

**The Fish River bush, South Africa, and its wild animals / by W.T. Black.**

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THE FISH RIVER BUSH  
SOUTH AFRICA

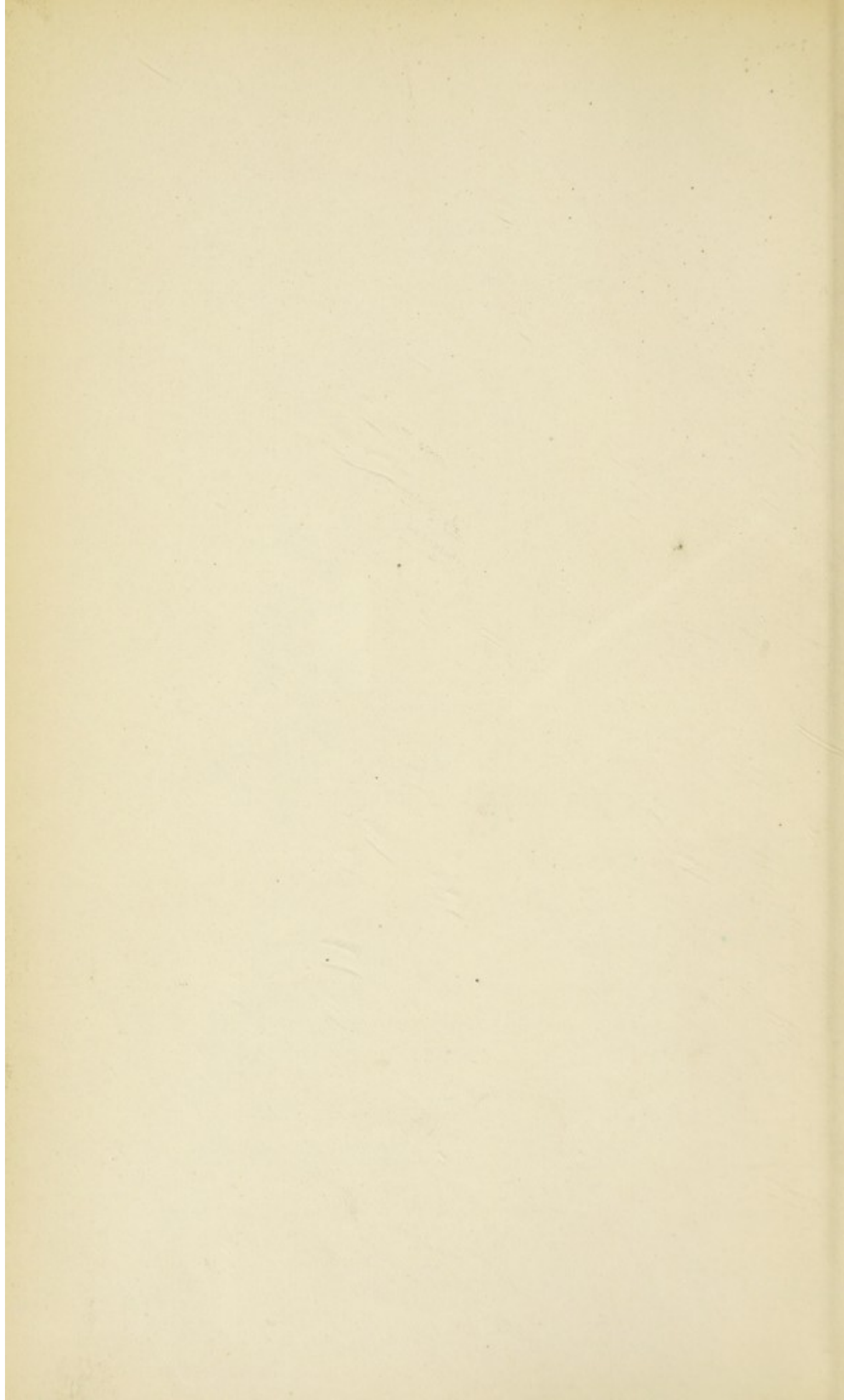
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W. T. BLACK



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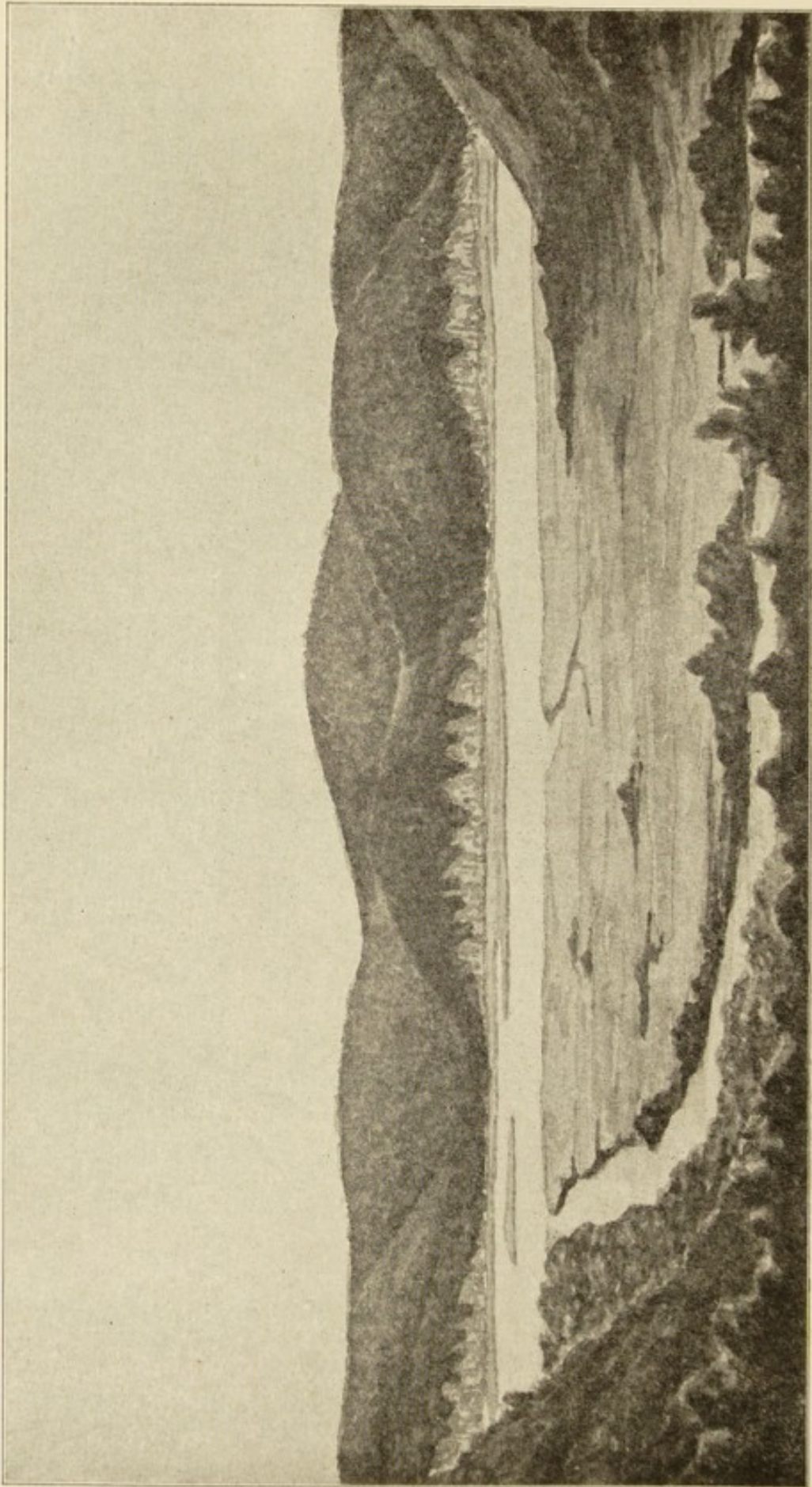
THE FISH RIVER BUSH,  
SOUTH AFRICA.



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Fish River Valley, between Kaffir and Sand Drifts, 1848.



THE FISH RIVER BUSH  
SOUTH AFRICA  
AND ITS  
WILD ANIMALS

BY

W. T. BLACK, M.R.C.S., L.S.A.,

ASSISTANT-SURGEON, ARMY MEDICAL STAFF.

*ILLUSTRATED WITH FIVE FULL PAGE PLATES*

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## P R E F A C E.

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The following articles on the Fish River Bush of the Cape Colony are taken from the "Edinburgh New Philosophical Journal" of July and October 1853, and Vol. 54, No. 107, to which they were contributed, when the Author was stationed there during the Caffre Wars, from personal observation on patrol with the troops.

Considerable alteration will no doubt have taken place in the condition of nature since then, owing to colonisation and cultivation of the primeval wilderness then existing. Farming and agriculture will have invaded the valleys and their flats, and established dwellings and tillage. The wild animals, as Elephants and Hippopotami, Tigers and Hyaenas, Koodoos and Bush Buck, will have disappeared by now, but most of the Birds may still remain denizens of the woods.

The sketches were taken at the time, 1848 and 1852, on the spot, and represent the aspect of nature as then existing, but probably not at the present time.

References are inserted to plates in Capt. Harris' "Wild Animals," 1840, and "Wild Sports," 1852, in Southern Africa, with illustrations of the above notes.

Afar in the desert I love to ride,  
    With the silent Bushboy alone by my side.  
Away, away, from the dwellings of men,  
    By the wild deer's haunt and buffalo's glen ;  
By valleys remote where the oribi plays,  
    Where the gnu, the gazelle and the hartebeest graze,  
And the koodoo and eland unhunted recline ;  
    By the skirts of grey forests, o'erhung with green vine,  
Where the elephant browses at peace in his wood,  
    And the river horse gambols unscared in the flood,  
And the mighty rhinoceros wallows at will  
    In the vley where the wild ass is drinking his fill.

*Pringle's verses, Cape Wilderness, 1824.*

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# THE FISH RIVER BUSH, SOUTH AFRICA.

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## CHAPTER I.

### TOPOGRAPHY AND FORESTRY.

COURSE OF FISH RIVER—ABSENCE OF WATER—KLOOFS AND  
RIDGES—WILD ANIMALS—TREES AND PLANTS—BIRDS.

THE Great Fish River Bush would be better understood if denominated Jungle, according to Indian nomenclature, the meaning of which is well appreciated, from the numerous descriptions we possess of that country. The word Bush is, as it were, conventional only in this colony; and what is generally taken as its meaning at home is inapplicable here. A sheep refers to a single member of the sheep, so a bush signifies a part of the Bush. The extent of the Colonial Bush cannot be estimated by any conception of one who is a stranger to its features. A small clump of bush gives one no criterion to judge of its interminable extent, just as finity can give almost no conception of infinity.

A distinguished military officer, at the commencement of the 1835 war, even on his arrival at Graham's Town, could not understand the meaning of the report, that "the Caffres were in the Fish River Bush," and expressed himself in very strong terms of disbelief that a nation of savages could be concealed in it so as to defy observation, and render themselves nearly impregnable in it. It was only on viewing the expansive scene presented of the Bush country from Driver's Hill on the road to Fort Peddie, that he began to have some idea of the difficulties attendant on a warfare with a people possessing such a natural



fastness. He at first exclaimed, when he was told that was the Bush he disbelieved in, "It cannot be; what, all that greenish covering of the hills and valleys bush! no, it must be only grass." Such was the deception given of its nature by distance. Conviction to the full extent, however, overcame him on descending into the Fish River Valley; and on traversing for miles through its tangled thickets, his ideas of the obstacles he had to contend with in the war underwent, of course, considerable modification.

The *Great Fish River Bush* begins principally about Junction Drift, where the Little Fish River enters, and covers the valley thence to the sea. It traverses all the numerous tributary valleys that pass into the Great Valley, as those of the Botha's River, Kowie, Ecca River, and Blaauwe Kran's River, Sheshago, Clusie, and Kap Rivers, to a certain distance up the course of the Koonap River, and a considerable way up the Kat River, nearly as far as Howse's Post. To the south-west, it may be said to cover a large triangle of country—formed by the Fish River, north and east, and the course of the Kap River, along the summit of Governor's Kop, Botha's Hills, and the Fish River Berg on the south-west.

The Kat River Bush to the north is connected with the Great Fish River Bush, lying east of Graham's Town, which last covers the passage of Caffre commandoes into Lower Albany and Oliphant's Hoeck. About Junction Drift it becomes connected with the Bushman's River Bush and the fastnesses of the Zuureberg, across the Commadaga—another covered way for Caffres into the Uitenhage district. Both these routes have been much used by Caffres this war, and act the part of covered ways and sally-ports from the citadel of the Great Fish River Bush.

By various large kloofs east between Trumpeter's and Victoria Post, as Foonah's and Doda's Kloofs, it becomes connected with the Keiskamma Bush, of similar character, extending from Kayser's Station to the mouth of that river, and these connections establish the covered transit for Caffres from

Caffraria into the great rendezvous of the Fish River Bush. This Bush, last war, was the *scene* of the capture of a train of forty Government waggons on the Trumpeter's Hill road; and this war, it lodged two large camps of Caffres and rebel Hottentots, several thousands strong, in the bushy kloofs east of the river, in the neighbourhood of Committee's Drift, from whence issued frequent numerous commandoes to devastate the colony. The attack and dispersion of these, in August and September 1851, occasioned protracted operations, harassing work, and great loss of life amongst the troops.

The Ecça Bush was the scene of the exploits of the notorious rebel Hottentot, Jan Pockbaas, who waylaid and murdered many of our men, and plundered several waggons. The Koonap Hill road through the Bush, near the Koonap Post, has also witnessed roadside robbery and slaughter, and June last (1852), the capture and plunder of a train of ammunition waggons, with other military stores, and the loss of a considerable number of the escort of Royal Sappers. Various fighting affairs in the neighbourhood of Fort Brown, which is in the centre of a large bushy country, also attest the advantage taken of this cover by the enemy.

