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The Jungle
in Sunlight and Shadow

THE JUNGLE IN SUNLIGHT AND SHADOW

By

F. W. CHAMPION

M.A. (OXON.), F.Z.S.

IMPERIAL FOREST SERVICE OF INDIA

(AUTHOR OF "WITH A CAMERA IN TIGER-LAND")

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This book is dedicated to the memory
of my father, the late
George Charles Champion, F.E.S.,
whose careful study and valuable work
in the field of entomology
first stimulated my interest in natural history;
and to my mother,
who did all she could to foster and
increase that interest

"We abolish many things, good and evil, wisely and foolishly, in these fast-going times; but, happily for us, we cannot abolish the blue sky, and the green sea, and the white foam, and the everlasting hills, and the rivers which flow out of their bosoms."

KINGSLEY

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INTRODUCTION

THIS book is neither a treatise on big-game hunting; nor a work after the style of the unwritten masterpiece of the guest of Mr. John Fothergill entitled "Our Dumb Friends—how to kill, skin and stuff them"; nor an attack by a crank on the so-called blood sports, the chief of which, if we may believe Mr. Kipling, is motoring on the high-roads of Britain! There are books and to spare on the subject of how to hunt and kill wild animals; and everyone must decide for himself, with the help of his own conscience, how far he is justified in taking the lives of wild creatures for the sake of pleasure or sport.

It is an attempt to give a genuine picture of life in the jungle as it really is—eager, happy, contented, throbbing life, with but occasional moments of passing fear and unhappiness. It is a reply to those sportsmen, authors, film-makers and others who will persist in referring to the supposed "terrors" of the jungle—terrors which exist chiefly in human imagination or in "popular" books and sensational films. It has been written, also, in the hope that it may add a little to the accumulated knowledge of the intimate lives of some of the inhabitants of the jungle. And in the even greater hope that it may raise a deeper sympathy for wild creatures; that it may give some sportsmen cause to think twice before they pull the trigger on animals that, possibly, they often gain nothing by shooting; that it may remind others that life is the dearest possession of all the dwellers in the wild—a

treasure of which they should not be deprived without very adequate reasons.

It is an attempt to take the mind of the ordinary reader, for a short time at least, away from the constant worries of modern life, away from international politics and economic crises, away from the slogans of communism and socialism, swaraj and self-determination. It is an attempt to prove that a love of wild Nature is a share that suffers no crises, a share that never fails to pay good dividends of happiness for the whole of one's life; and, in these times of universal poverty, be it noted, a share that can be purchased at a rock-bottom price, for, in the words of the immortal Burns—

> "*Nature smiles as sweet, I ween,*
> *To shepherds as to kings.*"

The book is intended to be slightly and pleasantly provocative—provocative of interest in and sympathy for wild creatures, and of discussion among sportsmen and naturalists with regard to the many unsolved problems raised. It has purposely been written in a simple style in the hope that its appeal may reach schoolboys, and perhaps instil in some of them an interest in natural history in its best sense—not merely in collections of birds'-eggs or rows of butterflies stuck upon pins, but also in the why and the wherefore of this beautiful world we share with so many other creatures, to some of which perhaps we do not always give a fair deal. Possibly a few of the boys' parents and schoolmasters also may find something of interest even to them, particularly if they are among those who are worried by what may appear, on the surface, to be the unnecessary cruelty of Nature in some of her manifestations. To these, even if they cannot wade through the whole

book, I would suggest that besides turning over the pictures, they might at least peruse and ponder upon the last chapter, which, like all the others, is complete in itself. Lastly, it is an attempt to portray the jungle in word and picture in a way that may recall to the many retired Anglo-Indians a vista of the happy days they spent during their term of service in the East.

As with my previous book *With a Camera in Tiger-Land*, my wife has been my constant companion and assistant throughout and what merit there may be in this volume is equally shared by her.

I would tender my thanks to my mother and my youngest sister for valuable help in preparing the drafts; to Major-General Sir Keith Stewart, K.C.B., D.S.O., of Cairnsmore, and Commander J. J. Walker, R.N., Hon.M.A. (Oxon), F.L.S., F.E.S., etc., for extremely helpful criticism and assistance with the proofs; and to my Indian friends and assistants, Mahendra Singh and Karim Baksh, for willing and invaluable co-operation in obtaining the numerous photographic illustrations. I would also thank the authors whom I have quoted for the assistance I have obtained from their works, and the editors of *The Illustrated London News*, *The Field*, *Country Life*, *India Monthly Magazine*, *Indian State Railways Magazine*, *The Illustrated Times of India*, *The Journal of the Bombay Natural History Society* and other papers for having, at one time or another, published in their respective journals portions of the letterpress and some of the photographs that I have now included in this book.

F. W. C.

Chapter 1

THOUGHTS ON A RAILWAY JOURNEY IN INDIA

INDIA: a country of vast rolling plains, extremely fertile; of mighty mountains capped with eternal snow, dazzlingly beautiful; of great rivers which annually burst their banks when swollen by the monsoon floods; of extensive forests famed for their wealth and variety. A century ago, how could one travel from place to place in a land where distances are measured by the hundred, nay by the thousand miles? The poor man went on foot, and probably never wandered more than fifty miles from the place of his birth during the whole of his life. The rich man travelled in a palanquin or mounted on a horse or an elephant, and may have spent weeks, even months, on a single trip. Now we all, rich and poor alike, travel by train in great comfort, so that a journey of a thousand miles has become less to us than even the fifty miles to our predecessors of an earlier period. And how do we pass the time as the train whirls us rapidly onward to our destination? To many an Indian, none too well blessed with this world's goods, the journey in a crowded third-class carriage will be chiefly memorable for the excellent opportunities it may afford for gossip with his fellow-men—and what opportunities these are! Who can have read Kipling's inimitable "Kim", with its vivid description of the railway journey from Lahore to Umballa, in company with his beloved lama, and not have envied Kim his

intense enjoyment of his ride in a *te-rain*. What a contrast to a railway journey in England with ten people packed so tightly in a carriage that they cannot move, and all glaring at each other as though none but the glarer had any right to be in the carriage at all!

Suppose we are sufficiently wealthy to travel first-class in England. What do we do? We sit upright in a more or less comfortable seat and either doze or beguile away the time by reading a second-rate novel we have purchased from a railway bookstall. How different from the comfort of first-class travel in India, where we can lie stretched at our ease and gaze with fascinated eyes at the ever-changing panorama of the East—at mighty rivers swirling along on their tremendous journey to the sea; at thatched villages which shelter the hardy tillers of the soil; at old-world towns dotted with picturesque temples and mosques; at distant mountains with their never-ending variety of form and colour; and last, but by no means least, at great stretches of forest, which are being preserved and improved with such loving care by a benign Government for the benefit of many an Indian yet unborn. What thoughts are called up by the sight of these forests? To some, perhaps, the memory of cherished woodlands at home, reminiscent of a happy childhood or a good day among the pheasants; to others an admiration of the beautiful colours and shapes of the trees; to yet another type, more worldly these, the thought that such forests must be valuable and bring in a considerable revenue to their fortunate owners; but to the vast majority will come at once the realisation that these very forests form the home of the mighty elephant, last relic of a bygone age, of the magnificent tiger—that dread terror of the jungle night—and of a host of other wild creatures whose solitude is for

ever being disturbed by the rumbling of passing trains. And with the realisation will come an intense longing to quit the train and enter right into the heart of the forest, for truly

"There is a pleasure in the pathless woods,
There is a rapture on the lonely shore."

Unfortunately, the traveller has, perhaps, urgent business at the end of his journey, or he does not wish to incur the justifiable wrath of the railway company by pulling the communication cord to enable him to step from the train straight into the wonderland of his thoughts. So he settles down more comfortably, and, lulled by the rhythm of the rapidly travelling train, lets his thoughts wander over the happy times he has spent when he has been fortunate enough to have entered into those jungles which he is now regarding with such sleepy eyes. The endless procession of trees passing by as the train gathers speed becomes more and more blurred, until at last it fades away altogether, and is replaced by a vista of a jungle stream, which slips gently along between banks of ferns, so green and cool yet always struggling for existence with the tall grasses above them. In front is a gnarled forest giant, growing out sideways from one of the banks. Its mighty branches are stretched out lovingly, as though trying to fondle another tree on the farther side—a tree so beautiful that it makes us feel that we also would love to touch it. It has no leaves, but what does that matter, for it is entirely covered with mauve flowers, faintly reminiscent of lilac in dear old England. Over all, like a bridal veil, lies a soft enveloping mantle of white mist, which but adds to the beauty of the scene; while a gentle breeze wafts the scent of the flowers to our eager nostrils.

The sun is just rising over the foot-hills ahead, so that the



"The hyæna is carrying the leg of a pig in his mouth"

light is still dim as we wander gently along on a tame elephant, wondering what glimpses of the throbbing life of the jungle good fortune will show to us. Passing silently along the bank of the stream, we presently come to a little road—if such we can call it, for it consists merely of a pair of parallel cart-ruts meandering apparently aimlessly through the jungle. We turn, and, leaving our little stream, we follow the road, for we know that some of the wild creatures we are seeking also travel along the man-made roads, which often form their easiest route. We go even more silently now, for careful though the elephant is, it has proved impossible for her to avoid all the little dead sticks lying on the ground by the side of the stream. The morning air is sweet and fresh, and the dimness of the mist-enveloped forest on either side adds greatly to the feeling of expectancy. But what is that? A dim shadow, flitting through the trees, and coming towards us along our road, although still partially hidden by the intervening vegetation. . . . Keep still, O mighty elephant: it has not seen us yet! . . . Here it comes, now hidden, now a shadow, sliding along in our direction. At last we can see more clearly, and recognise the dark stripes and drooping quarters of a hyæna—that carrion beast so despised by the hunter, but yet full of interest to the naturalist. He stops to gaze at us, and we see that he has something in his mouth. Even as we watch the hyæna turns, and gliding away silently into the jungle, shows us that he is carrying the leg of a wild pig. Evidently he has stolen his prize from the kill of some mightier animal, and is now bearing it home in triumph to his expectant family. We follow quietly in his wake and he leads us to a steep bank farther up the stream-bed which we have recently quitted. All unconscious of our presence, the hyæna goes up the bank to his home, and looking up, we

see the mother hyæna basking in the newly-risen sun at the mouth of the den as she waits for the return of her lord with, she hopes, an appetising breakfast for the five little hyæna puppies so snug and warm inside.

