew his habitation was in the neighbourhood. In the same manner as when foretelling the desolation of Egypt, he mentions as one manner of effecting it, the bringing down the fly[8] from Ethiopia to meet the cattle in the desert, and among the bushes, and destroy them there, where that insect did not ordinarily come but on command,[9] and where the cattle fled every year to save themselves from that insect'.

Isaiah was probably referring to blood-sucking horse-flies or stable flies which have been known to kill animals by their bites (p. 87), for it is unlikely that he could have known of tsetse flies and 'nagana'. The distribution of tsetse is restricted by climate and vegetation, and I doubt if conditions were sufficiently different in Isaiah's time to have permitted them to enter Egypt.

The first record of the rhinoceros being exhibited in the Roman arena comes from Dio, and refers to the show of 29 B.C. after the annexation of Egypt. This rhino, and a hippopotamus which was also killed, probably came from the zoological garden of the royal palace at Alexandria. African rhinoceroses appeared only occasionally in Rome: the Indian species was far more often seen. Jennison (1937) suggests that this is because the latter is more hardy and its expectation of life in captivity is much greater. However, Ethiopian rhinoceroses appeared during the reigns of Antoninus Pius, and of Commodus (A.D. 180-92), son of Marcus Aurelius.

Bruce wrote of the rhinoceros in Ethiopia: 'The hunters of these large beasts are called Agageer, from Agaro, to kill, by cutting the horns or tendon of Achilles with a sword. I have already described the manner of this hunting' (p. 26). 'Chardin[10] says that the Abyssinians tame and train the rhinoceros to labour. This is an absolute fable; besides that, we have reason to believe the animal is not capable of instruction, neither history nor tradition ever gave the smallest reason to make us believe this, nor is there any motive for attempting the experiment, more than for believing it was ever accomplished. . . . It is a general observation made in every part

[7]Isaiah, chap. XXXIV, ver. 7.
[8]Isaiah, chap. VII, ver. 18 and 19.
[9]Exod., chap. VIII, ver. 22.
[10]Chardin, tom.iii, p. 45.

where [the rhinoceros] resides, that he is indocile, and wants talents; his fierceness may be conquered, and we see, with a moderate degree of attention, he is brought to be quiet enough; but it is one thing to tame or conquer his fierceness, and another to make him capable in instruction. . . .'

Burton (1860) wrote that in his days the 'gargatan' or 'small black rhinoceros with a double horn' was as common as the elephant in the interior of Africa. 'Large horns are imported through Bombay to China and Central Asia, where it is said that people convert them into drinking-cups, which sweat if poison be administered in them: thus they act like the Venetian glass of our ancestors, and are as highly prized as that eccentric fruit the coco de mer. The Arabs of Muskat and Yemen cut them into sword-hilts, dagger-shafts, tool-handles, and small boxes for tobacco, and other articles. They greatly prize . . . the spoils of the kobaobo, or long-horned white rhinoceros, which, however, appears no longer to exist in the latitudes westward of Zanzibar island'.

The curious observation of a concert by a group of rhinos is described by Lt.-Col. J. H. Patterson (1909), who heard something that sounded like a score of elephants trumpeting together: 'We stalked on carefully and cautiously among the rocks with the wind in our favour, until at last we were able to look over the edge of a crag down into the ravine at our feet. Then the weirdest sight that I could ever wish to see suddenly unfolded itself beneath my astonished gaze. No fewer than sixteen rhinos were gathered together close by, all roaring at each other and struggling and fighting in their efforts to get at the waterhole. The moon was shedding a brilliant lustre all round, and everything was peaceful except at this one spot where pandemonium reigned'.

Apparently, apart from the attention they have attracted as objects of the chase, rhinoceroses, white and black, have not been the source of much interest. If it were not for the supposed aphrodisiac properties of their horns, it is doubtful if either species would be on the danger list.

The hippopotamus has attracted even less attention than the rhino. As I have mentioned, one was killed in the Roman amphitheatre in 29 B.C. but, even earlier, one had appeared as a curiosity in the show of M. Scaurus (58 B.C.). Hippos probably came from Egypt[11] with native keepers: they were seen in the arena at the time of Commodus, who killed six, and some were kept in captivity by Elagabalus (A.D. 218-22). The hippo, however, has long been a valuable item of food in many parts of Africa and is now being exploited commercially in Uganda.

[11]Hippos were to be found in the Nile delta until the end of 17th Century A.D.