The course of the *Fish River*, after leaving Somerset, is one of the most tortuous in the whole colony, and doubles upon itself so frequently, as to completely puzzle a stranger to estimate its true course at first sight. The bends it takes amongst the hills may be, some of them, four miles at right angles to the course; and if following the stream, increasing its length by about ten miles. The river runs in a vast *valley*, bounded by grass-covered hills, which are in numerous places from twelve to sixteen miles or more apart, and it is this entire valley that is covered with bush.

The boundaries of that part running due east, are the Fish River Berg and Botha's Hill on the south, and the Fish River Rand or Caffre Berg on the north. Those of the valley running southerly are formed more by its profundity than by the rise of

the neighbouring country. The Bush country above the Kat River junction is habitable for sheep-farmers during peace time, but totally abandoned from its untenableness during the war. That part below has seldom been occupied at all, except by the military posts here and there.

The Fish River Valley in ordinary seasons is almost entirely destitute of any water, except what the river itself contains, so that the *soil* is universally very dry, and, in consequence, almost totally unfit for agricultural purposes. In fact, no good soil of any depth exists, except in the flats along the margin of the river, and that is of a sandy, reddish clay. The rest of the ground is of a stony, sandy character, the surface-stratum in large areas composed of a dark, loose, broken-up, clayey slate, under which lies the substratum of hard quartzose sandstone, which forms in horizontal layers the perpendicular faces of the *krantzes*. Some undulating parts of the valley have ground of loose sandstone rock, with clay, and are of a yellowish colour in appearance.

Some few small tributary *streams* have their channels through the valley to the river, rising in the neighbouring high country; but the water, though running only a few miles from its sources, soon loses itself by evaporation, or sinking, ere it traverses the confines of the great valley, or else begins to stagnate in pools which, in dry seasons, contain brackish water. Such is the case with the Botha's River, the Kingo, and nearly all the others. These streams, however, in a very rainy season, become torrents, and rush with impetuous velocity over their stony bottoms, coloured white with mud and debris; but this surface water soon expends itself, the fountains not being strong.

The *Fish River* itself is often stagnant, and sometimes stinking with animal refuse and vegetable remains, in long dry seasons, especially about March or October. The heavy rains in the upper country, usually falling about April and December, bring down enormous volumes of water, coloured with the red

clay washed from its banks, and as thick nearly as mud itself, so that even horses and cattle will scarcely drink it. Its rise on these yearly occasions amounts to from 15 to 30 feet, in particular places flooding over its deep clayey banks, and carrying down a great quantity of bush and dead timber torn away from its banks.

On such occasions the sea at its mouth is tinged and dirtied reddish for miles out and on each side along the coast, and the floated debris is deposited in banks along the contiguous beach. The rise of the river often takes place suddenly in a volume of water, which presents an elevation above the level in front; and persons disappointed of a passage across some drift now flooded, may by hard riding overtake the stream, and cross at a drift lower down.

These *drifts* or fords are the intervening shallow places in the deep bed of the river, formed by banks or rocks between the several pools into which the stream is divided, when at a low standard, and are used by the farmers and cattle to pass from one part of the country to another. Passages across can be made at these spots, even when the river is up to the saddle-flaps, as the bed of the river is there known and safe. No roads lead to these drifts, which are only known to frequenters of the country, and in the path leading through the bush to the brink of the river, the bush is so high that in many places one may ride under the branches, but more frequently the rider must dismount and lead his horse through. In wet seasons *vleys* or ponds of water may be found here and there in the flatter parts of the valley, or on the level ground on the summit of the eminences, but these soon become dried up in the course of a long drought.

During these dry seasons the *game* of the larger kind repair to the banks of the river for water, and its margins are everywhere imprinted with the spoor of numbers of animals of various descriptions, as bucks, wild pigs, koodoos, aardvarks, etc., and here the sportsman may, by patiently waiting in the

evenings and mornings, have a chance of surprising and shooting some of these game, taking his station among the bushes on the opposite side of the river to where he observes the recent foot-prints.

It is a circumstance of astonishment that such vast areas of land should support such quantities of bush without any visible signs of running water anywhere, which one would also imagine necessary for its numerous animate inhabitants. Deep kloofs and shady ravines are in numbers everywhere without this source of vegetation and alleviation of thirst, and where one would expect a cool rill of water to be springing out to moisten the arid ground. The succulent nature of some of the vegetation of the bush is said to supply this deficiency to some extent to its herbivorous frequenters.

The *valley country*, when viewed from the ridge of its boundaries, presents a chaos of hills, kloofs, and krantzes, with intervening patches of more level ground, and strikes one with something like a feeling of silent sublimity at its deserted repose, its sombre dark green or brownish green appearance, according to the season, its interminable extent, and the absence of any cultivated spot of ground, or even of a house.

As a part of the whole, the *valley of the Ecca*, looking east from a favourable height, presents a gradually diverging valley entirely covered with bush, some eight or ten miles long by six broad, at the termination of the view, which is closed in by the bushy hills and kloofs of the east side of the Fish River Valley at Committee's Drift.

Forming the south boundary of the valley is a range of disrupted bushy hills, with intervening deep and rugged kloofs and ravines, which constituted the retreat of Jan Pockbaas and his rebel banditti. The north side of the valley is filled up by the high lands about the Grass-Kop, the sides of which are deeply broken by dark kloofs and bushy ridges. In the extreme distance at the left, and situated on the banks of the Great Fish

River, may be discerned a yellow spot, Committee's Post, now untenanted since the last war.

Some undefined feelings become impressed from the reflection, that within these recesses hordes of savages have lived, and that underneath the foliage, impenetrable and insensible to the burning rays of a noonday sun, and unmoved by a breath of air, repose the leopard in his lair, and the poisonous snake in his coil, and that once stalked through it the stately elephant and the headstrong rhinoceros. One can scarcely survey it as you would a battle-field, and point out such and such spots as marked by hairbreadth escapes from, and conflicts with, savage foes, as such events here all transpire under the surface of this gloomy mantle, the personification of lifeless perennial repose. One cannot survey it as you would a map, and point out the streams, the roads, the boundaries of property, and the habitations of men; all these, if they exist at all, are shrouded from view by the same impenetrable winding-sheet, which conceals the action of the savage passions of men and brutes, as well as any signs of the former's industrial activity.

Unseen by the glaring sun has the savage butchered the unwary farmer, or tortured his captive comrade to death; unseen have his waggons been captured and plundered; and daylight in vain essayed to discern the perhaps drunken orgies of the horrid crew revelling in wanton destruction and cruelty. The spectator from a height hears the reports of fire-arms, at first sharp, and sees the eddies of blue vaporous smoke rising out of the Bush; both are now gradually dying away, and savage yells and the growling of dogs are taking their place; not a leaf moves, not a living creature to be seen, and soon these signs of animate existence fail to be appreciated; and yet this is all that a spectator could record of the surprise and slaughter of a company of British soldiers by the Caffres in the Committee's Kloofs in the first September of the war (1851). Underneath these impassive leaves, and entangled amidst impenetrable thickets, the dismayed soldiers fell rapid victims to the savage

barbarity of the Caffres and the brutal ferocity of the bloodhound (not strictly so, but a large kind of Caffre dog). There, no friendly aid, if near, could have discerned the deadly struggle or the torturing death, and have carried assistance or sought revenge. The darkness of night cannot afford a deeper screen for deeds of blood than the tangled thickets and dense foliage of the Fish River Bush.

As the soldier or frontier colonist can tell you of the vicissitudes of human life that have transpired in its obscurities, so the hunter can relate his incidents of sport carried on in its recesses. He can call up to mind the herds of elephants that once quietly browsed amidst the thickets in yonder valley; can show you the paths they had formed by their ponderous power, which led from the heights to the cool vley or pool of water in the still bed of the stream; can recall to you the huge bulk of the rhinoceros, or of the sea-cow, reposing in listlessness in the heat of the day on the shady side of the kloof, and point out to you the path he took, and his heavy footprints in the mud on the banks of the Fish River, when he repaired to the stagnant water of the stream for his drink or his bath.

He can show you where the ostriches (*Struthio*) used in former years to pick the grass in the open glades on that flat spot of ground below. He can show you the hill range in the distance, where the koodoo came out to graze in the morning, and can take you on his track through the kloof and the bush to the bank of the river, where he had drunk in the evening. He can tell you of the krantz to which he followed the leopard by his spoor from his sheep-kraal, whither the brute had carried a ewe; and recount to you the desperate struggle that resulted between his dogs and the despoiler, ere he fell to the stroke of the knife or the bullet of his roer. He can tell you of the hand-to-hand conflict that took place in yonder dark kloof between his comrade and a bush tiger, in which his friend was saved by timely assistance, but to die in a week after of his lacerated wounds.

The bush covering to this part of the country does not add

variety of scenery to the confused assemblage of hills, valleys, flats, and krantzes, as it covers over all inequalities of ground with a sameness of appearance, and makes almost every kloof and koppie exactly resemble each other except in size. Its impenetrability is so great that no person is able to make any way through it, except through passages, made formerly by the gigantic elephant, which are well adapted for bridle-paths, and were the only roads existing in an early state of the colony. Smaller footpaths, made by the present denizens of its cover, as the larger bucks, etc., are also available means of access to the interior of its recesses.

The knowledge of these various elephant-paths forms the resource of the marauding Caffre, by which he can effect a secure escape from the pursuit of those unacquainted with the locality into the far depths of the jungle, and by which he can readily drive the plundered colonial cattle, through an apparently impenetrable country, into places of concealment in the stupendous kloofs that intersect the hilly regions of the bush belt. Even should the pursuer be close on the heels of his enemy, and the guidance of the spoor should fail in such a dry country, no means could enable him to detect cattle concealed in the kloof he looks down into except that by their lowing. Should he reach them, and capture them, he will doubtless find the plunderers missing, and nowhere to be seen; yet the Caffres, and numerous too, may still be concealed in the same kloof, secure from observation, while they are aided by the black colour of their skins affording no contrast to the gloom of the recesses they have taken refuge in.

The only use of the more accessible parts of this impracticable country is the more open and level parts, constituting fine pasturage for sheep—the bushes affording them abundance of food, even should the grass fail in dry seasons, but then the flavour of the mutton distinctly alters, though not by any means to a disagreeable taste. Whether fossil coal will ever be discovered in sufficiently large beds in the country, as to make



it available for general use as fuel, remains to be seen; but no fear need be entertained of the failure of firewood, for which the majority of this bush is only serviceable, as we have here a living coal-field unmerged as yet by a deluge.

The bush is denser and more tree-like in the kloofs, and opener on the more level and elevated grounds, where the koodoo and the buck graze, and the wild pig ploughs the ground for its food, as the open glades abound after rains with abundance of sweet grass, and other such fresh vegetable productions. This jungle is never seen to have grown, either more extended or higher, in the memory of the inhabitants of this country; and no encroachments are made on it, except when grass fires on the hills burn away its borders, which remain for a long time scarred and black.

It is composed of numerous kinds of plants, shrubs, and trees, mostly partaking of the thorny prickly character (*Acacia*), entangled by their own branches, and by various creepers (*Pelargonium*), and rendered more impassable by thick under-wood. Few trees, however, are of such a size or of such a kind, as to furnish good timber, which is chiefly procured, for the use of the eastern districts, from the forest kloofs of the Kat River district, and those of the Cowie forest in the Mancazana and Kaja districts, but a good proportion of building timber, as deals, is imported from England.

Stunted Euphorbias grow in abundance in every direction, as well in the kloofs as on the koppies and flats, and the stately giant Candelabra Euphorbia rears its hydra-headed form above its neighbours in the deep hollows, or on the sides of the kloofs—the refuge for the hunted baboon, or the perch for the far-sighted aasvogel (*Vultur*) or hawk (*Aquila*). Abundance of milky juice distils from incisions in its trunk, or the rupture of a branch from the stem, which very probably would furnish india-rubber or caoutchouc, if the proper means were taken to obtain it, and if successful, the material would be in abundance.

The sweet-scented jasmine (*Jasminum*) entwines and decorates,

with numberless white flowers, the different shrubs and trees, whence the wild bee gathers its honey. Numerous bulb-like Amaryllides and Narcissus shoot up their leaves, and single-stemmed crown of flowers, after rains in the spring, from the arid ground of the lower parts of the valley. The Speckboom (*Pos-tulacaria*) abundantly relieves the monotonous evergreen colour of the bush, with its lilac clustered flowers, and its succulent sub-acid gummy leaves, formerly afforded the principal food for the elephant, and are now partaken of by the thirsty traveller with relish, and often cooked by the native inhabitants into a kind of stew.

The tops and sides of the koppies and ridges are garrisoned by stumpy aloes, with their thin bristling head of leaves, often giving the appearance of a picket or party of Caffres to patrols traversing the country during war time. The prickly Acacia covers the level lands, throwing out, when its yellow clustered flowers are in bloom, a delicious fragrance. The spear-shaped but scentless flowers of the Strelitzia may be seen shooting up amidst their dark green elongated leaves, enlivening with their bright colours the sombre hue of the sides and heads of the kloofs.

The River Bush is of a different nature to that covering the rest of the country, and marks the course of the stream distinctly to the spectator from some height overlooking the valley; it is greener and loftier, and completely overhangs the water in most places, so that one scarcely can obtain a view of the stream itself till after passing through to the back of the river. Coarse willow trees (*Salix*) constitute its largest bush, which is tenanted by numerous and various kinds of small birds, some remarkable for their shape, others for the beauty of their plumage; some few have notes, but the majority are destitute of any.