We pass on, leaving the happy family of outcasts in peace, and continue our wanderings up the stream-bed. A golden-oriole on a tree near by draws our attention by his mellow whistle, which is answered almost immediately by his mate in a neighbouring tree. We crane our necks to obtain a glimpse of the beautiful bird, but we can see no more than an occasional flash of gold among the heavy foliage. Suddenly we are startled by a succession of loud cries, which resemble the sound of a bell being struck sharply, and we know that a watchful sambar stag, feeding in the sal forest near by, has seen something to excite his alarm. We creep nearer on the elephant, and see him standing among the sal trees, the early morning sun striking his back in patches and giving him a curious mottled appearance. He is gazing earnestly in our direction and repeating his alarm cry at frequent intervals. What can the matter be? Surely he is not frightened by our elephant, which, like many another of his fellows, he imagines to be but one of the wild elephants which he knows inhabit this place? No, there must be another and much more serious cause for alarm, for his cries are now joined by the harsh coughing screams of a party of langoors from the trees above. See, all eyes are turned in the same direction, and appear to be gazing through us towards the other side of the stream, where another smaller stream joins that near which we are standing. Slowly we turn our heads in that direction, being careful not to cause alarm by any sudden movements, and what are we delighted to see? A young tiger, in all the pride of his youth, his rich

tawny coat gleaming in the sun, is crossing the mouth of the smaller stream. He has realised that his effort at stalking the sambar stag has failed, for he must creep to within striking distance before he can launch his death-dealing attack, so he has turned and is now going off to try again elsewhere. He is not greatly perturbed at the loss of his dinner. He knows that the jungles are full of game, and he is such a mighty hunter that he will not have to remain hungry for long. After all, he, the king of the night, does not expect to be so uniformly successful by day, when the ever-watchful monkeys are always interfering with his hunting and abusing him as none—no, not even a Thames bargee!—but monkeys can abuse. We have a rifle with us on the elephant's pad and the shot is absurdly simple, but why should we shoot? We have no quarrel with tigers, who even if they do kill many deer, kill far more painlessly than any rifle, and because they must to obtain their daily food. Again, the inumerable deer are always raiding the crops of the poor villagers who eke out a precarious existence on the edge of the forest, and we have not forgotten how these very deer have destroyed all our young plantations of forest trees, which we have fostered with so much care and trouble. After all, God made the tiger and also the deer, and in His infinite wisdom He arranged a balance of Nature by which the tiger is intended to keep the number of deer within reasonable bounds. Yet man, in his monumental conceit, comes along and announces that the tiger is an anachronism, which must be wiped out at the earliest opportunity! No; we will spare the tiger, and may he be as merciful to others as we are to him!

As these thoughts pass through our minds, the tiger disappears into the bushes, and almost at once the alarm cries of sambar and langoors die down as the stag continues his meal of

tasty leaves and the monkeys start a quarrel among themselves. Danger to these animals seems to exist only as long as it is actually in front of their eyes, and now that the tiger has gone they have no further thought of him. Surely it is a wise dispensation of a loving Creator that this should be so, since, were the wretched beasts to be always thinking "Here he is: coming after me again; now I shall surely die," their lives would be one unending misery and the jungle would be intensely cruel, which in actual fact it is not.

We pass on again, thoroughly happy in the enjoyment of our surroundings. Why, even the beautiful golden-backed woodpecker passing in front seems to be in agreement with us, for he calls out joyously as he undulates along with his curiously heavy dipping flight. A moment afterwards he shouts again with glee as he lands heavily on the trunk of a dead tree and eagerly commences his "tap: tap" on the loose bark in his busy hunt for his insect breakfast. In this way, wandering gently on and on, perhaps an hour passes, and then we arrive at a steeper part of the nala, which is now rising into the foot-hills. On either side of us are clumps of gracefully curving bamboos, and soon we notice that one of the clumps has been torn about as though by some giant hand. The grass beneath is littered with leaves and sprigs of the beautiful foliage, and there is a big oval dent in the soft ground denoting that a wild elephant has been here but the night before. Then our tame elephant lifts her trunk and points further up the slope, sniffing the air which bears the scent of her wild cousin, who is evidently not far away. We continue slowly and carefully in the direction in which she is pointing, and soon we are rewarded by the sound of breaking bamboos, which tells us that the wild elephant is still continuing his night's

meal of juicy bamboo shoots, to obtain which he thinks nothing of pushing over with his massive forehead the entire clump, containing many valuable culms. Indeed, here is a great clump in front of us lying on its side with its roots torn right out of the ground, done to death in its prime in order to provide the giant pachyderm with but a mouthful or two, which he could just as easily obtain from the standing clump. Some observers seem to be under the impression that wild elephants uproot trees and bamboo clumps solely in order to provide good feeding, which would otherwise be out of the reach of the babies of the herd. The writer is a great lover of animals, and he always tries to find reasons to justify acts which may appear to be against the general good, so none could wish more than he that this were really the case. True it is that herd elephants do sometimes commit this damage for the sake of the babies, but unfortunately the worst offenders are the solitary or quasi-solitary elephants, who seem to knock over many bamboo clumps out of pure mischief, or sometimes bad temper. This habit is a most unfortunate one, for besides being extremely wasteful and quite unnecessary, it causes many forest officers to regard wild elephants with dislike. It presumably originated at a time when the forests were so vast that even the enormous herds of elephants that existed in those days could make little impression on the countless bamboo clumps, which must have been there before mankind began to encroach upon the primæval forests then extending over the greater part of India.

After noticing with regret these signs of wanton destruction we continue our approach, being careful to move up-wind, for an elephant's sense of smell is very strong, and ultimately we reach to within twenty yards before the wild elephant realises

that he is not alone. Then, his suspicions aroused, for he is a fine tusker, he crashes through the intervening bamboos straight in our direction, causing our hearts to leap into our mouths, for it is too late to beat a retreat, and the party on the tame elephant includes three ladies—eager for a sight of a wild elephant in his native jungles, and perhaps not quite realising how critical is the present situation. For a moment it seems that trouble is certain; but our mount, finely held by the plucky mahawat, stands motionless and the ladies, overawed by the magnificent appearance of the tusker, keep perfectly silent except for their quick excited breathing. The result is that the danger is averted, that the tusker checks his rush, and stops in full view in front of us, eyeing us with suspicion, which gradually dies down to mild curiosity. What passes through his mind it is impossible to say, except that his attitude towards us no longer appears to be hostile. Anyhow the ladies have the finest opportunity that they will ever get to study a *musth* bull wild elephant at home, and the photographer adds a number of good photographs to his pictorial records of the Indian jungles, very pleased to obtain such an excellent combination of good lighting and attractive setting. This goes on for some little time, until all the plates have been exposed, and it seems better to retire gracefully while the tusker is still in a comparatively calm mood. Then, very slowly and quietly we slip away, and, as we leave, the tusker lifts his trunk high in the air over his head and stands motionless in that position, looking in our direction, and giving the impression that he is saluting us on our departure. To our lasting regret, no more plates are left, or that final salute would have produced the finest picture of all.

It is getting late by the time we leave this wild elephant, and we decide that we are more than ready for breakfast, so we wend

our way homewards towards our camp, passing on our way a fine cheetal stag, who shows so little fear of our mount that he allows us to pass within a few yards, merely lifting his head to stare with curious gaze at our passing forms. The breakfast is now getting nearer and nearer and our appetites more and more keen, when . . . Horrors! What is that ghastly noise, accompanied by shrieking and rattling? It gets louder and louder and the dreamer is beginning to picture himself as transported into a veritable inferno of wild beasts, when, with a start, he awakes—to realise that the train is slowing down to enter the station of his destination.

The dream is over, but it has been thoroughly enjoyed. Quite a number of India's beautiful wild creatures have been seen, and although it is but a dream, it is a fact that every episode has occurred at one time or another, and the photographs taken on these occasions are reproduced in this chapter as proof. The dream has merely been kind and has fitted into one expedition adventures which have, in actual fact, been spread over many days spent in those attractive jungles, which never seem to lose their lure no matter how familiar one may become with them.

Chapter 2

GLIMPSES OF A TIGER AT HOME

LATE in the afternoon on a warm and sunny day. All around the vast forests covering the rugged sandstone foot-hills of the mighty Himalaya Mountains, which form the great natural north-eastern boundary of the Peninsula of India. The air still and drowsy from the heat and no sound beyond the continuous droning of the never-tiring bees, whose activities are in no way curbed by the scorching rays of the sun.

Above, in the intensely blue sky, can be seen a number of vultures, soaring in majestic sweeps as eagerly they scan the great stretches of dense sal forest, mingled with graceful bamboos, which carpet the hills beneath them. Rarely do they flap their wings, which remain fully extended with the tip of each primary wing feather carried quite separately from its neighbours. Yet these wonderful flyers are soaring along with no apparent effort at the speed of the aeroplane of which mankind is so proud. But what a clumsy thing in flight is man's invention when compared with the soaring vulture, although this carrion bird, when resting on the ground or in a tree, is truly the very embodiment of ugliness.

The vultures are circling round and round above a particularly rugged belt of forest, consisting of numerous jungle-clad ridges, which separate watercourses now containing only a few small pools here and there. But, even so, these torrent-beds are large enough to carry away the spates of water which will rush

down the hills on the arrival of the monsoon a few months later. Evidently something has caught the attention of the vultures, but, keen though their eyes are, even their gaze cannot penetrate through the dense cover of leaves; so they are watching the movements of the crows which inhabit the tree-tops. These crows are flitting about from tree to tree, with their eyes fixed on the ground beneath them, and every now and then giving vent to an excited "caw:caw", which suggests the presence of a feast below. Presently one of them summons up enough courage to make a quick descent to investigate, and, sure enough, there, hidden under a dense bush, lies the body of a sambar hind, of which the quarters have already been eaten. The crow, cautious by nature, gives but one glance, and then immediately rises again to the safety of a branch where he caws so loudly and delightedly that all who understand the signs of the jungle know that he has discovered meat, but is uncertain if it is yet safe to begin the feast. Other crows quickly join him, and the vultures, who have been watching all the time, begin to drop like plummets from the sky, their feet extended below them so as to make it easier for them to alight at the end of their sudden descent.

Both crows and vultures are, to be sure, much too wise to go straight down to the feast which they have now located. The crows know that a tiger frequents this spot, and instinct tells them that this dinner is the property of the lord of the jungle, who may be lying concealed near by—ready to make his murderous rush upon any creature daring enough to attempt to steal his hard-earned food. The tiger, however, is not present, even though it takes the wary crows until the evening to make certain of this fact; and the vultures are waiting for the crows to make the first move.

The carcass is lying on the edge of a dry watercourse, which

runs, a succession of mighty boulders piled one upon another, steeply up into the hills, giving promise of small pools of cool water, so tempting to the tiger, further up the slope. A short distance above the kill is a level patch of ground, dazzlingly lit by the afternoon sun, and there, seated on a fallen tree, is a langoor, whose coal-black face and shining grey coat stand out in marked contrast to the varied colours of the surrounding jungle. The great monkey, emblem of the god Hanuman, is enjoying a leisurely sun-bath while his companions in the neighbouring trees are lazily tearing off jungle fruits, taking one bite, and then casting them to the ground after the wasteful manner of their tribe. Beneath the monkeys are a number of cheetal—those beautiful spotted deer of India, which are considered by many to be the world's most graceful representatives of the Cervine tribe. These deer, wise in their generation, have acquired the habit of following the parties of monkeys, which knock many succulent buds and fruits down to the ground, where they are eagerly devoured by those numerous fruit-eating denizens of the jungle unable themselves to climb the trees. Thus the monkeys—all unwittingly be it admitted—provide the deer with juicy and tasty meals which would otherwise remain out of their reach. But that is not all. Monkeys are the sworn enemies of tigers, and, in particular, of the stealthy leopards who are for ever hunting the cheetal. The monkeys have wonderful eyesight and their commanding position high up in the trees enables them to observe the approach of the hated feline long before the cheetal, whose low view-point is greatly restricted by the dense growth of grass and bushes which covers the ground, can have any idea of the terrible danger advancing towards them. Directly the monkeys see a tiger or leopard they instantly proclaim his presence to all by their harsh guttural alarm cries, which so



" A sambar stag is pushing his way through the dense grass "

vividly express their hatred and fear of the great carnivores. In this way they give the cheetal a timely warning of danger—a warning which has saved the life of many a beautiful deer otherwise doomed to certain and instantaneous destruction.

But there seems to be no danger here. Two of the stags are disputing among themselves the right to make love to a particularly attractive hind, for the rutting season is near; and the remainder of the herd are revelling in the feast of juicy simal buds which have been so callously knocked down by the monkeys. One hind is standing by herself a little apart from the others, and is gazing with lazy curiosity to one side, chewing the while a tasty morsel which she has just picked up from the ground. The younger monkeys are gambolling about, chasing one another with zest from tree to tree, and thoroughly enjoying themselves after the manner of the rising generation of most creatures. Some of the mothers are sitting in comfortable forks in the trees, with their tiny offspring clasped lovingly to their breasts, while every now and then one or another of the elders of the troop utters a joyful whoop, which rings through the jungle—a sound of eager life and enjoyment.

Evidently the dreaded tiger cannot be here. In actual fact he is lying, stretched at his ease, some two or three hundred yards higher up the dry torrent-bed, where he has discovered a small pool of water, edged with damp sand, and snugly hidden away among the boulders. Around him tower great rocks, covered with bushes, and in places where it is sufficiently damp, there are patches of maiden-hair fern, the delicately graceful foliage of which is protected from the heat of the sun by the overhanging rocks. A faint breeze stirs the bushes from time to time and the shadows are chasing one another backwards and forwards across the beautiful striped body, which is thus thrown alternately into

light and shade. The tiger has had a satisfying meal the night before, and is now dozing away the hours of heat, secure from all intrusion in his cool and picturesque retreat. Sometimes he rolls gently over in the damp sand, and then, awning heavily, half closes his eyes as he enjoys to the full the satisfying process of digesting the meal which was the result of his strenuous hunting of the night before. He has placed the remainder of his dinner under some bushes, where he thinks it is quite safe from the prying eyes of those jungle parasites who are always ready to steal his food when he is absent. But he has forgotten the troublesome crows, which, despite his precautions, have already found his prey and have proclaimed its position to the jungle world, although none as yet has dared to approach sufficiently close to start feeding.

On a plateau above and some distance away from the recumbent tiger a sambar stag is pushing his way through the dense grass which covers the open ground between the trees. What can he, a lover of the night and dense shade, be doing out in the open on this bright sunny afternoon? He appears nervous and unhappy, and the reason is not far to seek. He separated a little from his wife the night before as they were browsing the luscious young leaves on the sides of the watercourse below, and he has been unable to find her since. Once or twice his keen nostrils caught a whiff of the tainted scent of a tiger, and he is mortally afraid for the safety of his newly-acquired wife—for he is still a young stag, whose horns have by no means reached maturity. His fears are only too well founded, for, although he does not know it yet, his mate has gone the way of many another sambar, and it is her half-consumed remains that the crows have discovered on the side of the watercourse.

Thus the afternoon gradually slips away until the sun begins

rapidly to sink behind the jagged tree-capped horizon, and the approach of night is heralded by the nightjars, whose monotonous "tonk-tonk", reminiscent of the sound made by a stone bounding on ice, is so familiar to all who have entered these fascinating jungles. The tiger, awakened to activity by the delightul coolness of the evening, stands up, stretches himself luxuriously, and then strolls over to the pool of water near by, where he crouches down and enjoys a deep drink before commencing the activities of the night. Actually he is in no hurry to-night. He still has the half-consumed sambar waiting for him, so that there is no need for him to pad silently along, perhaps for many miles, before he can find an animal in a position suitable for a successful stalk. Also he is cautious by instinct and nature, and he has no intention whatever of walking straight down to his dinner. No: he is disliked by many from man downwards, and he always finds it as well to circle quietly round his kill, so that he can first see without being seen. This he does, taking care to avoid the monkeys, which are now going to sleep in the tree-tops, apparently without any fear of falling from their unstable perches during the night. Presently he comes to a jungle path, which meanders through the forest a short distance below the kill. Pausing for a moment he turns along this path, moving with hardly a sound, as with head held low and ears alert he strains every nerve in his effort to detect the possible presence of man, his greatest enemy, who fearing to meet him on equal terms often sits perched in absolute safety high up in a tree and attempts to murder him as he returns to the food which he must eat if he is to live.

All is clear until he comes to a bend in the path. He is much too wise to walk straight round this bend, so he stops and peers cautiously round the corner. Ah! What is that hurrying towards

him Why: it must be the forest-guard, whose duty it is to look after this area of forest. He is carrying a big bamboo stick as his only weapon, and he is striding rapidly towards his lonely *chowki* a mile away. He has been a long round to-day, and he is returning later than he likes. He knows that a tiger lives here and he has been watching the circling vultures, so that he suspects that the tiger has killed some jungle animal quite near his homeward path. He does not greatly fear the tiger: it is a case of "Live and let live"; but a tiger at night is a very different proposition indeed from a tiger by day, and he is bitterly regretting having stayed out so late. Also a sloth-bear sometimes passes this way, and he knows several cases of friends of his who have been brutally mauled by these foolish creatures, whose eyesight and hearing are so poor that they do not realise that a man is approaching until it is too late, when there is nothing left to do but make a sudden assault.

The tiger knows this forest-guard well: he has seen him many and many a time during his wanderings about his domain. He is not a man-eater, however, and instinct tells him that it is better to avoid meeting these two-legged creatures more than necessary, so he slips quietly into the jungle a few yards to one side of the path, and, crouching down, watches the forest-guard scurrying past. The man, luckily for his peace of mind, sees nothing of the tiger, and a short time afterwards reaches his hut with a vow that he will never remain out so late again.

The tiger waits a few minutes until the sound of the forest-guard's scuttling footsteps has died away in the distance, and then he continues his cautious tour of inspection. The night-jars are now in full chorus, and it has become quite dark, for night falls very rapidly in India. The tiger has circled in all directions

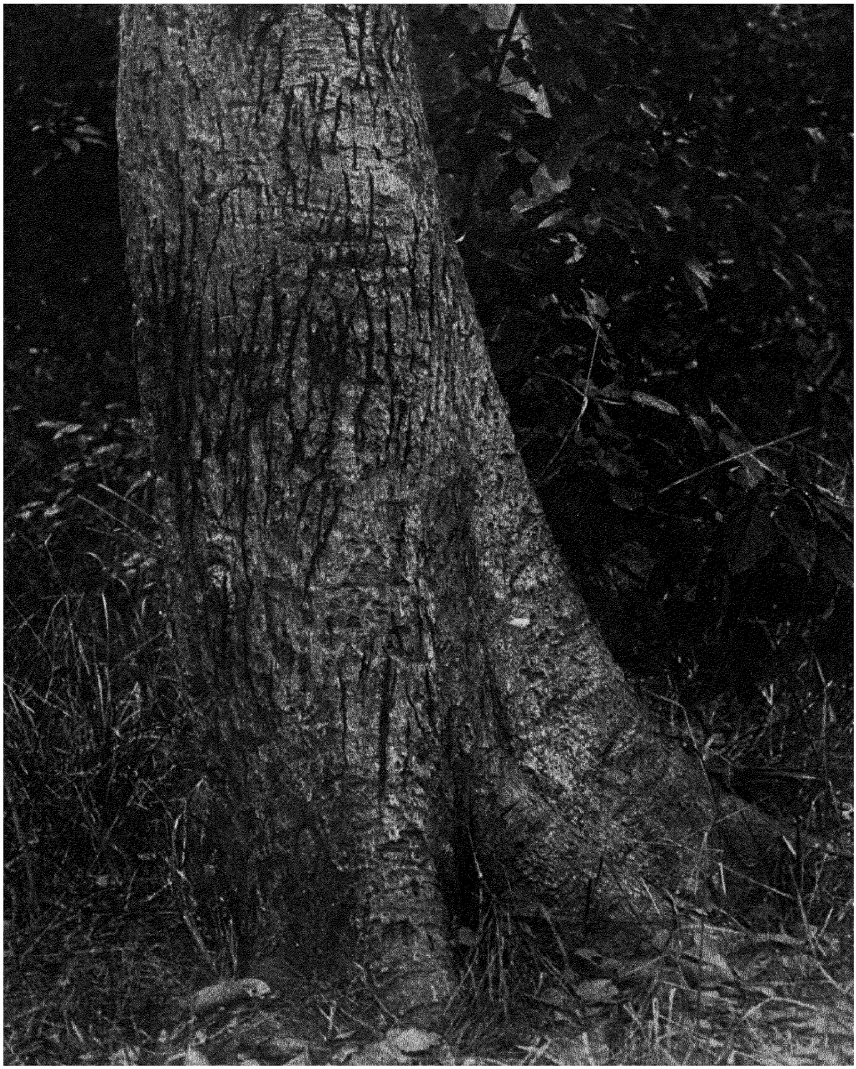
around his kill without discovering anything suspicious, beyond the fact that he sees a number of vultures perched in the neighbouring trees, which tells him that his seemingly well-concealed dinner has been found. He knows, however, that vultures feed only by day, so that they can do no harm now, and he will take care to hide what is left of his meal even more carefully to-morrow morning.

Even now there is no hurry, as he has all the night before him to make his meal. So he sits down quietly on a ridge overlooking his kill and waits with his attention still riveted in that direction. At last he appears satisfied that all is safe and gets up to move towards the meal which is ready waiting for him. On approaching close to his kill, he suddenly realises that a pair of jackals are there gazing at him with frightened eyes as they are caught in the very act of stealing food which is not theirs by right. For a moment he contemplates making a rush so as to teach these impudent jungle thieves a lesson. But after all, is he not a tiger, king of the jungle, who scorns to waste his giant strength on such contemptible creatures? Instead, he gives one fierce "whoof" and the jackals, shaking with fear, are gone in a flash, thankful to have escaped with their lives. Shortly afterwards the whole jungle rings with their alarm cries which W. J. K. S. puts so admirably into words—

"An eerie call through the silent night
Rings far o'er hill and dale,
Rousing the quaking denizens
Of hillside, cot and vale.
Pheaow! Pheaow!
I warn you wherever you go
Death runs behind of a terrible kind
Pheaow! Pheaow! Pheaow!"

The tiger, totally ignoring the cries of the jackals, now strides up to his kill, and, seizing it by what is left of the hind-quarters, pulls it out into a more comfortable position. Then, settling down, he proceeds to devour the remains, disturbing the peace of the jungle night by the intermittent sounds of crunching bones and tearing flesh. At intervals he gets up and strolls round, his progress being indicated by an occasional shriek of alarm from neighbouring kakar as they catch a fleeting glimpse of Death passing by. Thus the jungle night, so full of the throbbing life which is still by day, passes imperceptibly away until the raucous cries of the awakening peafowl warn the tiger that dawn is approaching. It is now time to be moving, and there is so little left of the kill that he decides to abandon it to the vultures and crows who are sleeping in the adjacent trees—perhaps dreaming of the feast which they hope will be theirs when his majesty has departed for the day.