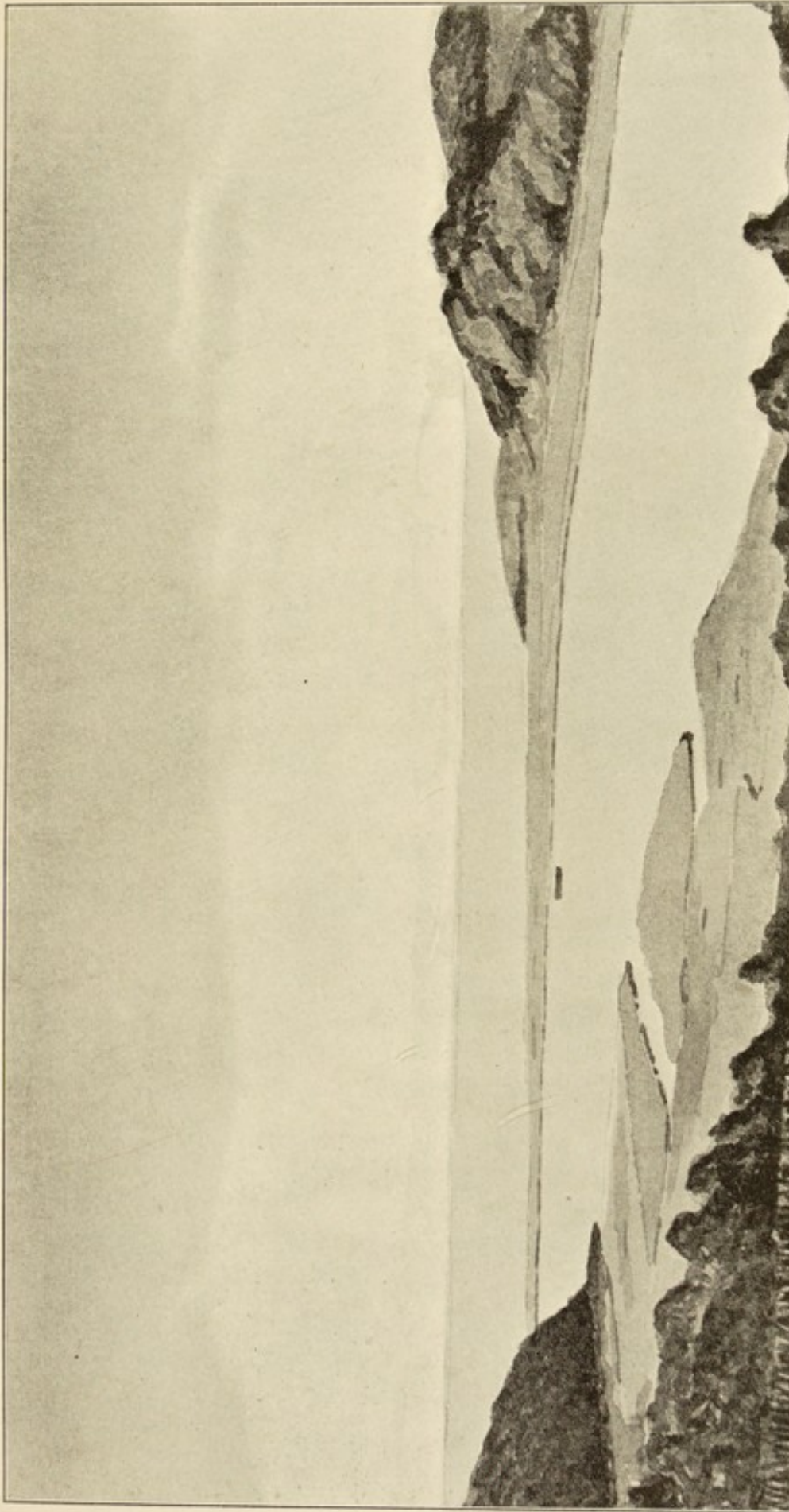
The yellow and green finks (*Ploceus*) may be seen disporting in multitudes amongst its branches, and entering every now and then into their grass-woven nests, hanging from the extreme twigs of the waving willow, over the surface of a still pool of

the river. Clumps of the prickly pear, with their leaf-like succulent branches, studded with golden yellow flowers, into the cups of which the pretty sugarbichi (*Nectarinia*) may be seen dipping his slender subulate beak, grow here and there luxuriantly, the fruit affording rich food for the wild pigs, and giving the name of Vyge Kraal to a locality of the Fish River.

The traveller through this jungle may afar witness the heavy-winged vultures (*Neophron*) gathering from different quarters of the sky, attracted by the carcass of a trek-ox that has been knocked up and died on the road, on which some are already eagerly gorging themselves, having the eyes picked out, and they are commencing at the entrails. At another quarter in the valley, flying in circles in the air, may be seen a crowd of eager, long-sighted aasvogels (*Vultur erenopterus*), scared from the carcass of a sheep by the arrival of a troop of wild dogs (*Lycæon*) to snatch up the excavated remains.

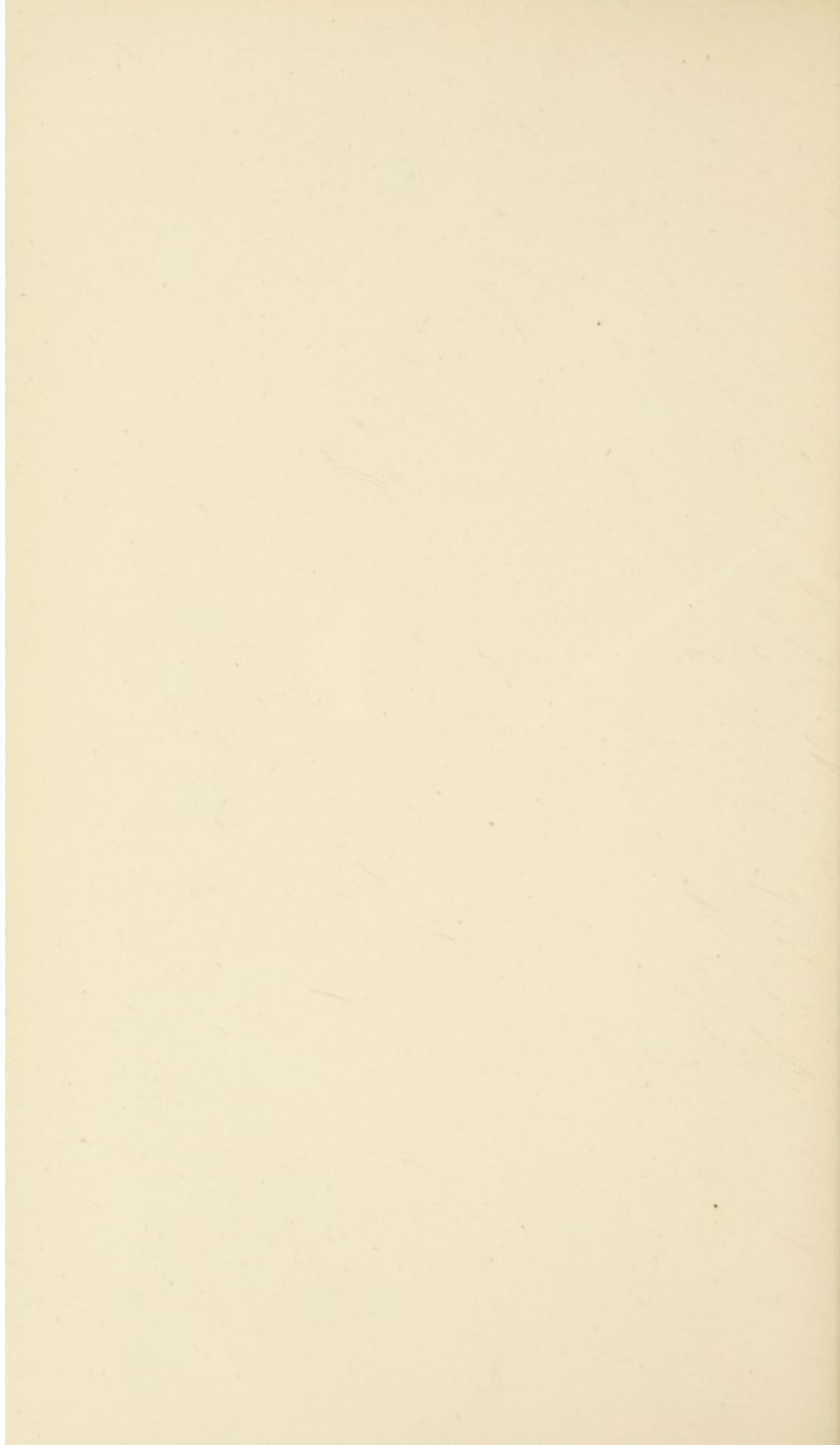
From that lofty time-worn krantz overhanging the river, may be heard the chattering of the huge ungainly baboon (*Cynocephalus*), especially in the evenings—the noise elevating itself now and then in united chorus, or interrupted by discordant shrieks, perhaps indicating the neighbourhood of the stealthy tiger, or his seizure of some unlucky member of the community for his evening's repast. The saw-filing cry of the guinea-fowl (*Numida*) may be heard echoing from the bushy krantz near the river in the evenings, when the flock are collecting to roost. The crowing concert of the black pheasants (*Francolinus*) arises from the bushy thickets along the Fish River here and there, as each covey welcomes the rising sun and the steaming dew. The pretty notes of the michi and diedriek (*Chalcites*) further enliven the growing day, and the hoopoe's voice (*Upupa*), and the cooing of the ring-dove (*Columba*), may be distinguished from the depths of some kloof or river thicket.

That white smoky line advancing along the undulations of the bush-covered valley, like the progressing margin of a grass fire, is a squadron of winged locusts (*Acrydium*) in line, the hindmost



W. T. B. *del.*

Fish River Mouth, Indian Ocean, 1848.



of which are constantly flying over their comrades ahead, to take up the unconsumed vegetation, while they leave behind them a leafless desert. On nearer inspection, the bushes are seen completely covered by their brownish grey bodies, heaps of which may be knocked off like snow-wreaths by the stroke of a stick, while your horse may be seen with avidity clearing another bush of its devastators.

The still moonlight nights bring one familiar with the lively scream of flocks of the white and black plumaged plover (*Charadrius*) and the softer and more prolonged note of the dickop (*Edicnemus*), which seem to emerge from their daylight concealment, and enjoy the security of searching for their food by night. The prowling wolf notifies its proximity to the sheep-kraal in rainy dark nights, by its lengthened hollow howl awakening the dogs, which answer with their frequent bark. In the season nearly every night, either on the road or at home, the jackals may be heard raising a concert of shrill cries, in answer to each other in the distant bush.

#### GAME SHOOTING.

The sportsman with companion will find ample occupation in traversing the River Bush and the open ridges and glades in pursuit of the game birds that haunt them all along, as these must be near their feeding grounds, for seed and water by the banks. Sport of an interesting kind may be indulged in after pheasants and guinea-fowl along the river thickets, and after grey wing partridge (*Francolinus*) and quail (*Coturnix*) in the open bush on the ridges, where they go to sun themselves, and to feed.

Keen-nosed dogs, setters and pointers, are however necessary to follow the birds through the tangle, and capture the wounded and the fallen in the rough grass after shooting; and an occasional shot may be got at a Geelbec duck (*Anas*) as it flies low along the bush lining the river banks, but its recovery is very uncertain owing to the current and the sedges concealing it.

The sport is not laborious, as there are no high hills to climb, and there is plenty of shelter from the sun rays in the trees, and your coolie or native ghillie follows after with the horses and game bags.

Fire makes no deep impression on the everlasting verdure of the bush; and if a grass fire stretches to its margin, it merely consumes the little at its edge that is of a more open character, but never penetrates into the recesses of a kloof. In every respect there seems the character of eternity implanted on it. No one knows how, or where, or when, it began to grow; no one has witnessed its increase in any way, no one its decay; no fall of the leaf takes place to any appreciable extent, the foliage only undergoing in the winter season a brownish shade of colour. Inconsumable by fire, waveless by the wind, unharmed by the torrents, unchangeable in every vicissitude of season, having neither youth nor age imprinted on it, it partakes more of the character of a stratum of the surface of the earth than anything proper to organic life.

## CHAPTER II.

### THE HERBIVORA.

BUFFALO—KODOO—BUSHBUCK—DUI-KER—GRIESBUCK—STEEN-  
BUCK—WILD PIG—HORSES—HARES—ROCK RABBITS.

THE *Elephant* and *Rhinoceros* have years ago left the retreats of the Fish River Bush. The present Colonel Armstrong, Cape Mounted Rifles, recollects, when as a subaltern stationed at Fort Brown, of passing through a herd of elephants on the Koonap Hill; and it was the common practice for the men of the detachment there in his time to hunt them on the Committee's Flats in the valley of the Ecca. A solitary sea-cow, or *Hippopotamus*, here and there, still lingers in the Fish River, below Trumpeter's Drift, and there still remain several of them in the Keiskamma River.

The Buffalo (*Bubalus Caffer*) still haunts, though in few numbers, the bushy kloofs and sides of the hills between the Grass-Kop and Committee's and Double Drift, and one or two have been killed in that neighbourhood, since the last war, by some Boers living between the two posts. They are hunted with dogs, which bring them to bay, so as to afford a good shot behind the shoulder, or about the ear. The forehead is impenetrable, the brain being there protected by an enormous thickness of bone, forming the standing for the horns. They are excessively savage when wounded, and sometimes they evince a cunning which will prompt them to feign death, so as to delude the unwary to venture too near, when the infuriated brute summons up his strength, and rushes on his adversary, to his almost certain destruction.