At length, fully replete, the tiger rises from the kill for the last time and strides over to the base of a fine simal tree, which stands decked with its gorgeous crimson blossoms at the foot of a steep slope near by. On reaching the tree he stands up on his hind legs and cleans the claws of his fore-feet by dragging them several times down the smooth light-grey trunk, thus scoring the bark with a number of vertical scratches, which will remain as a hall-mark of his presence here for many a long day afterwards (see plate ix). Then he walks slowly on up the dry water-course to his previous drinking- and resting-place, passing on his way a fine wild boar, who is grubbing among the fallen leaves in his search for the succulent roots which form his chief food. The boar, who is always on the look-out for danger, sees the tiger almost as soon as he himself is seen and immediately rushes away



He cleans his claws on the bark of a fine simal tree

to safety. The tiger eyes him longingly, for he is very fond of pork, but the distance is considerable for a rush, and a big boar is a tough customer who must be approached by stealth and not at a time when the tiger is lazy after a heavy meal. So he passes on with a sigh of regret for the loss of a chance of securing his favourite food and shortly afterwards he is lying once more in his secluded retreat, where he will remain until the shades of approaching night warn him that he has no longer a store of food in hand, and that he must set out once more on the hunting which is his chief business in life.

Chapter 3

THE PANGOLIN—A SURVIVAL OF PAST AGES

"Nature alone knows what she aims at."

GOETHE.

WHAT is the most remarkable animal to be found in the Indian jungles to-day? Some, with considerable grounds for their claim, will immediately reply the tiger, with his beauty, his strength, his cunning; others will place the elephant, mightiest of terrestrial mammals, first, basing their choice on the fact that by many he is considered to be the most interesting creature in the world; but I think that few who know the animal will hesitate to give that astonishing survival of past ages, the pangolin, pride of place.

This weird creature, dispensing with the usual coat of fur or skin, is encased, like a knight of the mediæval ages, in armour-plating; but he goes one better than the old-time knight, for his armour, consisting of thick scales overlapping like those of a fish, is so strong that it has been known to turn even a modern rifle-bullet, which would have gone straight through the iron armour of man. Truly he seems to have stepped straight out of some story book of ancient days—out of a lost world which, in these fast-going times, it takes a Conan Doyle, a man of vivid imagination, adequately to portray. And when he has given us a picture

of those bygone days, how we long to step back, how we would love to see a world so different from what we find to-day—a world where there were no worrying money troubles, no shares that fail to pay a dividend, no paralysing war debts: a place where man, if he existed at all, was a very insignificant creature of little power, but so far as we can judge, of much greater happiness.

The pangolin, often incorrectly called the armadillo in India, belongs to the Edentata—the order of toothless mammals, which also includes the ant-eaters, the sloths, and the armadillos, even though the two last-named are by no means devoid of teeth! There are five species of pangolin, two of which are inhabitants of Africa, the remaining three species being found in Asia. Of these Asiatic pangolins, one is mainly confined to China, although it extends into parts of the Himalayas and Upper Assam, another occurs in Malaya, and only the third, the five-toed pangolin (*Manis pentadactyla*) is found in the plains and foot-hills of India, where it is nowhere common and but rarely seen.

The habits and life-history of the Indian pangolin, like those of many another of the smaller and more retiring inhabitants of that vast country, are very little known. It is extremely nocturnal and does not come under the heading of "game", so that it is not sought after by sportsmen, but it is known to many of those Indians who live in the wilder parts of the country. It has many Indian names, among which may be mentioned *salu-sanp*, *bajra-kit*, *sal-salu*, and *ban-rohu*, the last of which means jungle-carp—a name which is derived from its covering of scales and fish-like shape. Unfortunately, its flesh is regarded as good to eat and as an efficient aphrodisiac by some jungle tribes, and, even worse, rings made from the hard horn-like but elastic scales are considered to be of great value to their wearers. The result is that so many of these

interesting creatures are destroyed, that nowhere can the species be considered as common in India. As regards Africa, Dr. Smith, the noted traveller, relates that pangolins are caught and burnt in cattle-pens as sacrifices offered for the increase in the health and fertility of all cattle that may henceforward enter the fold. Truly, wild animals suffer greatly from the hand of man. Either they are killed because they are good to eat, or because they carry ornamental horns, or wear warm or beautiful skins, or provide sport, or are uncommon, or because parts of their ill-fated bodies are reputed to bring good luck or to have astonishing medicinal value. The pangolin suffers in this way because of his scales, but perhaps the rapidly-diminishing Indian rhinoceroses are most to be pitied. Because the rhinoceros has been blessed—or rather cursed!—with a short horn on his nose, the greed of man, tempted by those inhabitants of China who are prepared to pay even a large sum like Rs 1000 for a few inches of agglutinated hair, is rapidly bringing about his extermination. True it is that the Forest Departments and Governments of India and Burma are doing what they can to try to protect the few remaining rhinoceroses; but it is very difficult for laws or sanctuaries or game-wardens to save the lives of animals living in wild sparsely-inhabited country, when the poacher's reward for every horn he obtains is sufficient to keep him in comfort for several years. I have heard it suggested that the only way to ensure the safety of the few surviving rhinoceroses would be to capture them, put them under chloroform, saw off the horns, and then let them go again—shorn of what perhaps they consider their pride, but at least less tempting to the avarice of man! This suggestion might, if it were practicable, save the rhinoceros; but it would be necessary to skin the wretched pangolin alive if one were to try to

remove all the scales, so tempting to man, which a kindly Nature gave him for his own protection.

The pangolin is an exceedingly difficult animal to study in the wild, for he spends most of his life underground and very rarely appears above the surface in the daytime. He does not even come above ground every night, so that even if one succeeds in locating his home it by no means follows that it is easy to obtain a sight of the occupants. True it is that an attempt can be made to dig them out if one is prepared to destroy their homes, but even that is not easy, for the actual living-chamber is often eight or ten feet below the surface. It takes some time to dig this distance through hard ground interspersed with the roots of trees, as I know to my cost. I well remember one occasion in the early hot weather when my wife and I, with the assistance of three or four men, dug for hours and hours, getting hotter and hotter, and yet never seemed to get any nearer to the pangolin, which we knew was inside because of fresh tracks going in, and also from the presence of a number of flies deep down in the hole. I am not at all sure that the occupant, hearing our approach, was not digging himself further in, and as his wonderful claws enable him to dig ten times as fast as any man, there wasn't much hope of ever catching him up. Anyhow, 11 a.m. on a hot day in April saw us completely defeated, and the pangolin still master of the situation.

I have tried on other occasions to obtain flashlight photographs of pangolins at the entrances of occupied earths and in other places, and I have always been on the look-out for an odd specimen wandering about in the daytime. But only once have I seen one in the headlights of my car, and that disappeared into thick jungle before I could stop. Finally, I have been forced to

stoop to the last resort of offering rewards to those members of jungle tribes who will bring me in live and uninjured specimens. I say "stoop" because I don't like disturbing the homes of wild animals any more than I like having my own home disturbed, and the best way to study the creatures of the wild is to study them just as they are in their own chosen haunts. Unfortunately in this case I have had no choice; but at least I can claim that the specimens I have had brought to me have been treated with the greatest care and consideration, and have been given their freedom again after a few hours' stay with me as honoured, if perhaps somewhat unwilling, guests. One specimen was brought, in the hot weather, the long journey by train and motor from the jungles of North Kheri to Naini-Tal, and after staying with me for one day was sent down to Kathgodam and let loose in the jungle there. The man who caught him and brought him to me, an exceedingly intelligent aboriginal of Oudh, accompanied him down to the jungle at Kathgodam, and on freeing him from the wooden box in which he was confined went down on his knees before him and with folded hands begged that he might be forgiven for having caused the poor beast so much trouble! Such consideration for animals is not always to be found among the natives of India, and one can only hope that the pangolin accepted this apology in the spirit in which it was given before he trotted off, with his peculiar rolling gait, into the jungles once more after his short visit to an Indian hill-station!

The specimens that I have had under observation have been a male about 3 feet 6 inches long, and a female a few inches shorter. Three and a half feet is said to be about the average length of a full-grown Indian pangolin, but Mr. W. G. Adam, writing in the *Field* in 1932, says that the largest specimen of the

same species that he has known in Ceylon was 5 feet 8½ inches long—truly a veritable giant among his race. The largest I have seen was a dead one a little over four feet in length. My specimens did not remain very tightly coiled up in a ball after the manner of the hedgehog, as they are generally supposed to do, and, after being handled a few times, refused to coil up at all. Indeed, if an attempt was made to lift them up they at once brought round the immensely powerful tail with such strength that one's hand was swept forcibly aside. Several fingers were cut in this way by the sharp edges of the scales, and a pair of leather gauntlets was ripped to pieces. Mr. Adam writes that if a pangolin catches anything between the tail and the body he saws backwards and forwards with the tail, thus causing the edges of the scales to inflict horrible wounds, and that he has seen a dog's leg almost severed in this way. Other observers state that, when coiled up in a ball for self-defence, the sharp-cutting scales stand out at right-angles to the skin and entirely prevent handling. The two individuals I had under observation cut through straps and ropes by sawing with the tail in this way, although the maximum angle at which the scales stood out could not have exceeded 45°.

What struck me most was their extraordinary strength and digging power. One specimen was placed for comfort in the bathroom of my stone-built bungalow, the floor of which was plastered with what passes for cement in India. Within an hour he had dug up the floor in several places, and finally, choosing a spot near the wall, he had burrowed right down into the wall itself and had removed several stones weighing ten pounds or more each. When I arrived to see how he was getting on I was only just in time, for I found his small intelligent head already

right through the wall and looking round to see the best way of completing his exit! On another occasion I put one in a wooden packing-case with the lid loosely nailed on, and sat on top to make quite certain that he didn't get out. I have the misfortune to weigh over fourteen stone, but I hadn't sat on that box for more than a minute or two before I was gently but firmly heaved off and the pangolin emerged, having prised off the nailed lid and removed in addition a weight many times that of his own. Mr. Adam records a similar case of a tame pangolin which burrowed under a heavy wardrobe full of clothes. Having once got its small head under the wardrobe it tilted up the large piece of furniture and went right underneath, the weight on its back apparently causing no inconvenience.

The digging powers of pangolins are truly wonderful. If one of these animals be placed near a bank he will have entirely disappeared within less than a minute; and it is extremely difficult to pull him out again once he is partially engulfed, for his scales stick out at an angle like the barbs of an arrow and grip the earth surrounding him in all directions. They are also good climbers, and one that I let wander about my drawing-room, where he seemed perfectly at home, climbed on to the window-ledges, over the sofa and arm-chairs and even tried to get on to a table by swarming up one of the legs, until he had to be stopped owing to the scratches he was making with his long claws and sharp scales. This individual was not in the least nervous, for he would push through my legs if I stood in the way and did not resent being handled, beyond making an occasional hiss, which is said to be the only sound made by these creatures. He obviously possessed a well-developed sense of smell, for he wandered round the room sniffing vigorously at every new obstacle or object that he

encountered. His sense of hearing did not appear to be anything out of the usual, as would be expected from the very small external ears.