The fawn-coloured Koodoo (*Antelope Strepisceros*), with its



spiral-twisted horns—absent in the female,—one of the handsomest of the large bucks, may be observed in small herds, or solitary, about the Fish River Rand, where they graze in the open glade, on the summit of that range, but their refuge is in the bushy kloofs of the Kinga. Their spoor, horse-shoe shaped, and with the cloven mark in its axis, may often be seen leading from thence to the banks of the Fish River on one side, or the Koonap on the other, in search of water; though the gratification of this appetite does not appear to be daily necessary in any kinds of buck. They also frequent the country between Double Drift and the Grass-Kop, and that eastward of the Fish River, and some have been seen up as far as Liewfontein, on the road to Fort Beaufort.

They come out to feed in the early mornings and late evenings in the open spaces of the bush, and also browse on particular kinds of delicate shrubs, while their spoor may be seen covering the ground in such spots. During the heat of the day, they lie down in the recesses and cool shade of some bushy kloof, near where they had been feeding. In wet and cloudy weather they are less shy, and, like most bucks, seem then to dislike the shelter of the bush, it is said from the dripping of the water through the foliage. In such weather the sportsman can easily follow the spoor, and need not desist from his toil during the day, as probably he may at length come upon the animal or herd feeding. In dry weather it is rather arduous sport. Sometimes they may accidentally be discovered about sunrise out feeding, and in such a case great caution must be used in approaching them, from their acute sense of smell and hearing.

Its ear is large and lobed, and well adapted for detecting the approach of danger, especially from windward. Various covers of small bush, hillocks, ant-heaps, etc., may be employed to obstruct their seeing your approach; and some people have actually taken off their shoes and crept on their hands and knees to get within gunshot. Should the animal, however, get

alarmed, his bound is fine, clearing the bush to his own height, and dashing down thus by repeated leaps, deep into the hollows of some contiguous kloof, whence, being in a state of alarm, it would be vain to follow him.

The Boer proceeds to hunt him otherwise, by traversing the country on horseback, till he finds a fresh spoor, which is followed through every difficulty of ground and bush, at the imminent risk of the clothes of an unaccustomed stranger being torn into shreds by the prickly thorns of the shrubbery. When the morning's spoor is traced, or the animal has been seen unalarmed on entering a kloof, the dogs are fetched, and some of the hunting party enter and station themselves about the head of the kloof, while the dogs are led by another of the party into the bottom, and are driven up so as to turn out the animal, which flies before them, and passes, perhaps, within gunshot of some of the former party.

A well-known Boer was accustomed in this case to follow on the spoor alone, being stripped to the skin, and carrying merely his bandolier round his waist, and his gun in his hand, with his tobacco-pipe, which he lit every now and then to observe the wind set. Should it be with him, he rested till it took a more advantageous direction, when he carried on the track farther through the bush. As the breaking of a twig might be heard by the wakeful animal, or the rustle of the thorns on his clothes, he had stripped himself naked. So, following on by cautious degrees, every now and then lighting his pipe and ascertaining the course of the wind, he would at last come right upon the koodoo, lying in repose in his cover in the bush, and have ample leisure to take a fatal aim.

The flesh forms the richest venison of any of the bucks of this part of the colony, and what is not required for immediate use is cut into strips, hung up, and dried in the sun, forming excellent biltung. The skin, as large and longer than an ox's, is cleaned and pegged out on the ground to dry in the sun, and is afterwards used for various farm purposes by the Boer, or

sold,—chiefly being useful for vorslaghts, the lash of their great waggon whips. Its value may be about £1 a skin, which further makes excellent leather when dressed, etc., for shoes.

The next largest buck frequenting this bush is the powerful Bushbuck (*Tragelaphus, A. Sylvatica*), of a dark brown colour, having black spiral horns with a ridge, the number of twists corresponding to its age. It is further recognised by half-a-dozen white spots on the hind quarters, and one on the cheek, a short tail, white underneath. He wants the usual lachrymal sinus, like the koodoo, the large lachrymal line of the buck's head here being quite flat on its aspect to the cheek. The female has no horns, like all those of that sex of the antelope kind inhabiting the Fish River Bush, and she is seldom seen. The rump and mammary region are white. The male and female of all the smaller bucks are distinguished in the country as ram and ewe, while in the koodoo and other larger ones they are called bull and cow. Inguinal sacs are also possessed by the male bushbuck.

It frequents the deepest and thickest kloofs and bush, and is very shy, though extremely ferocious when wounded, and can inflict serious wounds with its sharp-pointed horns. The Hottentot or Boer, knowing the habitat of any animal, as they are generally solitary, stations himself by dawn in some little krantz or rock, under cover of a bush, overlooking a kloof, and silently awaits the buck coming out to feed at sunrise at the edge of the bush, in the open space or glade, and perchance may obtain a view within gunshot. In very dry weather, they come down from the higher kloofs, and live in the thick lofty bush on the banks of the river, so that the water is nearer; and here the spot they frequent on the banks may become known to the hunter by the frequent spoor, which is lancet-shaped, and marked with the cleft in its axis, which he takes advantage of by stationing himself within proper range on the opposite bank, and awaiting the buck's time of repairing to drink in the even-

ings. They may also be started by following a morning's fresh spoor to their cover in the bush, either with or without dogs; and an opportunity for a shot may be obtained as the buck rises and bounds off, which he does with remarkable power and speed, clearing much over his own height.

A favourite plan of hunting bucks in Lower Albany, adopted by the English farmers, where a kloof can be found separate and surrounded by open country, is in stationing the party with their guns around it at various distances, and sending in beaters up from the bottom of the kloof to scare the game, which rush out according to their number from the edge of the bush, and afford fine practice.

A common plan adopted by the Hottentot in the shooting of smaller bucks of all kinds, is in discovering an open spot of ground which, from the spoor and quantity of fresh dung, he judges is a favourite feeding ground, and excavating a hollow in a close bush within range of this with his knife, wherein he conceals himself before sunrise with his gun, ready on the watch for a buck displaying himself in the open glade which he commands. These coloured people are peculiarly expert in this stealthy kind of sport, which skill their rebel brethren have turned to a too fatal use in the war; they otherwise will walk cautiously over a favourable tract of bush country, where there are clumps and open glades, and taking views every now and then from behind different shelters, till they, by good fortune, espy in the morning or evening some unwary buck out feeding on the edge of a clump, and are almost certain to bring back one or two on such favourable occasions.

A knowledge of the habitats of the various smaller bucks can be readily acquired by observation of spoor and the presence of their dung—their freshness, or otherwise, leading one to form an opinion of the proximity of the game. During the day, when they are lying down from the shelter of the sun, they may be flushed by good dogs who understand them, when one may get a chance of a shot, as they rush out of the bush and

bound off; but this mode of sport requires a great rapidity of aim to be very successful, as their speed is very great.

Showery cloudy weather is the best to follow this sport; the bucks then leave the denser, cooler kloofs, and frequent the more open bush for the fresh grass and other green food. The breaking of a foreleg does not prevent the entire escape of a wounded buck, but injury to a hinder limb cripples it much more, though not to the extent but that probably a good dog would be required to capture him. From the nature of this part of the country, it is impossible to course them, and all common dogs cannot attain the speed of the buck, nor are they able to clear obstacles which the latter do by most astonishing bounds.

Next to the koodoo, perhaps bushbuck venison may be reckoned as palatable as any; but all these smaller bucks are devoid of fatty materials, and the flesh is very dry, so that to render the meat quite acceptable, it requires to be dressed in peculiar ways. The English farmers sometimes, when sport is no object, and the mere procuring of the skins and flesh for sale or consumption their aim, adopt a more wholesale method of capturing the smaller bucks of all kinds, and one that requires no expenditure of time.

The River Bush is the most frequented resort of these animals during dry seasons, and their resort in any favourable numbers is easily ascertained by the quantity of spoor. Certain narrower tracts of it are bushed in after the manner of a kraalfence, right across from the river bank to the outside edge of the bush, say for eighty yards, except a single narrow opening through which the bucks must pass when traversing the length of the bush to or fro. At this spot a trap is set, a hole is first dug, and a long spring of bush tree fixed in the ground close by, to the upper end of which is tied a *riem* or rope having a running noose at the lower end, which is fixed by a small easily-loosened stick, round the margin of the hole, the spring being then bent down to its utmost. The opening of the hole is covered by other smaller sticks, over which are placed loose

grass and rubbish to hide its artificial appearance. The buck in passing through puts his foot on the covering, which the pressure bruises down, the noose is liberated, the leg caught, and up springs the bender, and so holds the animal in spite of all his endeavours to escape till the poacher arrives. The plan is recommended from its not injuring the skin of the animal by any wound, so that its market value is not lessened.

The Caffres in this country sometimes use a nearly similar method, bushing across the space of the river bush, leaving a single opening where a deep hole is dug, in the bottom of which is fixed an upright sharp-pointed stake, and the opening of the hole is covered lightly with sticks and grass. The buck, instead of being ginned, is here staked. The skins of all these smaller bucks are valuable, being, when prepared with the panion, made into carosses, bed-covers, carpets, etc., for use in the colony, and further form very fine leather stuff. Their usual selling price in the Graham's Town market is from one shilling to one shilling and sixpence.

In all these smaller bucks the *stomach* has the four cavities of the ruminant. The paunch contains a large quantity of semifluid, half-digested vegetable matter, the reticulated cavity the same, which in the *manipulus*, however, is quite dry, preparatory to the chymification effected in the true stomach. The food in the fourth cavity is similar, but more liquefied than in the first two cavities. The *cæcum* is large, contains no formed *faeces*, and the small intestine enters into it at right angles to its axis by a small constricted opening, situated about three inches from the cul-de-sac extremity. The colon is much narrower than the *cæcum*, and at its commencement performs two complete circular folds in a separate plane of peritoneum, before becoming a movable free viscus in the abdominal cavity. The spleen is not larger than a crown piece, flat, and lies against the left surface of the stomach. The pancreas is also small and flat in shape. The smallness of the former organ is probably commensurate with the large circulation of the intestinal

tube, affording sufficient amount of portal blood for the liver, and with this circulation being in these animals in a state of almost constant activity, and thus affording a constant supply. The periodical state of these matters in the carnivora may afford greater ground for a larger supplementary organ to receive an unrequired influx on the stomach and intestines, and sustain a steady supply of materials for the liver to elaborate into bile for an ensuing period.

The *Dui-ker* (*Cephalophus Maxwelli*), so called from its bounding mode of progression, is a species of antelope, and rather numerous in the Fish River Bush, where it inhabits the darker-coloured ground covered with clumpy patches of bush. Both its spoor and dung are peculiar from the others, and its habitats consequently become known by these means. It has beautiful shining dun-coloured hair, short erect horns, with three or four annulations at the base, and is marked by a black stripe on the forehead and nose, and an S-shaped streak beneath each eye, indicating the situation of the orifice of the lachrymal sinus. It has a short tail, white underneath. Its speed is very great, in fact swifter than any other kind of the smaller bucks of the colony, which is attained by its numerous bounds, each clearing about thirty feet of level ground. As an object of mere sport, it has very great chances in its favour for escape. Its skin forms good carosses, and its capture for this object is effected by the various means above detailed.

The *Griesbuck* or *Griessteenbuck* (*Tragulus*), rather smaller than the *dui-ker*, takes its colonial name from the reddish-grey coloured skin. Its horns are short, straight, and smooth, and it possesses no tail. Inguinal sac in the male, four teats in the female, and a lachrymal sinus, are further characteristics of its antelope species. It inhabits a part of the bush-belt where the ground is sandstone and clayey, and of a colour apparently assimilated to that of the fur. It is far inferior to the *dui-ker* in speed, being apparently only gifted with running. Its skin is scarcely so valuable as that of the *dui-ker*.

The Steenbuck or *Bleekbuck* (*Tragulus*) is about the size of the *dui-ker*, and frequents bush growing chiefly on sandy clay ground. Its fur is of a shining reddish-yellow colour, the belly white, and the mammary region bounded by a black border on each side. It has two black stripes on the forehead and one on the nose. The horns are erect, short, and smooth, and there is no tail. It partakes in a great measure of peculiarities proper to the *dui-ker* and *griesbuck*. Lachrymal sinus also is present. Its fur is less valuable than either of the other two, from the coarse nature of the hair, and in consequence little employed for carosses, but the skin makes as good leather as the others. Its speed is intermediate between the two former, but its appearance in a natural state is prettier than either. Pairs are generally found together, or may be started by the dogs from bushes not far separate; in the totality they are not so numerous as the other two.

The excretory orifice of the *lachrymal sinus* is single in the *griesbuck*, and opens in a black spot beneath the eye on the cheek. The buccal aspect of the lachrymal bones in this and *dui-ker* and *bleekbuck* is hollowed for the reception of the black-coloured lachrymal sinus, which appears to abound in dark pigmentary matter like sepia, but the excreted fluid when seen is colourless. This gland has no connection with the orbit or eye, and its excretory ducts are single in the *griesbuck* and *bleekbuck*, but open by many pores in the S-shaped black stripe on the cheek of the *dui-ker*. If any use is to be assigned to it as possessed by these three species of antelopes, on what grounds is it dispensed with in the bushbuck and koodoo, which inhabits this bush-belt also? It cannot be for any object connected with the lubrication of the eyeball, as it is placed underneath it, so that its anatomy throws no light apparently on its function.

The *Wild Pig* of the Fish River Bush (*Sus Larvatus* and *Phascochærus*) is seen in two varieties, the larger of a dirty white colour entirely, and possessing three excessively developed



cartilaginous tubercles on the face on each side, two nasal, in appearance like horns, two orbital, and two buccal, which probably serve as fenders from injury to the eyes, in its progress through the thorny dense underwood. These prominences do not exist in the sow, which has a smaller head, but is otherwise similar to the boar. This variety goes by the appellation of *witkop* amongst the Dutch farmers. The smaller variety, called *roewitkop*, is of a dirty reddish-brown colour on the body and limbs, but the hair of the head becomes grey in the older individuals. The young of this kind have a general brown colour, with two or three longitudinal reddish stripes on each side extending from the head to the tail.

The nasal tuberculations seem only here to attain any size in the male, and are entirely, as in the other variety, deficient in the sow, which is also somewhat smaller than the male, but otherwise similar in appearance. The ears in both are erect. The distribution of the teeth in both varieties is as follows: incisors 2/6, canines 1/1-1/1, molars  $55/44=30$ . The upper canines rest on their sides, and, directed outwards, seem merely for the purpose of keeping the two edges of their opposites in the lower jaw sharp by their grinding action, as their fibres will act perpendicularly against those of the lower tusks longitudinally.

These animals afford excellent sport during the day, when the Boer hunts them with a pack containing a few strong plucky dogs which have been accustomed to the sport. They frequent the dense bush and thickets, seldom the River Bush, and during the day may be turned out of these retreats, where they repose, by dogs knowing their scent. They then immediately make off, and in difficult thick country give a long chase to the pack, but in more open country are soon run into, as they cannot keep up any lengthened speed, though rapid for short distances.

When they have taken to the dense bush the hunter waits, listening from some overlooking spot to the bark of the dogs,

and hearing how matters are going on, till he becomes aware by the sound that the pig is brought at length to bay, when he then endeavours to get as best he can through the bush, to the assistance of his dogs, who would in a long contest most probably lose some of their numbers. The best of the dogs, when the pig is brought to bay, run up at once, and fasten upon him by the ears, snout, lip, etc., the others assisting, and thus hold him fast, and prevent him doing much mischief, till the Boer's knife between his ribs or a bullet puts a termination to a struggle, which, if not thus interfered with, most likely would end in the defeat of the pack, and death of some of the dogs.

In every seizure, generally one or more dogs get wounded by the formidable tusks, and some are killed altogether, either by the belly being ripped up, or the vessels of the neck in front of the chest lacerated and pierced. Hesitating dogs are liable to suffer most, as may be inferred. By moonlight the wild pigs come out of their retreats, especially during and after rainy weather, when the ground is soft, to feed on the roots, bulbs, etc., which they fancy, and large pieces of ground may sometimes be seen ploughed up by them after a single night's ranging. They may then be hunted very successfully, and sometimes shot when discovered out alone feeding. The flesh of the young is fair pork, but not very fat, and the skins of the older seem the only valuable part, of which the Boer makes his veldschoons, or covers his saddle with.

The flesh of these pigs is most frequently allotted by the Boer to feed his dogs, and is cut off the carcass on the spot, and devoured by them raw.

The common standard of *Cape Horse* remains the same, though good blood has been infused into the race from other parts; yet the native-born progeny sometimes naturally decline to the lower native standard—the horizontal or Y neck, the straight perpendicular shoulder, and the heavy under jaw and narrow chest. The same law would seem to occur in the *Ox* and *Sheep*, the straight back and short horns soon, in a genera-

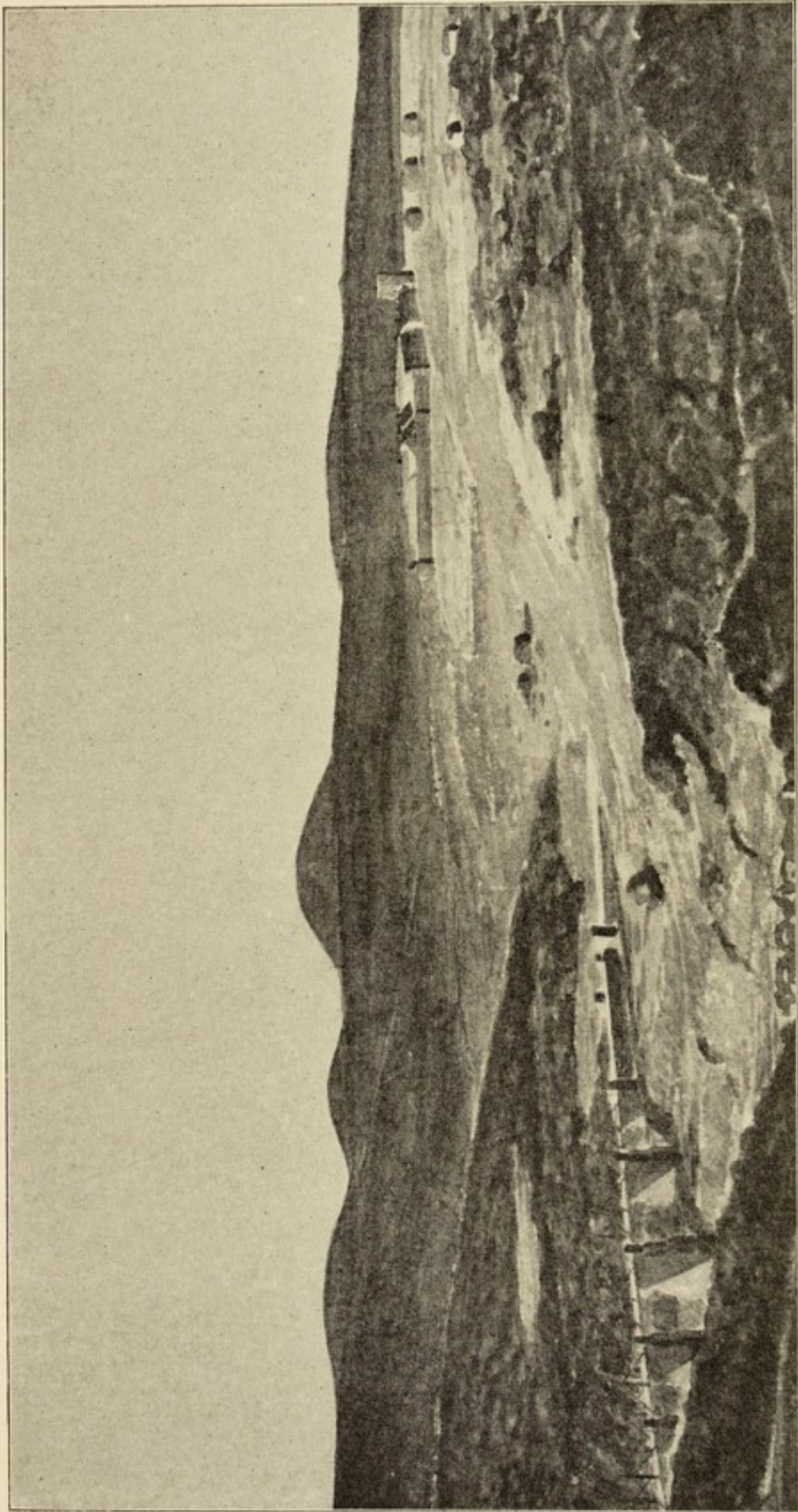
tion or two, lapse into the hanging neck and hollow back, and long ponderous horns, sometimes six or ten feet between the tips; and the progeny of the well-bred woolled sheep, if let alone, change the curly thick-set coat for one hairy and shaggy and thin, and the small tail for the long pendulous and fat-laden one of the Cape sheep. This deposit of fat in the tail would seem to have some connection with the absence of the usual quantity of internal fat seen in the later breed.

*Horses* are affected in the lower districts with a congestive fever, implicating the lungs at particular times and seasons, which proves fatal to great numbers, especially such as are turned out to graze all day, whence some attribute the cause to the grass, especially with the dew on. Purging and the maintenance of profuse perspiration are the usual methods of alleviation of the fever. Some are cured, but the majority of cases are unsuccessful, especially with venesection.

The Common Hare (*Lepus*) may be found and shot about the open thickets on stony clayey ground in the level parts of the Bush country, but its flesh is far inferior to that of the English hare, and very dry. It has a grayish fur, and is of considerable size.

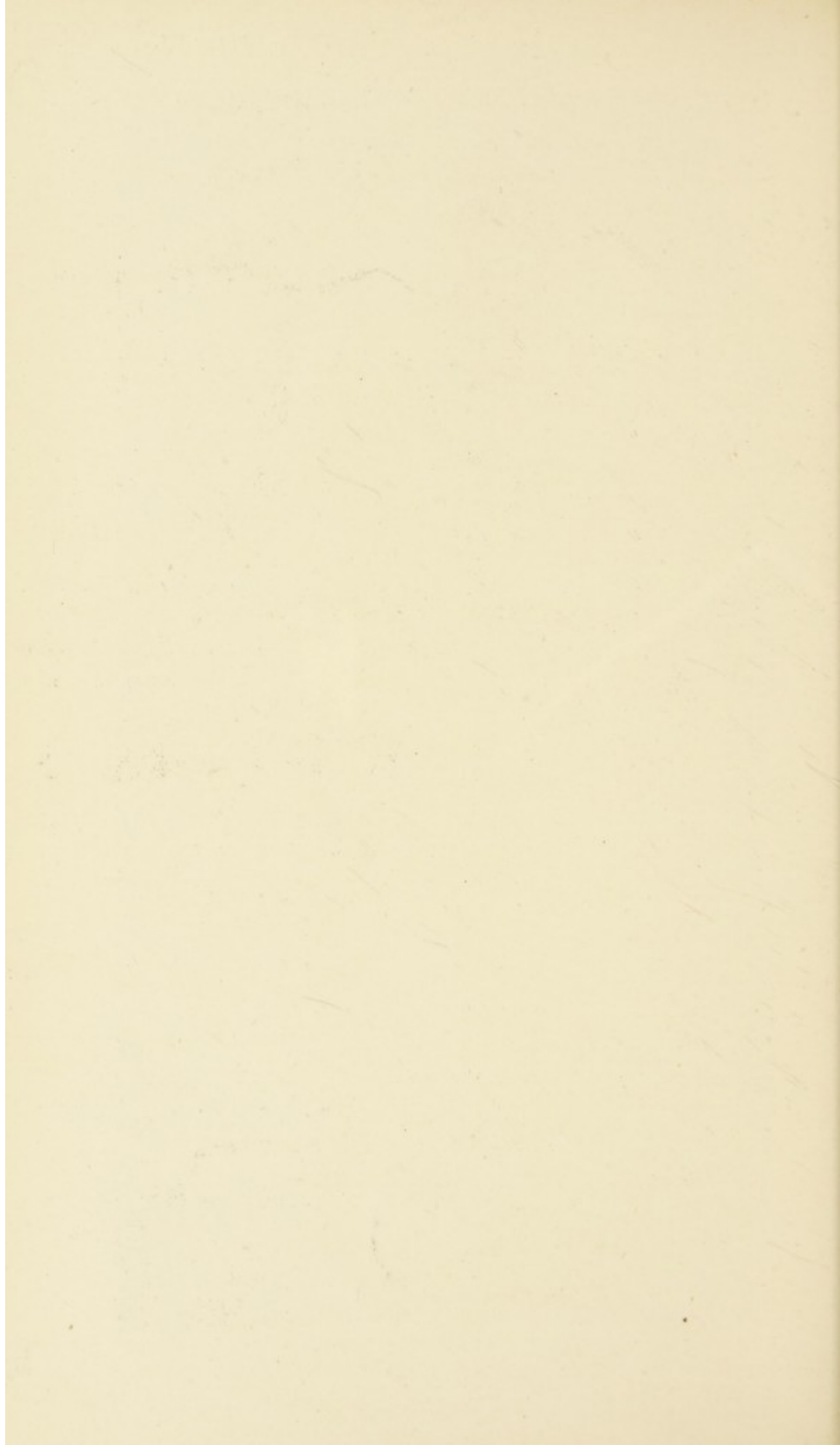
Associated with it, but in more stony places, occasionally springs up, and darts off very swiftly and sharply, the mountain hare, Kliphaas, or *red hare*, about half the size of the common species, having a general silver-gray thick fur, red woolly tail, and red legs, and has long hairs round the nose and cheeks. Its skin is very difficult to take off, from its thinness, and slightness, and is difficult to preserve. The flesh is very similar to that of the large species.

Out feeding in the clear moonlight nights after dark, may often, in particular localities, be detected the pretty and singular Spring Hare, Cape Jerboa (*Pedetes Capensis*), in the neighbourhood of open sandy clay soil, interspersed with small bushes, which it browses on, standing on its hind legs. It has many of the peculiarities of the squirrel or sloth, in the shape of its fore



W. T. B. *del.*

Fort Brown—Fish River and Bridge—Grasskop.



paws, which seem manifestly constructed for grasping branches or holding berries or nuts. Its powerful, strong, sharp incisors can easily bite the small twigs or cut off the wild fruit.

It does not seem adapted to climb trees, and therefore only obtains such food as is within reach of a standing posture on its long hind legs, armed with hoof-like nails on the feet. As the fore feet are made as prehensile organs, it would seem that it is chiefly enabled to progress by leaps, like the kangaroo, from its hind feet and tail, which is long, tolerably thick, and plentifully supplied with muscular power. When wounded it utters a peculiar shrill, melancholy cry. It betakes itself during the day to holes of its own construction in the sandy ground, running amongst the roots of the small thickets.

When in a sleeping posture, or reposing, the long hind legs are stretched out forwards, and between them it buries its head, enfolded at the sides by its fore feet, the tail either extended or sweeping round one side of the body. The tail has a knob-like termination covered with black hair, the remainder being of the usual fawn colour of the body, etc. It has a similar posture with its limbs when reposing on its side.