Although the pangolins that I have studied were quite prepared to attempt to climb almost anything, even a vertical wall, some of the other species are certainly more arboreal in their habits than the Indian representatives of their tribe. African and Malayan pangolins have been observed to rest on the boles of tree-trunks by supporting themselves with the help of the powerful tail, which is held vertically beneath them pressed against the trunk of the tree, like a right-angle bracket with the supporting strut missing. When their rest is completed they are said to save themselves the trouble of turning round and climbing down by calmly dropping to the ground, the force of the fall being broken by the elastic scales.

My specimens would often sit up on their hind-legs like a begging dog, and their short fore-paws held in front gave them an absurd resemblance to a human being in an attitude of prayer. When placed near deep water they would enter without hesitation, and proved to be powerful swimmers, making full use of the thick muscular tail. My specimens drank water freely, the long worm-like tongue darting backwards and forwards with great rapidity, but I could not induce them to drink milk. I was also unsuccessful with port, which I tried because somebody had told me that they were not teetotallers! Nor would they eat anything at all, although I went to great trouble to provide them with an ample spread of termites and various kinds of ants. Mr. Adam states that his captive specimens, after being first fed on cooked rice and insects, would eat soft fruit, root vegetables and juicy leaves, and even—strange to relate—mice and small rats. I must

admit, however, that it passes my comprehension how a creature with a tiny mouth and no teeth could eat a comparatively large and bony object like a rat.

Pangolins can move along at a much faster speed than is generally thought, and, when well away, it requires a fast walk to catch them up. The back is arched and the long tail is held right off the ground in the same way as that of a crocodile. The scales rustle slightly as the animal moves along, and the gait is very peculiar, being somewhat suggestive of the roll of a sailor —especially a sailor who feels like walking delicately after the manner of Agag. This gait is the result of the pangolin's habit of trotting along with the claws of his fore-feet doubled underneath him, as though he were walking on his knuckles, and with the soles of his hind-feet turned outwards.

The specimens I have examined, like many other jungle animals, had a large assortment of ticks clinging to their skins beneath their scales, but these parasites did not seem to cause any trouble, for I have never seen a pangolin attempt to scratch himself. I have often wondered how it is that wild animals appear so much less worried by ticks and leeches than our domesticated animals, such as dogs. Pangolins are provided with a special duct which permits them to emit an evil odour for protective purposes, but the ones I have handled have had only a slight odour—although Captain Pitman says that some African pangolins are very foul-smelling. The stomach is muscular like a bird's gizzard, and has sometimes been found to contain small stones, which may assist in triturating the food, although such assistance would appear to be somewhat unnecessary when the chief article of diet consists of small termites.

There are many other points concerning the pangolin, that

giant animated fir-cone of the jungle, that call for remark, but this chapter has already extended beyond its allotted space, and little more can be said. I must, however, refer to one or two remaining matters. Mr. Adam, in his interesting article in the *Field* already referred to, writes that his specimens seemed almost blind in the daytime, as one would expect in an animal which, like the mole, spends most of its time in the darkness underground. Yet some of the photographs reproduced in this chapter were taken in comparatively strong sunlight, which did not appear to cause discomfort to the eyes of my sitters, although they usually turned with their heads away from the light, thereby not improving the resultant pictures. Mr. Adam found small pools of water in cavities in pangolins' earths, which suggest that these creatures prefer making a home water-supply to having to go outside when they need a drink. Various observers have remarked upon the habit of these animals of "sporting their oaks" when they enter their homes—of blocking up the entrance to the burrow with earth while they are inside. Lastly, the writer of the *Fauna of British India* casts doubt upon the records of the existence of this species in Nepal. I am quite certain that the Indian pangolin occurs in the plains of Nepal, north of the forests of Oudh, for I have actually found specimens almost up to the border, a shallow stream, and the country on both sides of the border is of exactly the same type.

Chapter 4

THE ALLEGED CRUELTY OF TIGERS

"More sinn'd against than sinning."

WHY is it that novelists so commonly liken their most horrible and objectionable characters to tigers, and is it really true that the much-maligned tiger can justly be considered as the embodiment of cruelty and malignant ferocity? I reply at once that such a comparison, made ninety-nine times out of a hundred by persons whose knowledge of tigers is confined to an occasional visit to a zoological garden, is a gross libel on what, in some ways, is one of the finest of wild creatures.

I do not pretend to claim that the tiger is as gentle and harmless as the lamb, or even the symbolical dove, the latter being, by the way, a distinctly quarrelsome bird; but I do say that cruelty for cruelty's sake is a vice practised only by the self-styled lord of creation, *Homo sapiens*, and is totally unknown to wild creatures, or the so-called "brutes". Now the ordinary dictionary definition of cruelty is "delighting in, or callous to the pain of others". Who, except possibly an occasional author of a "popular" jungle book, could justly accuse the average wild tiger of exhibiting signs of great pleasure as he watches the struggles of his victim, which dies almost instantly; who could state that a tiger is capable of inventing tortures such as those practised by the Spanish Inquisition, or the Chinese, or the present-day Russian

Ogpu; who could point to a tiger indulging in even the petty cruelties which are so often to be seen in modern life; what tiger has ever performed an act of cruelty in any way comparable to the slow burning at the stake which our own countrymen, our own ancestors, did in the name of religion—in the name of God the merciful!—only a few centuries ago? Yet the second-rate writer of novels, when he wishes to create a vivid impression of some monster masquerading in human form, who has sunk far below the level of the creatures of the wild, seems incapable of finding any better simile than that of the tiger, who is positively merciful in comparison with the debased type of human being to which he is likened.

So much for cruelty—that is, the deliberate and premeditated infliction of pain. Why, a tiger's brain does not rise to such refinements! The second dictionary definition of cruelty is "callous to another's sufferings"; and here, perhaps, one might make out some sort of a case against the tiger, though it would not be a strong one. A tiger kills horned and hoofed animals because he must have meat if he is to live, and the desire to live is the strongest impulse amongst animals. We human beings also kill other animals because meat is an important item of our food, although we can live without it, whereas a tiger simply cannot exist on a vegetarian diet. Hence our sin, if there be a sin in destroying life for the sake of food, is greater than that of the tiger. Then again, let us compare the methods by which the taking of life is carried out; let us see if we can justly claim that we are less cruel than the average tiger.

A sambar is browsing happily in the full glory of life and freedom, deep in the beautiful forests which he has frequented from his earliest youth. A tiger on the hunt, passing stealthily

near by, hears the sound of the contented munching of his intended prey. He crouches instantly, and the sambar remains completely in ignorance of his arrival, or of the certain death which is so near. Stealthily the tiger surveys the ground after the manner of the born hunter that he is, and then, having carefully chosen the best line of approach, he gradually draws nearer and nearer, taking the greatest care that the sambar shall remain totally unaware of his presence—for once the intended victim is warned the stalk is ruined. Nearer and nearer draws Death in feline form and yet the sambar passes the last few moments of his happy life in the peace and contentment of his chosen home. At last the tiger, after an infinity of care, has reached sufficiently close to enable him to make his final rush; he pauses and braces himself for the last act. Then he makes a lightning charge, so fast that the human eye can barely follow, and launches himself on his prey, using such terrific force that frequently he breaks his victim's neck almost instantly, and in very few cases do the struggles of the sambar last for more than a few seconds. Surely this is not cruelty in its worst form! The tiger must have his food, and he has been provided by the Creator to assist in maintaining that "balance of Nature" which is so essential to life in this world, and without which man himself would find his own position extremely precarious.

Now let us see how man, the avowed hater of cruelty, obtains his meat: can he honestly claim to be as merciful as the tiger? A bullock, fattened to provide prime beef, is driven towards the slaughter-house, from which emanates a terrifying smell of stale blood. Some instinct warns him of danger, and he turns to escape. He is caught again and finally forced into the actual death-chamber, terrified and shaking in every limb. The human slaughterer has,

perhaps, become callous from constant contact with death, and sits down to smoke his pipe, leaving the shivering beast to await his pleasure. After a few minutes he picks up the pole-axe, or whatever his weapon may be, and advances towards his prey. The bullock dodges, for the slaughterer's science in killing is as nothing when compared with that of the tiger, and he misses his stroke. He tries again, and this time he inflicts a bad wound, but still the victim is far from dead. At the third blow, perhaps, he is successful, and the wretched beast's life is ended—ended in a miserable and protracted manner in order to provide man with meat. This is one method of man's killing, and is, perhaps, in the more civilized countries at any rate, rendered as painless as possible, although even under the best conditions it is far more cruel than that of the tiger. But there are other methods. How about the baskets of live fowls which are sent to the market or to the poulterer—fowls packed in some countries so closely that they can hardly move or breathe, much less obtain a drop of water? How about the export of worn-out horses—faithful servants who have spent a lifetime in the service of man—to the very dubious slaughter-houses on the Continent? How about the Mohammedan sawing at the throat of some wretched animal with a blunt knife and after a prolonged struggle letting life gradually ooze away according to the tenets of his faith? How about the ghastly life of the geese which go to provide that unnecessary delicacy on man's table—*pâté de foie gras*? How about the man whose appetite is so jaded by gross living that he needs to be tempted with a dish of skylarks?

On the whole, I believe that most of us who think, and who have a certain understanding of the why and the wherefore of Nature, will realise that it is not for us who live in glass houses to throw stones at the tiger. Individuals vary, and an occasional

tiger may suddenly be overcome with the lust for killing with the result that he may slaughter half-a-dozen animals without apparent reason; or where he cannot kill outright a large animal like an elephant, he may even feed on the living beast. But he does this because he must have meat and cannot obtain it otherwise, or in the former case he is a young tiger who is perfecting the art of killing so that he may not make mistakes in future. Again, a mother tigress may appear to be cruel and sometimes is so, although not with intent, when teaching her children how to strike down their prey. Yet all such cases are the exceptions and not the rule, and the vast majority of tigers, however ruthless and terrifying they may appear to be, are, unintentionally be it admitted, the most efficient and painless slaughtering machines to be found anywhere in the world. Therefore I would appeal to the writers of fiction to be a little more just, to find some more suitable simile when they wish to portray a debased human being who has sunk far below the level of the so-called brute creation.

"If you want to realise what a set of barbarians we really are you have only to enter the tent of a travelling menagerie. The cruel wild beast is not behind the bars of the cage—he stands in front of it!"

"THE STORY OF SAN MICHÈLE."

Chapter 5

THE FORESTS OF OUDH

"God gave all men all earth to love,
But since all hearts are small,
Ordained for each one spot should prove
Beloved over all."

ALL lovers of the wild, no matter whether they be living in India or anywhere else, no matter whether they be rich or poor, young or old, have some favourite jungle or jheel, mountain or stream, moor or glen, which appeals to them more than any other place in the whole wide world, and to which they will return again and again, never failing to find happiness in their own chosen haunt. For myself, I must at least be able to see mountains, even if I am not actually among them, and no place, whatever its other attractions may be, can be quite perfect to my mind if the horizon be a monotonous straight line or if the ground be too flat. There is something inspiring about mountains, something which helps to lift one's thoughts to a higher level, something without which no scene seems to be quite complete; and for this reason the forests of Oudh just miss my ideal, for they are mostly on flat ground and the great snow mountains of Nepal, although not far away, are often invisible owing to the intervening haze. Yet on a clear morning after rain, when the unknown and uncharted peaks of Nepal and beyond stand out clear cut against the horizon, there can be few finer places on earth.

Let us take a glimpse at these forests. . . . It is the early morning, cool and crisp, and we are standing on the edge of one of the beautiful tals, as the lakes of Northern India are called, now fairly open, but covered with sacred pink lotus flowers later in the year. Behind us is a small area of cultivation belonging to a family of Tharus—aborigines of the jungle who are allowed to raise their crops in small clearings inside the government reserved forests. Few people could be happier than these simple honest jungle folk who want neither education nor riches, position nor power, but only rain in season for their crops, protection from the avaricious lawyer and money-lender, a little, or even a fair quantity of country liquor, ostensibly to keep away fever, a few simple medicines, tom-toms (drums) to bang all night, and numerous beads to hang round their necks. Truly at times I have envied the Tharu, envied him his simple home in the jungle, his contentment, his freedom from worry; I have thought how nice it would be to have been born a member of the tribe—until I have been kept awake all night after a long and tiring day by the barking of his dogs and the banging of his monotonous, never-ceasing drums! But perhaps if I were a Tharu I could sleep the sleep of the simple inhabitant of the wilds, despite the dogs, perhaps I could find music in the throbbing of a tom-tom if I knew no other.

In one corner near the tal stands, side by side, a pair of Sarus cranes, the largest birds of India, and a familiar and attractive feature of the landscape. These huge grey birds, with their long bright red legs and heads which look as if they were covered with close-fitting skull caps of ruby velvet ornamented with a few short tassels, are very devoted and close companions, that nearly always feed within a few yards of each other and keep very

close together when flying, as though they could not bear to be parted even for a short time. Truly they are the Darbys and Joans of the avian world, setting a high standard of matrimonial bliss and forming an excellent example to those husbands and wives who are for ever bickering with each other. So obvious is their affection that the legend has arisen that if one of a pair is killed the other dies of a broken heart; and for this reason they are rarely molested by Indians, who do not wish to bring bad luck upon their own homes by injuring such creatures. Even the few tribes that will eat the flesh make a point of shooting the other, should they happen to shoot one, rather than leave the survivor to pine away in loneliness and sadness at the loss of its life-mate. And surely it is right that all who have any consideration for wild creatures should hesitate before lifting a weapon to destroy such interesting and beautiful birds, that harm nobody. Indeed Sarus cranes, which are known by naturalists under the name of *Megalornis antigone*, seem to be aware that the human race normally bears them little ill-will, for they are not very shy and will allow one to approach within thirty or forty yards before taking to wing with loud trumpet-like calls of protest at being disturbed—protests that are continued for some distance as the pair fly off in close company to some other feeding-ground. During the breeding season their mutual affection, at all times strong, reaches its climax, for so delighted do they become both with each other and with life in general that they indulge in striking dances, spreading their wings and lowering their heads, and every now and then leaping into the air with a loud trumpet of glee.

But we are still standing on the edge of the lake, and, after watching the villagers and the cranes for some little time, we

turn our gaze to the front. Our eyes run over the placid waters, swarming with fish of numerous kinds, dotted with the many-shaped leaves of the water-loving plants, fringed with beautiful palm-like grasses and reeds, teeming with water-fowl, among which we once saw several pink-headed ducks—perhaps the rarest of all the extensive sub-family *Anatinæ*. Our fascinated gaze passes on to the drier grass-land beyond, which, when burnt later in the year, will reveal the presence of large numbers of gond and hog-deer, now invisible, but probably watching closely to ascertain if our intentions be hostile or not; on to the great stretches of valuable sal forest which has covered these parts of Oudh for thousands of years, and which, properly managed, will continue to enrich the exchequers of whatever future Governments there may be in this changing land of Ind so long as sal timber remains an essential article to the inhabitants of the country; on once more to the dense and almost impenetrable foot-hill forests of Nepal, which successive wise rulers of that independent kingdom have carefully maintained as a natural barrier against the advance of any hostile army—a barrier which the invention of aircraft has rendered much less formidable than in the past; on again to the beautiful snow-capped mountains which always seem to beckon one on: to attract one's attention and imagination as surely as a magnet attracts steel. What more can we want to complete the perfect picture of India as she really is to those of us who are fortunate enough to be able to get away from the teeming cities, the depressing study of modern politics, the eternal fight with auditors, the red-tape rules of Government offices? What more can anyone to whom the lure of the jungle has any real meaning desire?

At one time these forests of Oudh must have been a veritable

paradise for wild animals, for even now, despite the efforts of the modern shikari who sometimes seems to see nothing unsportsmanlike in shooting defenceless wild creatures day and night from a comfortable seat in a motor-car, they contain a great many representatives of the splendid, but alas, diminishing fauna of India. Rhinoceroses and elephants are no longer present except for very occasional stragglers from Nepal, although the former at least were at one time fairly numerous; the wild buffalo has entirely disappeared. Tigers and leopards are still common, although the former are largely immigrants from the over-stocked forests of Nepal, where there are many tigers and little for them to eat; sloth-bears are well represented, the dense patches of matted *retwa* grass forming ideal retreats where the bears hide themselves from the heat of the sun and from which they emerge after dusk on their nocturnal wanderings in search of well-stocked ant-hills. Hyænas—recently described to me by a certain aristocratic gentleman as being Nature's caricatures of Labour Members!—are legion, and perform silently and efficiently their job as general cleansers of the jungle. The deer tribe is very well represented by large numbers of sambar, generally with rather poor horns, as a result, possibly, of an excess of the fair sex; by great herds of the somewhat local and handsome swamp-deer which are found in the neighbourhood of most of the bigger tals; by considerable numbers of the beautiful cheetal; by numerous hog-deer, which appear to be satellites of the finer and more renowned gond; by kakar galore. Among antelopes and gazelles the incorrectly named nilgai is fairly common, and there are still a good many black-buck on the edges of the forest, although a twenty-inch head is a positive rarity; but the weird four-horned antelope is, as in most other places, inconspicuous and not often seen. Of

the smaller animals the ratel, falsely accused by people who do not know the animal of exhuming corpses, is abundant; the long-clawed, antediluvian-looking pangolin or scaly ant-eater is, as elsewhere, comparatively rare; the ferocious fishing-cat, a match for several dogs, is fairly common in the right places; and there are innumerable jungle-cats and civet-cats of the commoner species. Lastly there are, apart from other animals such as monkeys, porcupines, jackals and foxes, the curious hispid-hares, which have not been known to science for very many years and which are comparatively common in a few places.

One would have thought that this fine array of Nature's wild creatures would have been enough for one place, but it by no means exhausts the list. Crocodiles and gharials are common and there are a considerable number of pythons. And the birds! Wild duck of many species abound and there are occasional geese; jungle-fowl and black-partridges, pea-fowl and swamp-partridges, florican, quail, and snipe are all found in greater or lesser numbers; snow-white egrets—birds of a race so terribly persecuted by mankind for the sake of their plumes—black ibises, stately cranes, storks and herons are to be found near every tal; many species of hornbills, woodpeckers and countless smaller but no less interesting feathered residents of jungle and jheel abound in this Nature's paradise, where the absence of the prefix "game" to animal or bird means a life of freedom and safety from man—the only hunter in the world who destroys other creatures for pleasure alone.

Let us now consider some of this fine array of animals in greater detail, and touch lightly upon a few points connected with their life-histories which have not already been discussed elsewhere in this book. Firstly there are the Oudh tigers. Owing partly to the keen hunting instincts of the Nepalese and partly to





Delightful Indian relatives of the English fox

the large numbers of tigers that have resulted from the rigid protection afforded them by the ruler of that country, deer are scarce in Nepal. The effect of this state of affairs is that the Nepalese tigers often find it difficult to obtain sufficient food and frequently wander into the Government reserved forests, which in places march with the forests of Nepal. These reserved forests of India are well stocked with deer and the tigers must think at first that they have chanced upon the tiger-equivalent of a veritable Garden of Eden. But this state of bliss does not last for very long. The keen shikaris of India, helped by good motor roads and even telephones in places, are soon on their track, and the life of a Nepalese tiger—unsophisticated because generally never hunted before—is usually very short once he has been tempted away from the mountain wilderness of the land of his birth.

Many shikaris hold the opinion that tigers do not normally breed in the Oudh forests and that the supply is maintained almost entirely by immigrants from Nepal, there being a general movement of tigers in a westerly direction throughout the forests of the whole of the United Provinces right up to the Punjab boundary at the Jamna river. Personally I do not altogether agree with this idea. I am certain that tigers breed regularly right from the Ramganga to the Jamna and that most tigers found in the western half of the Province are born and bred in our jungles. Some tigers also certainly breed in the Oudh forests, but the numbers present are undoubtedly greatly supplemented by annual immigrants from the overstocked jungles of the Nepal *tarai* and foot-hills. And lucky it is for the sportsmen who shoot in Oudh that this is the case, for the jungles are so accessible and the tigers are so easily located and hunted, owing to the absence of rough hilly country affording them sanctuary, that otherwise tiger-

shooting in Oudh would soon become a thing of the past—as it has already done in so many other parts of India.

Another question that constantly arises in connection with the Oudh forests is as to why the horns of the numerous sambar stags are so poor in comparison with those carried by the stags of the Central Provinces jungles. A forty-inch head is extremely rare in Oudh: indeed out of perhaps fifty stags that I watched or attempted to stalk during the season 1931–1932, I doubt if more than three or four reached even thirty inches and many were under twenty inches. Various suggestions have been made to account for the poor size of these sambar horns, among which is one that the Oudh jungles are deficient in lime-content in the soil. This may be so, but in that case why should the Oudh cheetal, which live in the more open parts of the same forests, carry such good antlers? Personally I am of the opinion that excessive shooting combined with almost complete protection (until the last year or so) of the hinds is a contributing cause, although not a complete explanation. It seems to me from personal observation and a study of other people's books that sambar thrive best in foot-hill or low mountain country, and the flatness of the Oudh forests may have resulted in the production of a local race with a tendency to produce small horns. Government has now placed a restriction of about thirty-two inches on the shootable stag, and it remains to be seen how far this will improve the size of the antlers carried by the Oudh sambar; but I am afraid that there is little hope of improvement until the driving of large blocks of forests, such as is carried out in Gonda, is entirely forbidden, and until shooting from or in the neighbourhood of motor-cars is stopped, both in practice as well as by law.