They are destructive to garden vegetables, and eat of the young mealies as they sprout forth. Its strong rodent incisors are very similar to those of the porcupine, and the fangs extend a long way into each upper and lower maxillary bone. The fur is bright and fulvous, and the hairy tail tinged black at its extremity. There is no external appearance of the testes, a peculiarity shared in by the elephant, seal, and cetacea, according to Professor Jones, who, however, does not allude to the spring hare in the paragraph in his *Comparative Anatomy*. These organs are both included in the abdominal cavity, but into the inguinal canal may be observed inserted the detractor ligament, the agent of the descent of the testes in the young of other animals. Each organ is suspended by its free extremity against, but free of, the anterior walls of the abdomen. The vasa deferentia pass from each testis to the corresponding side of the

base of the bladder, and the vesiculæ seminales exist as entirely separate glands, whose ducts enter the vasa deferentia.

Basking themselves on the sunny side of the krantzes in the evenings and mornings, may generally be seen several of the *Klipdas*, *Cony*, *Rock Rabbit*, or Cape Hyrax (*H. capensis*), sitting together on the stones, and when alarmed by the approach of a stranger, rapidly to dive like lizards into the cavities out of sight. They are of various sizes, from that of a rat up to a full-grown rabbit; their fur is very fine, and the skin soft.

They are classed as pachydermata, but are plantigrade, and the feet are formed similar to those of a monkey, having a cushiony leathery sole all over, extending along the lower surfaces of the fingers and toes, which are provided with little nails, evidently adapting them for their stony peregrinations.

They may be seen ascending up almost perpendicular faces of rock, and they can as rapidly descend without having recourse to a fall to hasten their descent. The distribution of the teeth are as follows: Incisors 2/6, canines 1/1-1/1, molars 5-5/4-4 = 30. The lower incisors are small chisel-shaped, set together, and their edges indented like a saw transversely. The two upper incisors are longer, curved, triangular, pointed, and set apart, and look like canines in every respect as to appearance, and no doubt as to use, for they cannot cut, and are only serviceable to tear, and in fact are suitable tusks. The molars are all tuberculated. No tail.

## CHAPTER III.

### THE CARNIVORA.

LEOPARDS—WILD CATS—BABOONS—HYÆNAS—JACKALS—  
RATELS—MOUSEHUND—PORCUPINES—WILD DOGS.

OF the common Bush *Tiger* or *Leopard* (*F. Leopardus*) there are generally two kinds seen, a smaller and larger, inhabiting the densest bush of the koppies, kloofs, and krantzes. They are a great nuisance to the sheep-farmers of the Bush country, preying on his flocks, and are said to be very partial to baboons' flesh; some skins of the large kind with the long tail reach eight or ten feet long, while the smaller average about five or four. The spoor of some attain the size of that of a horse or ox's, or larger, recognised from that of the wolf or dog by their circularity, and the absence of claw-marks.

They are sometimes hunted with a pack of good dogs by the Boers, and when brought to bay, despatched with the roer. Otherwise they are caught in traps placed not far from the kraals; a large wolf-trap, with teeth, is set in the ground, covered over with rubbish in a sort of small kraal of bush, at the entrance of which it is placed, and opposite to it about two feet, is staked a piece of fresh meat. The animal is obliged, in order to get at this, and tear it off its fixture, to pass over and tread upon the plate of the trap, which, by the pressure, instantly loosens the spring, and the animal is caught by the limb. The trap is not fixed firm, so that the tiger can, if he pleases, walk off with it attached to his leg into the cover of



some neighbouring thicket or kloof, as, if not permitted to do so, he would break or eat off his own limb, and so escape entirely. The Boer next morning misses the trap, collects his dogs, and goes on the spoor, and is not long in discovering the retreat of the exhausted tiger. Their skins are valuable, the larger being rated at about 30s., and the smaller 15s., to purchasers; and are used for carosses and chair and sofa covers.

A few years ago a fine young Boer met an untimely end from being attacked by one of these ferocious creatures. He went out with his dog and gun, accompanied by a Caffre servant, to look after his sheep, during the day grazing amongst the bush of the Fish River, near the Kat River junction. The dog scented and discovered a tiger in a neighbouring kloof, and the servant having ascertained that such was the case, requested his master would enter the bush with him, and kill the tiger. The Boer declined at first, telling the Caffre he could not trust him in a fight, and knew that he would run away at a critical time. However, the contrary assurances of the servant at length prevailed on the Boer, and both went in to attack the tiger. The dog having shown them his whereabouts, though still under some concealment from the foliage, the Boer fired and wounded the animal, which immediately sprung out, and ere the shot could be repeated, felled his antagonist, and the gun was thrown out of reach in the fall; the Boer now cried out for his servant's assistance, but the coward had fled. A long struggle now ensued for life and death; the Boer had got on his feet, but the tiger kept repeatedly springing up at his throat, and was as often shaken off by the hands. So rapid was this action that had it not been for the timely courage of the dog, at length seizing and biting the tiger severely on the flanks, and diverting its attention for a moment, that enabled him to reach his gun, and despatch his enemy, the Boer would have been worried on the spot. Assistance from some passing people enabled him then to reach his home, but dreadfully lacerated in the shoulders, arms, and scalp, and faint from the loss of blood.

Death in ten days, however, put a period to his sufferings, which continued till then intense, the wounds never having become healthily inflamed or suppurated.

Other accidents of this nature have occurred in contests with this formidable savage of the forests, and are so generally fatal that a tiger's bite in the country is reckoned poisonous, for which perhaps there may be some ground, in analogy with that of a rabid dog, and from a received opinion that the salivary juices of carnivorous animals in a state of passion become morbidly changed from their constitution in health.

A few individuals of the *Red Cat* or *Lynx* (*Felis Lynx*) are found in similar situations to the tiger, and are caught and destroyed by similar means, by either dogs or traps. They are equally a nuisance to the sheep-kraals, and, like the wild cat, prey upon fowls and such domestic birds. Their fur is reddish-yellow above, rather whitish underneath; the inguinal regions have a few dark brown spots scattered on them. The tail is black at its extremity, and the nearly erect ears, of a dull lead colour, are tipped with a pencil of fine hairs. Their skins are valuable for carosses and such purposes.

The *Wild Cat* (*Felis Serval*, *F. Cuv.*) is found everywhere in bushy country, and is very destructive to feathered game. It sometimes attains as large a size as the small tiger, and is of great comparative length of body, and the tail becomes very bushy. Like all these feline animals, they are found amongst bushy thickets, or else may be seen ensconced in trees, awaiting to spring on their prey beneath.

Several communities of the *Baviaan*, or Ursine Baboon (*Cynocephalus porcarius*), are scattered over this bushy country in different localities. Inaccessible bushy krantzies are their favourite resort, but they may be found amongst the hills and koppies here and there; but when alarmed they betake themselves to their rocky fastnesses. They are destructive in gardens and grain fields, and become an annoyance to farmers on that account. When troublesome, they are sometimes hunted when

found single, as attacking a whole community, except for their dispersion, would be dangerous. A pack of dogs is employed to bring the animal to bay, and the conflict is very similar to that with the wild pig, and is obliged to be terminated with the knife or the bullet. If a baboon takes refuge in the trees from the dogs which wait barking at the foot, he is brought down by a shot, which probably only wounds him, as correct aim cannot easily be taken, from the obstruction of the leaves.

Sometimes a dog is killed by the wounds inflicted by the baboon's formidable tusks, and generally one or two are wounded before the struggle is over. These tusks are quite as formidable as those of the wild pig, but the upper one, pointed downwards, is the longer and more projecting of the two, quite sharp on the hinder edge, so that what is bitten is speedily torn through by the retraction of the head of the animal. In some old individuals, from the absence of so perfect a grinding tooth opposite as the pig possesses, the upper tusks attain such a length that it becomes impossible to open the jaw wide enough, so as to permit the use of such an apparently formidable fang, and consequently the Boer has less fear of having his dogs maimed when hunting such, as their bite is no longer to be dreaded. Many old baboons also are devoid of one or other upper tusk, which has probably been broken off in some former struggle.

When caught young, they may be trained to a certain extent; but they very frequently become ferocious from the confinement of the chain, especially males, and dangerous to their keepers and masters, and are obliged to be shot. A serious accident of this nature happened to a commissariat officer in Graham's Town, who was much lacerated by a baboon he was keeping, but which was afterwards shot.

The more inhabited parts of Fish River country have nearly been cleared of the Cape Wolf (*Hyæna crocuta*), or spotted hyæna, but they still exist in that part about Committee's and Trumpeter's drifts. As these animals are very destructive to

flocks, instead of hunting them for sport, the farmers have got rid of them in a wholesale manner. Pieces of meat impregnated with strychnine are deposited here and there over a certain property, and the wolf, if it partakes of any of them, is generally found dead not further than 100 yards off. This poison is so strong, that the flesh of the poisoned animal becomes itself poisonous, and will act nearly as powerfully as the original bait, whatever animal partakes of it.

Their large, dog-like spoor may sometimes be seen during wet weather, when they are more daring than usual. They are sometimes seen by travellers in the Trumpeter's Hill road, and have proved such a source of obstruction to some people, as to make them retrace their steps; and on these occasions they appear in troops. They do not generally act on the offensive, but fight desperately when attacked. Their enormous jaws and powerful strong teeth enable them to crush a limb or break a very stout stick like a twig.

An old Boer farmer near Fort Brown retains to this day numerous traces of deep wounds inflicted on him when, in his younger days, he attacked and fought with a wolf that had entered his sheep-kraal, and would not have escaped being worried on the spot, unless assistance had arrived in time. These wolves are sometimes caught in large wooden crate-like traps, ten or fifteen feet square, and formed of stout building timber.

A bait is affixed at the end opposite to a sliding door, which falls down on the former being loosened. Almost incredible instances are told of their power in crushing and breaking sticks, bending pokers, etc., by their jaws. They live chiefly in caverns and holes in the ground, such as old abandoned antbear runs, but their paws are powerful enough to excavate for dead carcases a considerable depth, and by many they are said to burrow their own holes.

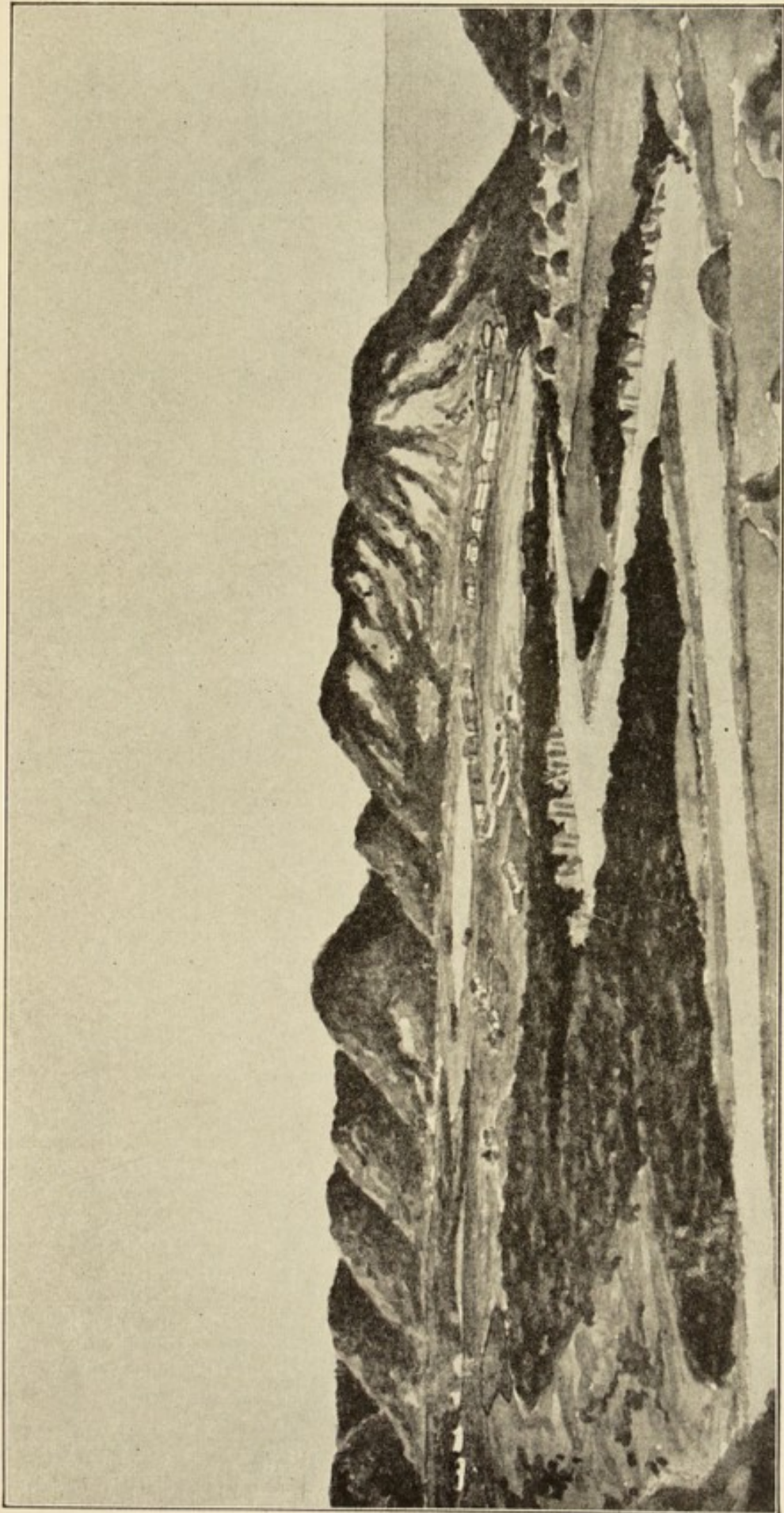
The *Jackal*, or *Cape Fox* (*Canis mesomelas*), affords good coursing in open country, and English foxhounds have been

trained to scent and follow him. He betakes himself generally to holes also, made in the earth by the antbear and porcupine, which have been abandoned. They are rather handsome in appearance, with erect open ears, long flowing fur, and a fine bushy tail, black at the after-part. The back is marked by a large patch of dark gray, with long white hairs interspersed, extending from the neck to the rump, and is bounded by a different coloured stripe all round, the rest of the fur being of a tawny colour; the tip of the nose is black and sharp.