Crocodiles, both the common mugger of India and the long-

snouted gharial, are extremely common in the sluggish streams and numerous lakes of the Oudh jungles, and I have counted as many as forty-five in a single day lying out on the banks of the Mohan river—a small stream which forms part of the boundary between India and Nepal. I have spent a good deal of time concealed in hides taking films and photographs of these crocodiles, and have often pondered on the numerous problems and superstitions connected with the life-history of these giant reptiles. On one occasion a medium-sized crocodile about ten feet in length came out of the water in front of me and took up a comfortable position on a spit of sand, which was usually occupied by a gharial of about the same size. Shortly afterwards the latter's head appeared out of the water and the owner observed with annoyance that his favourite pitch had been occupied by an intruder. Nothing daunted, he swam to the same spot and nudged the crocodile with his snout, bellowing hard the while and clearly saying "Get out, you reptile: that's my place." The mugger objected at first and a violent and noisy quarrel took place; but finally the intruder, despite his much more powerful head and teeth, gave way, and the gharial with obvious satisfaction resumed the place which he considered his by right. So much for those who imagine that crocodiles are silent creatures: on this occasion they made a terrific noise, and on many other occasions I have heard gharials make a kind of hissing sound suggestive of escaping steam. My experience has been that the gharial makes more noise than the mugger, but I read in Captain Pitman's book that the African crocodile (*Crocodilus niloticus*) often make a loud bellowing noise which is quite distinct from the sounds made by the hippopotami that live in the same places.

Another point that has often struck me about crocodiles is

the fact that many kinds of birds seem to show no fear of them whatever. While sitting in hides watching and photographing crocodiles, it has frequently happened that terns, greenshanks, and other water-loving birds have settled right among groups of these great reptiles lying basking in the sun, but often very wide awake. Yet I have never seen the crocodiles show any signs of hostility towards these birds, or the birds any fear of the crocodiles. Perhaps the explanation may be that a crocodile does not attempt to strike at a bird on land, or that he rarely feeds except at night. I have also seen crocodiles swimming about in jheels containing large numbers of wild-duck, and these ducks seem to take no notice of them whatever—and yet one would have thought that a fat mallard would make a very tasty snack for a crocodile. True it is that ducks have actually been found in the stomachs of crocodiles—Dunbar-Brander records such a case—but that by no means proves that the average crocodile is in the habit of eating ducks whenever he can get them. Indeed, it seems hardly possible that such can be the case or ducks would surely show greater fear of crocodiles than they appear to do.

Another interesting point in connection with birds and crocodiles is the association between the black-backed courser, or plover, and the African crocodile. These birds are said to enter the mouths of resting crocodiles and to remove the leeches that infest the gums. The crocodile, it seems, looks upon the birds as an annoying necessity, just as most of us regard dentists, and does not injure them in any way; but the birds apparently do not quite trust the ugly reptile or its evil teeth, for they are said to take off backwards when emerging from the crocodile's jaws. Indeed, they have a sharp spike on each wing-shoulder, and the natives allege that this spike is used by the birds to remind the crocodile

of their presence should their host happen to shut his mouth while they are inside! These birds must also be of assistance to crocodiles by giving them warning of approaching danger, which causes the birds to fly away suddenly, and the association forms a most remarkable instance of a mutual benefit society between reptile and bird. The bird gets a good supply of food to his liking: the crocodile has his teeth cleaned and is made aware of the approach of his enemies. I have many times watched Indian crocodiles lying with gaping jaws in the hope that I should be able to see some relative of the African courser perform the same action, but so far I have had no success, and I very much doubt if it occurs in India.

Crocodiles have long been considered as sacred in many countries, and it is almost certain that they have been used as executioners on occasions. They have many curious superstitions attached to them, among which may be mentioned some of those connected with the considerable number of pebbles that are nearly always found in their stomachs. Nobody really knows exactly why these stones are there, unless they are swallowed by accident or are used for triturating the food, but the native of India or Africa, always ready to explain any and every problem, will solemnly affirm that they are used as ballast to weigh the reptiles down so that they can reach the bottom of the water, quite forgetting that if such were the case they would have to eject them before coming up again; or that they swallow one annually as a sort of pill; or even that they keep a record of their ages by adding a fresh stone to the collection on every birthday!

The American alligators, differing from the true crocodiles in a number of points, the chief of which is that the fourth great tooth in the crocodile's lower jaw fits into a fold in the lip of the

upper jaw, whereas in the alligator it does not, are reputed to hibernate. African crocodiles are said sometimes to æstivate—that is to sleep through the summer without feeding or emerging from the mud—but there is some doubt as to whether or not this is a habit of the three species of crocodiles in India. It seems probable that it largely depends upon the scarcity or abundance of water in the hot weather. It is quite likely that crocodiles living in small ponds which dry up in the summer may be forced to do this, although it is well known that these reptiles sometimes make long journeys across dry land straight towards the nearest water; but I doubt if it ever happens with estuary or river crocodiles. True it is that in the Oudh forests one sees fewer crocodiles in the hot weather than at other times, but this is explicable by their intolerance of very hot sun, which tends to keep them under the water, and also by the fact that the females are busy with the breeding season at that time.

There is some doubt as to the origin of the term "crocodile's tears", denoting tears of hypocrisy, but it is probable that it arose from an ancient belief that the huge reptiles were in the habit of weeping at the thought of the hardness of a fate which decreed that they should be forced to kill animals for food. In actual fact the lachrymal or tear-gland is entirely absent in these hideous reptiles, and somehow or other it is difficult to imagine a crocodile as being sorry for any of his numerous sins.

Crocodiles are often considered to be extremely ferocious creatures, ready to seize any human being that has the misfortune to approach them; but many people who have studied them closely, such as Captain Pitman, have formed the opinion that, with certain notable exceptions, they are generally rather timid and cowardly. It is, however, probable that they cause more deaths in Africa

than all the other wild creatures—except snakes—put together. In India, the returns of deaths caused by wild animals usually show only a comparatively small number as due to crocodiles, and the frequency with which ornaments and bangles are found in their stomachs is probably due to their habit of frequenting burning-ghats and consuming corpses.

Crocodiles have good powers of scent, and have been known to find and feed upon tiger-kills and other carcasses lying at some little distance from the water in which they are living. Their hearing and eyesight are also good, and it is most interesting to watch the prominent eyes of gharials slowly moving round in all directions when they have just put their heads out of the water, and are deciding whether or not the coast is clear for them to come out and lie in the sun on a sand-bank. The use of the prominent lump on the end of the snout of a gharial has never yet been properly explained, although it gives the creature its name from its likeness to the Indian *ghara*, an unglazed earthenware water-pot. The suggestion has been made that, as the gharial (like other crocodiles) dates from the Tertiary period or earlier, this warty excrescence may have served some useful purpose in those times—a purpose which we no longer understand owing to the changed conditions of to-day.

It is certain that crocodiles must consume enormous quantities of fish, and although those that live in big rivers may not do so much damage to wild animals, others which frequent small side streams and pools inside the jungles must extract a fearful toll from the numerous creatures that are forced to come and drink at the pools they infest. Dunbar-Brander gives the following list of animals the remains of which he has found in the stomachs of crocodiles that he has shot: men, leopards, wild-dogs, hyænas,

cheetal, sambar, nilgai, four-horned antelope, barking-deer, monkeys, domestic dogs, goats, calves, pigs, ducks, storks and many other birds. Certainly in face of this list it is difficult to love the crocodile, interesting though he is to the naturalist; but we can be quite sure that he serves his purpose in the general balanced scheme of life in the jungle, which would not seem to be quite complete without him.

The last of the numerous inhabitants of the Oudh forests that I propose to mention here is the python, which occurs fairly frequently in the more low-lying areas near the tals and rivers, and, indeed, is often to be seen swimming in deep water, as the two illustrations given on plates xxii and xxiii clearly indicate. All shikaris in India must be familiar with the python, but unfortunately their interest very often goes no further than the desire to obtain a trophy to hang on their walls or a skin to present to their lady friends for making shoes. The result is that less is known about the life-history of these giant constricting snakes—which incidentally differ from the American boas by the presence of an extra bone above the eye—than one would expect in the case of such comparatively common creatures. Undoubtedly pythons capture and eat a considerable number of jungle animals, although since one good meal probably lasts them for several months they cannot be considered as very destructive. When eating their prey they are said to crush the unfortunate victim into the shape of a sausage, and then to swallow it head-first with the help of their powerful recurved teeth. A great deal of saliva is secreted during the swallowing process, presumably to aid digestion and to ease the passage down the "red lane"—if a python's throat is red! Horned animals must offer a good deal of difficulty, but several cases have been recorded of pythons swallowing kakar

stags, horns and all. A cheetal stag must be a much more serious problem, but Dunbar-Brander tells a story of a friend of his who actually came across a case in which a python successfully overcame the difficulty. Apparently, in order to get rid of the horns, the python severed a strip of skin along the back of the neck, leaving it attached to the skull, and by this means tied the head to a small tree. He then revolved the body round and round until the head was twisted off. I have never heard of anyone who has actually seen this done; but pythons almost certainly prey on stags at intervals, and as they obviously cannot swallow large antlers they must adopt some such method of getting rid of them.

It is said that the mother python carefully stacks her eggs into a heap and then, coiling herself around her treasures, incubates them with the help of the heat of her body by a long long wait of three whole months—truly a wonderful case of maternal devotion to duty. Pythons, like most other creatures, have various myths and traditions attached to them. In Hellenistic belief the python was considered to be a spirit which possessed certain people and had the power of prophesying, unknown to the person it was inhabiting, through his mouth. Mr. A. Blayney Percival in his *A Game Ranger on Safari* gives an interesting native story which is said to explain how a python catches its prey. According to this story, the giant serpent, instead of lying coiled up or hidden in a tree, sits on a game trail in such a way that the lower part of his body is concealed while the upper part is coiled into a loop standing upright over the path. The prey is then supposed to walk into this natural snare and be captured by the sudden constriction of the loop!

I have now mentioned just a very few of the animals living in the jungles of Oudh, and have touched very briefly upon some

of the interesting matters connected with their life histories. Many of even the few points I have been able to mention require confirmation by careful observation and study, and there are hundreds of other details of the lives of the creatures of the jungle about which all the naturalists in the world know nothing whatever. May I suggest that an ounce of reliable observation is worth many pounds of skins and horns; that life is dear to every creature of the wild; that more shikaris should try to realise how much greater is the pleasure to be obtained from a study of life in the woods than from the solemn contemplation of mouldering skins or mounted horns on the walls of their rooms.

Chapter 6

RATELS—HEROES OF THE JUNGLE

THOSE of us living in India who are interested in the study of wild animals, particularly those that are sufficiently fortunate to escape being included under the somewhat comprehensive term of "game", are often astonished to find how little is known about many of the less familiar species.

The Indian ratel, which is sometimes called the honey-badger, is a case in point. According to the *Fauna of British India*, this extremely interesting creature occurs throughout the country from the base of the Himalayas to the extreme south, with the exception of the Malabar coast and Lower Bengal, and yet nine sportsmen out of ten have never heard of it, and even those who know the name have usually only the vaguest notion of what sort of an animal it is. Those distinguished observers, Jerdon and Sterndale, pioneers among naturalists in India, record just a little about ratels, mainly based on observations made of the habits of captive animals; but practically the only modern author on Indian animals who mentions them is Dunbar-Brander, and even his knowledge is largely restricted to their behaviour when attacked by his packs of dogs. Even the Bombay Natural History Society, usually so well informed, has to confess that its *Journal* has had nothing to record on the subject.