They can be made a pet of when caught young, and be taught to follow and act like a dog somewhat, but are rather uncertain in temper. Their prepared fur skins are made into very handsome carosses, and are nearly equal in this respect to those made of wild-cat skin, that of the male being handsomer than the female. Jackals are generally solitary in their habits in a wild state, and are not seen in troops like the wild dog in this part of the country.

The *Mane Jackal* (*Proteles Lalandi*, *Is. Geof.*), a kind of striped hyæna, shares peculiarities proper to the dog and the hyæna. It is rarer than the common fox, more shy, and less fleet when pursued, and lives in holes in the earth. Its food would appear to consist chiefly of ants, beetles, roots, and bulbs, etc.; for the obtaining of mere carnivorous food, neither its teeth nor its strength would seem adapted. Its knees are soil-marked, hard, and bare of fur; and its posture at times, on feeding on certain aliments, would seem similar to the goat, which goes on its knees when cropping the grass. Its fur is coarse, of a dirty gray colour, and marked with transverse black stripes on the body and limbs.

A mane extends along the back from the head to the tail, which is erected when the animal is pursued or its passions aroused, but is not perceived when in a state of repose. The tail is bushy, like the jackal, black at the tip, and hangs down as far as the hock, about half as short as the jackal's. The fore feet have five toes, and the hind feet four toes, like the dog, in



W. T. B. del.

Fort Alfred—Waterloo Bay—near Mouth Great Fish River.



which it differs from the generic characters of the hyæna. The teats of the female are four, situated in the ventral region, and the tongue is spiny, or aculeated, as in the true hyæna.

The teeth seem peculiar to it alone, are weak and small, the great carnivorous tooth of the dog, hyæna, and jackal is wanting, and the only substitute for the molars are a few separate small lancet-shaped teeth, which, it is stated, it retains through life. These are seen in specimens of full growth, so that they are not milk teeth. It only resembles the dog in having incisors and canines in the upper and lower jaw, the former of which seem much used, being worn by the frequent act of cropping or biting. Incisors 6/6, canine 1/1-1/1, molars 5-5/4-4=34. Its ears are long and erect like the hyæna, and there is an anal odoriferous gland.

The Ratel (*Viverra melliavora*) is a common inhabitant of the bush, and may be accidentally met with, or flushed by dogs on its scent, which is strong. It feeds on honey nests, though sometimes attacking the hen-roost and domestic fowls. The ratel follows the note and leading of the honey-bird, and answers it by a low grunt; a peculiar odour it emits drives away the bees, and the ratel digs out the different pieces of comb, and piles them outside the cavity, on which it repasts, but leaves some portion for a subsequent meal, part of which, of course, is shared by the honey-bird (*Indicator*).

It is very difficult to kill by dogs, from the great thickness of its skin and the coarseness of the hair, which also afford it protection from the stings of the bees. Its skin is used by the Boers for soles of shoes. A heavy blow on the nose is stated to be the most vulnerable wound, and this peculiar vulnerability is shared by the porcupine. It is characterised by the large distinctly-bounded patch of dull ash-gray fur on its back, bounded on the sides by black stripes, and extending from the head to the tail.

Two or three different kinds of *Mousehund*, or weasel (*Mustela*), are commonly seen now and then running sharply



from one bush to another, or they may be turned out by dogs. One variety (*Zorilla*) has its fur variegated by longitudinal black and dirty yellowish-white stripes, extending from the nose to the tail, and emits a very strong odour, when attacked or disturbed, from its anal gland, so that many dogs refuse to attack it—also then erecting its tail, and uttering a peculiar scream.

In skinning such an animal, care must be taken not to wound this gland, else its secretion pouring out will taint the skin so much that the odour never leaves it. Another kind is of an entirely grayish-brown sandy colour, and the fur is very soft; and the furred skin is used by the natives for tobacco sacs, and such used. It does not appear to be possessed of such a powerful scent as the former kind.

The Porcupine (*Hystrix*) affords good sport in the moonlight nights, people going out with dogs, and on horseback, armed with spears, or instruments that will answer such a purpose, and heavy sticks. They come out of their deep burrows at that time to feed, and root in the surface of the soil for bulbs, roots, etc. The flesh of the young porcupine makes good kind of pork when dressed for the table.

It is a fiction their darting their quills; but they are easily detached from the skin, and their points are very sharp, and resemble very much the blade of an assegai; and if they enter a certain depth into the body of some unfortunate dog, readily stick there till pulled out. They are very destructive amongst gardens, and burrow holes in even hard ground very rapidly, dividing the roots that cross by their strong sharp incisors. The skull of the porcupine is very slight and spongy, and easily crushed when dried, which may explain the blow on the nose being fatal to them.

A troop of Wild Dogs (*Lycan picta*, Brookes) are occasionally seen crossing the Bush country in the open glades, in the pursuit of some large buck, as a koodoo or bushbuck, and the destined victim seldom or ever escapes the perseverance and avidity of its pursuers, who follow it for miles on the spoor,

which is never surrendered till it terminates at the death. Fleetness and the densest thickets are of no avail against these unrelenting hunters; the leading dog on the scent when tired sinks back into the pack, and a fresher huntsman takes his place, every one working for the common service of the stomachs of the whole pack. Its appearance gives one the idea of an intermediate form between the dog and the jackal, which it resembles in its pointed nose and long erect ears.

There are a great variety of *Dogs* in use in the colony, of all sizes, shapes, and degrees of strength, etc., but few gifted with individual courage and fine discerning scent, like English blood-bred dogs, and are only useful when in numbers. The progeny of pure blood-dogs imported into the colony soon degenerate into the usual type witnessed here; the broad, short, and square nose becoming elongated, narrow, and pointed; the ears gradually acquiring more erectness, and the tail becoming wiry if bushy, and curly and hairy if smooth and straight.

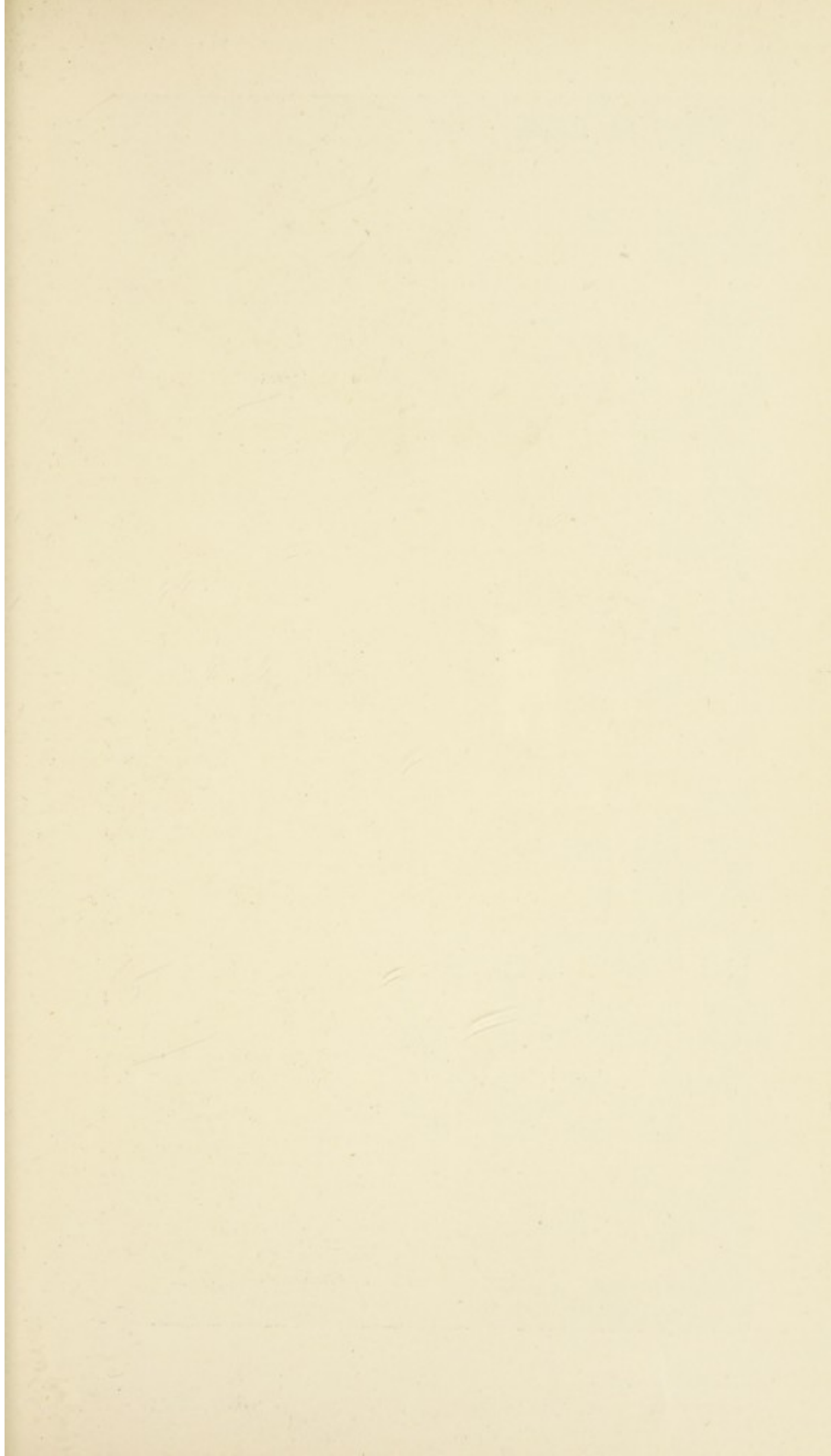
The shaggy coat of the imported Skye terrier or spaniel, in the individual itself, ere long becomes smooth and shorter, and the hair straight; and the next breed are more altered still. Nothing but fresh blood from England, or elsewhere, can keep up good breeds of any kinds of household or hunting dogs, and they are found always much superior to their progeny born in the country.

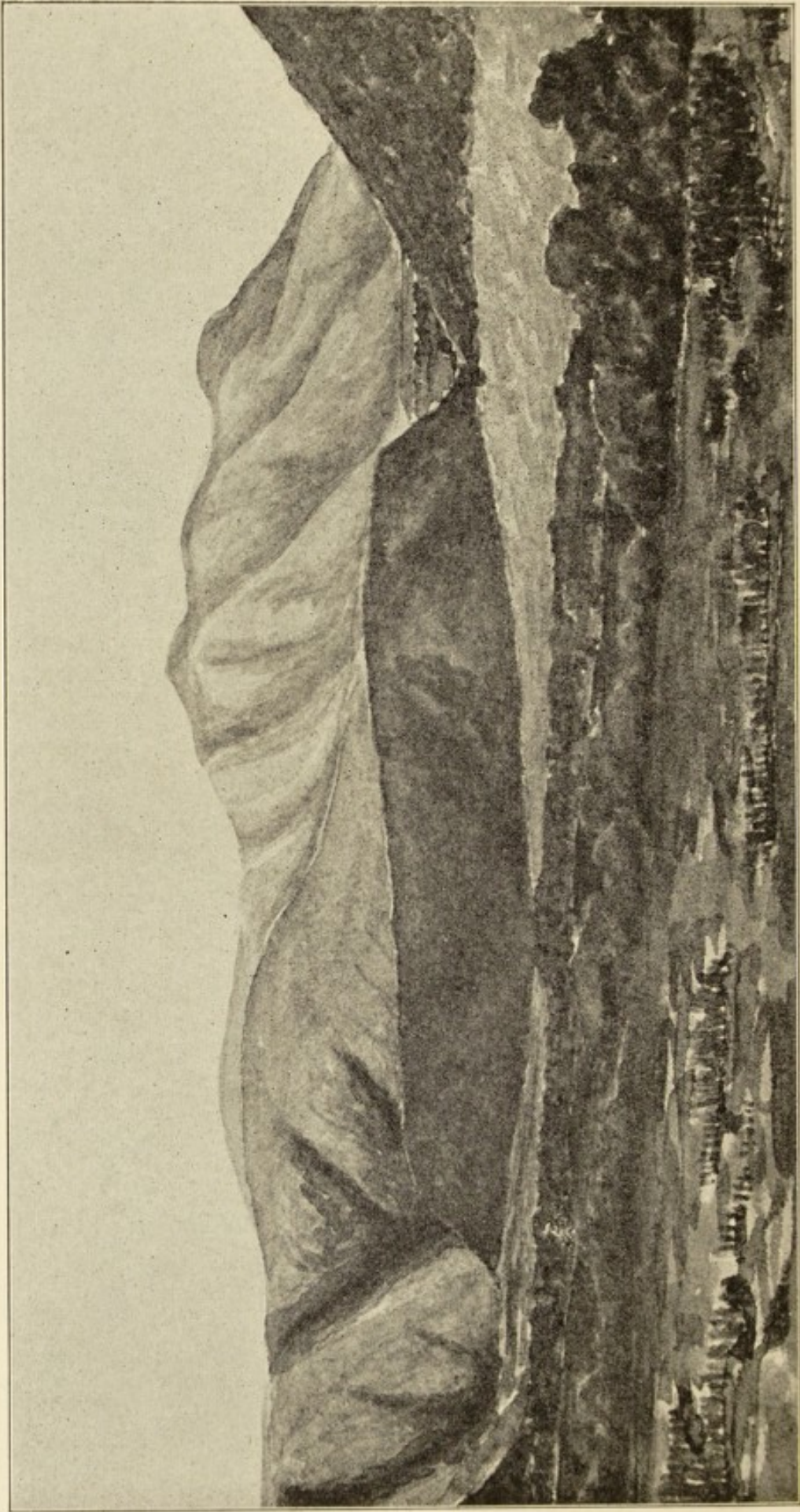
Well-bred dogs are much thinned in numbers by the distemper, a remittent fever, which attacks them more virulently than it does more common breeds, and with more fatal effect. This disease bears strong characters of a congestive bilious fever, the liver and lungs become loaded with blood, and the white of the eyes becomes yellow, and torpidity and total loss of appetite ensue. The most efficacious remedies would appear to be emetics and calomel purges, followed by antimony and calomel powders.

I cannot call to mind any instance of canine madness in this country, or any cases of hydrophobia. Whether this exemption

is due to the uncontrolled liberty here given to dogs, which are seldom or ever chained up, allowing them free access to water wherever it lies, or to the unrestrained companionship of the bitch, I am unable to say. Certain it is, dogs are here uncommonly salacious.

The observation of the tendency to degeneracy of well-bred dogs, would argue the influence of the rough climate and food in reducing their varieties all down to the common characteristics of the native dog of the country, the *Canis venatica*, which fate seems applicable also to the well fed ox and horse imported from Britain, and seemingly also to the original European himself in the interior.





W. T. B. del.

Valley of Kat River—Chumie Mountain.

## CHAPTER IV.

### THE AARDVARK (*ORYCTEROPUS CAPENSIS*).

#### TONGUE—HABITS—HUNTING—DIMENSIONS.

IN Professor Rymer Jones' General Outline of the Animal Kingdom, is to be found a description of the elongated tongue of the Ant-eaters of South America, and the Echidna of New Holland. The Aardvark (the Earth-hog, Dutch) and these two animals belong to the order of Edentata, but the last is further distinguished by being monotrematous. Whether Professor Jones' description is intended to refer to the tongues of all the animals in that order that possess them as instruments of prehension does not appear, and it may be correct; but from two or three specimens of the organ dissected by me in the Aardvark, I am led to doubt its applicability to this animal. Professor Jones speaks of two proper muscles not found in the tongues of other mammalia, an external annular one, and an internal elongated spiral one, invested by the former. These I have been unable to detect in the tongue of the Cape Ant-eater, and I subjoin the following description of my acquaintance with its lingual anatomy:

The tongue is from 10 to 12 inches long, when stretched out. The mucous membrane of its upper surface is rough and of a file-like feeling, when the finger is passed backwards along it. There are three papillæ near the base, situated in the form of a triangle. On the outside, at about the posterior half, are the conjoined *palato* and *stylo-glossus* muscles, and internally to them, the *lingualis*, running from the base to the tip of the

tongue; and at the posterior fourth in the mesial line is the lingual attachment of the *mylo-hyoglossus muscle*.

The lingual *sensory nerve* is very large, and lies in a groove between the mylo-hyoglossus and the lingualis, and after passing the former, the two nerves lie side by side in the mesial line between the two linguals. The muscular nerves branch off; the fifth enters the mylo-hyoglossus, gives branches to it, and then passes forward alongside the lingual nerve.

The muscle to which I would attribute the protruding action of the tongue, or the *Extensor lingua*, consists of perpendicular fibres passing from the thick mucous membrane of the upper surface and sides, to the cellular tissue investing the lingual muscles; this occurs throughout the whole length of the tongue, and engrosses more and more of the comparative thickness of the tongue towards the point from the base.

The best way of demonstrating the course of its fibres, which are otherwise visible enough, is to incise the tongue either transversely or longitudinally, just through the thickness of the mucous membrane, and then tear open the incision. The laceration is easy, and goes in the direction of the fibres to their attachment at the upper surface of the lingualis. The contraction of this muscle, in all its body, will produce a contraction of the diameter or thickness of the tongue, and at the same time, from the consequent increase of the diameters of the separate muscular fasciculi, must the tongue elongate. It may be otherwise stated, if the mass of the tongue is decreased in one direction, it must correspondingly increase in another—like a bladder nearly full of water, which elongates in the direction lateral to the points of pressure.

Should the mesial fibres of this perpendicular or transverse muscle be thrown into action, then the upper surface of the tongue would become flattened or hollowed out. The retraction of the tongue is of course accomplished by the lingualis and the other motions of the organ by the other muscles as ordinarily shown. This action of the perpendicular fibres also renders the

tongue, when projected at the same time, somewhat elastic and firmer, so as to allow of the stronger action of the others in bending it in different directions; one or the other *lingualis* laterally, or both downwards, when the lower fibres of this muscle are thrown into action; and when the upper fibres are in a similar state, the point of the tongue would be directed upwards. What share the muscles of the base of the organ particularly have in its motions, I do not enter upon, merely having considered the actions of the free part of the tongue.

On section of the upper surface of the mucous membrane, between the muscular fasciculi, appear yellow oblong ovoid bodies, about a line in length each, probably mucous glands, or, as I had not means of deciding this point, may be particles of fat, though not likely, as they only occur among the muscular fasciculi at the upper surface, and not at the lower extremities of the fasciculi. When the perpendicular or radiating fibres are in action, the secretions from these glands would evidently be expressed out upon the surface of the tongue, thereby supplying the adhesive fluid which is the means employed by the ant-eater for the capture and retention of its insect food. The specimen of the animal which I procured for the above dissection was a female, had four teats, and was 6 feet 2 inches in length from the nose to the end of the tail.

The next one which I dissected afforded the following description: The *mylo-hyoid* muscle, or flat muscle next the skin; *Genio-hyoid* of two bands, on each side of the mesial line between the chin and hyoid-bone; *Genio-hyoglossus* between the chin hyoid-bone and tongue, the lingual fibres radiating upwards to the tongue; the latter part is broader behind where it is attached to the root of the tongue, and terminates, conically forwards, to about the middle of its length; *Palato-glossus*, a large flat band on each side of the former, and, together with the *lingualis*, forms the lateral and inferior muscular mass of the tongue, from the root to the tip; *Stylo-glossus*, a small band of fibres, descending from the styloid process, perpendicularly



to the root of the tongue, where it comes again forward on the outside, and parallel to the former muscle, and is finally lost at about one-third from the root, in the fibres of the palato-glossus and lingualis.

Lying above this mass of muscle, composed of the palato, and stylo-glossus, and lingualis, which — after passing the anterior edge of the genio-hyoglossus, lie side by side, and form also the inferior half of the muscular mass of the tongue where it is free—is the *perpendicular* muscle already described, part of which, at the base of the tongue, is attached below to the lingual termination of the genio-hyoglossus. In the mesial line between the perpendicular fibres and the longitudinal ones, lie the *nerves* and *vessels* of the tongue. There is also a vein, running in the mesial line on the upper surface of the tongue, just underneath the mucous membrane, having transverse branches falling into it from the muscular substance and mucous coat. This specimen was also a female, had four teats, and was 5 feet 4 inches in length from the nose to the tail.

In support of the views which I have been led to take of the powers of the perpendicular fibres, I may mention that a similar muscle exists in all mammiferous tongues which I have examined, and I believe is the co-efficient of all those peculiar movements connected with the protrusion of the tongue; and that the other longitudinal muscles are connected with this act chiefly to guide the organ in different directions, as the sole and separate action of these latter muscles would be that of retracting the organ in one or other directions. Protrusion is, then, the province of the perpendicular muscles; retraction that of the longitudinal ones; different combinations of the two produce the several movements out of the axis of the tongue, whether the organ is in a state of protrusion or retraction.

In the *Lumbricus teres*, or round intestinal worm, may be noticed fasciculi passing from the walls of the abdomen to the integument, and apparently firmly connected to each attachment. These transverse fasciculi seem to exist nearly the whole length

of the animal, and to encircle the interior digestive tubes; each fibre is of tolerably visible size, and pale in colour. As these fasciculi pass between the peritoneal lining of the abdominal cavity, and not from the walls of the proper intestinal canal, to the integuments, so each attachment is a fixed point, especially the interior one. That they are not glands may be inferred from their disconnection with the intestinal mucous membrane, though this point can only be strictly determined by the microscope. I have, however, by inspection and anatomy, been led to hold that these fasciculi are muscular and perpendicular to the axis of the body of the animal, and to have a similar action to the perpendicular fibres in the tongue of the Cape Ant-eater. On the above supposition, that their action would be to elongate the animal, without, at the same time, compressing the contents of the digestive cavity, as the action of circular fibres would do in producing the same elongating effect. The digestive process would thus be interrupted by such a mode of progression, and defecation would otherwise only result, when the alleged circular fibres were thrown into action. If any effect on the cavity of the abdomen were produced by the perpendicular fibres, it would be to cause a tendency to a vacuum, both by the elongation of the animal, and also by the inner peritoneal walls being made the fixed point of action of these alleged muscular fibres. Ingestion of food and fluids would be thus aided most considerably, and independently of any provision for such a purpose at the mouth.

It would, however, require further research to see whether analogous muscles, having actions similar to those attributed to the perpendicular fibres in the tongue of the Aardvark, or the body of the round intestinal worm, can be found to bear out the above general interpretation of their actions; but I presume that instances might be obtained to show such a peculiar modification of muscular power, and make it a more general physiological property—as in the arms of some of the Cephalopoda, the tongue of the Chameleon, the trunk of the Elephant, &c., &c.

*Habits of the Aardvark.* This animal, inhabiting the Fish-River country, lives in immense holes, excavated by their powerful, hoof-like claws, in the ground, some six or ten feet below the surface. There are generally a collection of holes like a warren at these places, all intercommunicating, and situated in or about a clump of trees or bushes. The calibre of these passages is so large in some as to allow a man to creep into. The animal mostly comes out at night, but may sometimes be seen during the day.

It is plantigrade on the hind feet, but digitigrade on the fore ones. The fore-feet have four toes, and the hind-feet five each, armed with strong hoof-like claws, very similar except in size to the arrangement of those of the mole, so as to enable the animal to dig and scrape away the earth sideways from them, and also crosswise, the inner toes being longer than the outer ones.

The ponderous conical tail, eighteen or twenty inches long, composed of bony joints, and a multitude of muscles, covered by an integument as thick as an ox's hide, hangs ordinarily down, like that of the Cape sheep, when the animal is walking. Its structure is similar to the tail of the Cape iguana or large water-lizard, and its use may be, in one point of view, similar, viz., as an instrument of defence from attack, as with it they strike dogs very forcibly that attack them.

When surprised, they instantly make for their holes; but as they cannot run fast, they are therefore soon caught by dogs, and easily shot or assegaid. When seized by dogs by their very soft ears, or by their velvety nose, they double in their heads between their fore legs, and strike forwards, or kick with their hind feet, so as to make their assailants lose hold, and often repent their proceedings.

They are best caught in moonlight nights, when out feeding, either by dogs, or waiting near a suspected warren till the animal returns before the break of day. They live chiefly on ants (*Termites*), and, as there are numbers of ant-hills all over the

country, their food is ever at hand. They first dig away with their fore-feet, partly, as it were, sitting on their hind legs, supported by the tail, like the Cape Pedetes or jerboa, a large hole at the base of the ant-hill, and, no doubt, when made sufficiently large, they lie down and thrust their nose in, which is protected from stinging by its velvety hair, when they ascertain the neighbourhood of their game.

They then protrude their long tapering tongue, well covered with secretions, through their toothless gums, which, when well covered with ants, is retracted, and the burden disposed of in the mouth for mastication. The mouth is abundantly supplied with mucous glands under its covering membrane, and the sub-lingual glands are large and open, with many secretory ducts, to pour out an abundant lubricating secretion.

From the want of both incisor and canine teeth, the bite of the animal is harmless, and besides, the orifice of the mouth is not much larger than suffices for a tongue-load of ants. By means of the flat grinders on each side, this minute kind of scaly food is ground into paste, and made fit for digestion. In excavating its habitation, no doubt, the very great muscular power of its hinder extremities comes into action, and shovelling away, like a spade, the earth loosened by the fore-feet, the two extremities act the part of a pick and shovel. From its beautiful buck-like ears, one would suppose its sense of hearing was exquisite, and perhaps of much more use to the animal than its small, laterally-directed eyes, especially for its nocturnal and subterranean habits of life.

Its hide is as thick as that of an ox, impenetrable, no doubt, to all attacks from insects, and has much the appearance of a pig's skin, but thicker, and has the same intimate connection with the underlying muscular structure as in the latter animal, so that the natives, when they slaughter the Aardvark for food, cut it up into pieces with the skin on, as we do pork.

*Dimensions of the Female killed near Fort Brown, whose dissection is above given.* Length, 5 feet 4 inches from the

nose to the tail end; nose to the root of the ear, 11 in.; ear to the wrist or carpus,  $14\frac{1}{2}$  in.; ankle (tarsus) to the protuberance of the hip joint, 15 in.; length of the tail,  $18\frac{1}{2}$  in.; leg, from the ankle to the spine, over the protuberance of the trochanter, 21 in.; arm, from the wrist over the shoulder to the spine, 18 in.; round the belly, just in front of the thigh, 3 feet 3 in.; round the thorax, behind the shoulders, 2 feet 6 in.; round the neck, behind the ears,  $15\frac{1}{2}$  in.

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## REFERENCES FOR CONTEMPORARY ILLUSTRATIONS.

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### CHAPTER I.

HARRIS'S "WILD ANIMALS OF SOUTH AFRICA," 1840.

Ostrich, page 48. Elephant, page 115. Hippopotamus, page 57.  
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BUTLER'S "SOUTH AFRICAN WILD LIFE OF A HUNTER," 1841.

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## CHAPTER IV.

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