Yet my personal experience, confined of recent years, I admit, to parts of the United Provinces only, suggests that these little-known animals are by no means uncommon. I have come

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across them personally in Lansdowne and Dehra Dun forest divisions, and a year or so ago I discovered that they are positively common in North Kheri forest division, which is situated in the flat country of Oudh on the borders of Nepal. I have obtained about twenty photographs of ratels during the last two or three years in this division alone, and I estimate that there are about two hundred living in the dense sal forests there. Nevertheless, the local sportsmen have generally never heard of them and will often deny their very existence! Even Kunwar Dillipat Shah of Singahi State, a famous tiger-hunter who has spent most of a long life in this neighbourhood, does not appear to know the animal and tells me that he has never seen one alive. Yet, I repeat, there are large numbers existing in this one forest division alone, and their peculiar tracks, something like elongated bear-tracks in miniature, with very clear impressions of the long claws of the fore-feet, may be found daily on almost every dusty road in the hot weather. It is obvious then, since he is so rarely noticed even where common, that the ratel must be distinctly nocturnal; but even so it is remarkable that he is not more often seen in the glare of the head-lights of motor-cars travelling through the jungles at night. The numerous tracks that are to be seen prove that, like many other wild animals, he is in the habit of making use of man-made roads, and I can only suggest that his ears must be so sharp that he hears motors approaching and moves off the roads before the lights can betray his presence.

Ratels have somewhat the form of badgers, and are about the same size as the familiar "brock" of the English countryside; but they are much more like small bears in gait and appearance, although their scientific classification places them nearer to the mongooses than to either the bears or the badgers. Only two

species are known, the Indian and the African, and there is apparently so little difference between the two that they are probably local races of the same animal. The colouring is very peculiar, the lower parts being deep black—a very unusual colouring in mammals—and the back, sides, and top of the head are a silver grey, with a sharp line of demarcation between the two colourings. In the African species this line of demarcation is accentuated by the presence of a white line between the grey and black areas. This colouring is said by some to be "protective" or "assimilative" in bright moonlight, but there seems to be a decided doubt as to whether this is really the case. Ratels move about almost every night, and allowing for occasions when there are clouds and the changing phases of the moon, clear moonlight nights occur for only about a quarter of the year. Why then should an animal be given a permanent colouring which is suitable for only one-quarter of its life? Further, ratels are extremely courageous animals, which despite their small size have been known to attack men, and they can have but very few enemies. They appear to be omnivorous in their diet, eating rats, birds, insects, honey, vegetable food, and indeed almost anything that is edible, so that special colouring to assist them in hunting or from being hunted appears to be unnecessary. This, and many other observations that one makes in the jungle, causes the field-naturalist to accept with distinct reserve some of the weird and wonderful theories that have been advanced at one time and another on the subject of protective coloration—a subject on which we are as yet very far from a complete understanding.

The Hindustani name for the ratel is *biju*, but the vast majority of Indians who use the term have only the vaguest idea of the animal to which they are referring. I have asked many

inhabitants of the country to tell me exactly what they mean by *biju*, and once only have I had a description which could possibly be applied to the ratel. Sometimes civet-cats of various species are referred to, and often the user of the term means vaguely "some small jungle animal which I have never seen, but which eats human corpses". This accusation of eating corpses is a libel which is widely brought against these animals by people who do not know what a ratel is. So far as I am aware, no reputable naturalist has ever obtained first-hand evidence of such an act on the part of these creatures, which are so omnivorous that they can have little difficulty in obtaining ample food of other kinds. True it is that Dunbar-Brander states in his book that he once gave evidence in a murder-case of this habit of the ratel; but, if I had been the judge, I am afraid that I should have questioned his evidence very closely indeed, for it was almost certainly based on Indian superstition, which by no means always follows facts. Without doubt this indiscriminating feeder pays occasional visits to the carcasses of jungle animals killed by the bigger cats, and perhaps eats a small quantity. I have taken a flashlight photograph of one actually eating the remains of a buffalo killed by a leopard, and Captain Pitman in his very interesting book *A Game Warden among his Charges* says that he once saw one make a good feed from the remains of a hartebeest. It is thus possible that an exceptional ratel may very rarely happen upon a corpse and sample it, but the exhuming and eating of human bodies is most certainly not a habit of this species—as it is of hyænas.

Extraordinary stories come from Africa concerning the marvellous partnership between the African ratel and a small bird called the honey-guide. Apparently the procedure is as follows. A ratel is, let us suppose, resting in his burrow early in the morning

before the sun is too hot. Suddenly from a bush close by comes a shrill chirruping. A silence follows. The chirruping is repeated, and the maker of it, a small brown bird, flutters down and chirrups again at the mouth of the burrow. The ratel's head now appears, and the owner, after one steady glance at the bird, emerges. The bird continues chirruping vigorously, and, fluttering from bush to bush, induces the ratel to follow at a steady confident pace, apparently fully aware of the fact that he is being led to some hive of wild bees which the honey-guide has located. On reaching the hive the ratel at once dashes in, his thick coarse fur and loose skin rendering him quite impervious to the stings of the furious bees, and makes an excellent meal of the luscious honey. The honey-guide waits near by and his share of the feast consists of the grubs which are scattered in all directions during the ratel's gluttonous onslaught. Truly this appears to be a marvellous case of a mutual-benefit society between bird and beast; but never having been to Africa, I cannot vouch for the accuracy of the story. It is even stated that this energetic bird will sometimes try to induce a man to take the place of the four-footed partner when no ratel is to be found. I can only say that, so far as is known, nothing of this sort occurs with the Indian ratel, which is so nocturnal that it is hardly ever seen at all, and birds like the honey-guide are all fast asleep at the time when the ratel is on the move. It is curious that the African ratel, which appears to be so closely allied to the Indian species, should apparently have such different habits, and further observations on the subject would be of great interest.

Several observers have remarked upon the peculiar habit of the ratel of turning somersaults, and specimens in captivity generally attract considerable interest for this reason. I personally

have never been fortunate enough to observe this amusing trick in the wild, although I believe that it can sometimes be seen on moonlight nights. Dunbar-Brander in his book *The Wild Animals of Central India* states that he has seen ratels at night excavating holes in the sand of dry river-beds, every now and then indulging in gambols and rolling head over heels.

All who know the ratel will agree that he is one of the most courageous animals in the world. Captain Pitman in his book makes the following remark: "Among Africa's varied fauna the real hero is the ratel, an animal of outstanding courage and impudence, universally admired and respected by the natives of that continent." Mr. Dunbar-Brander's comment is no less complimentary, for he says, "Considering their size, they are endowed with a courage possessed by no other animal, and they appear to be deeply attached to each other." I personally have had one attack my spaniel with the greatest courage, and I have heard that dak-runners in the Central Provinces jungles are sometimes assaulted by these creatures, which do not seem to know the meaning of fear.

I have tried for several years to locate the homes of these most interesting animals with the hope of obtaining an insight into their family lives, but so far I have been entirely unsuccessful. I know of several pairs which constantly inhabit very limited tracts of forest, where obviously they must live and bring up their families. Yet, try as I will, I cannot find their actual homes. They are supposed to live in holes in banks, or in old termite-hills, but careful examination of hundreds of such places has never yet resulted in the discovery of an occupied den. Once I thought, from the tracks all round, that I had at last found what I was seeking for in a fallen hollow tree-trunk, only to be subsequently

disillusioned when it proved that the tree was merely a temporary stopping-place, possibly used during a passing storm or frequented because it produced good food for wandering ratels. So often have I hunted for dens in holes and hollow trees without success, even though I have known that ratels were actually living near by, that I am beginning to wonder if possibly they do not always make their homes in holes, as is generally thought, but rather are satisfied with a kind of nest constructed on the ground from the dense matted layers of certain jungle grasses which are so common in their habitat.

There is some doubt about the ratel's tree-climbing powers, some observers stating that the Indian ratel does not climb trees and others that he is a good climber. Personally I believe that the ratel certainly can climb trees when he has occasion to do so, and his long powerful bear-like claws, although their primary purpose may be to help in digging, seem to be well adapted to such a purpose. Again his diet in Africa, and also probably in India, includes a considerable amount of honey, and many bees' nests are situated in trees. Incidentally this remarkable animal is specially endowed by Nature with means of protection from the infuriated bees. He has a thick and loose skin, covered with coarse stiff hair above, and with a dense layer of fat beneath. It would be a powerful bee indeed that could drive its sting through these three rows of defences, and the only hope for the bees would be to attack the sensitive nostrils and eyes, for the external ears are so minute as to be hardly noticeable.

I find some interesting information about African ratels in Mr. A. Blayney Percival's book *A Game Ranger on Safari*. Mr. Percival states that, despite stories that he has heard to the contrary, he has no personal knowledge of ratels eating flesh; and

he is of the opinion that they live principally on insects and grubs. In search of these delicacies they make a habit of frequenting the "bath-rooms" of rhinoceroses, which like many other animals, such as the Indian nilgai, make a point of visiting the same spot for the usual daily purpose. It is this fondness for grubs that causes the ratel to be disliked by the Kenya farmers. Mr. Percival relates how he once planted half-an-acre with seed potatoes, carefully placing each potato in a separate hole surrounded by stable manure. A few days later ratels came and dug up every single one in the hope that they might find a few tit-bits embedded in the manure!

Mr. Percival notes that ratels have good climbing powers and that they as it were *walk* up trees, in the way that Indians may so often be seen ascending palms and other trees, by clasping the trunk with the forelegs (or forearms as the case may be) and then setting the hind-feet flat against the bole—a method of climbing which looks so easy when we see others doing it but which it is extremely difficult for the Westerner to emulate. Apparently, African ratels are so fond of climbing trees and poles in search of honey, that the natives of Kenya have to devise all sorts of ingenious schemes for keeping the bees' nests out of their reach. These observations, coming from the source they do, should settle any doubts as to the tree-climbing powers possessed by the ratels of Africa.

Like everyone else who has had experience of ratels, Mr. Percival remarks upon their wonderful courage, and he even states that, if he were to meet one on a narrow path, he would give way to it more readily than he would to a lion! He gives an interesting example of the astonishing pluck of these creatures, which I will now quote in his own words:—

"A friend of mine was out shooting one day when one of his boys encountered a young ratel and stunned it with a blow on the head. My friend, thinking it was dead, proceeded to examine the beast, which was about the size of a big cat. The ratel came to life, and then started in to give them a taste of his quality: he made at once for one of the boys, then for another, making them run: he did not pursue far; he stopped and stood surveying the field of battle, and, if anyone approached, that young ratel forthwith charged boldly at him. Naturally, white man and native grew interested, and made feints of approach to see how often the ratel would make his rush, and how far he would come. When they got tired of baiting him thus he was allowed to retire into some scrub. Then one of the boys shouted a derisive 'Boo!' at him. That was more than a self-respecting ratel could stand, and forth he came again as full of fight as ever, seeming bent on finding out who was guilty of the insult."

I must now leave these most remarkable creatures and the last point concerning them which I wish to mention is the pronunciation of their name, which, like that of many old English surnames, causes a certain amount of difficulty. Sometimes the name is made to rhyme with "cattle", sometimes with "fatal", and sometimes stress is laid on the first syllable to make it rhyme with "cart"; but the correct pronunciation is, I understand, with the stress on the second syllable as "rā-telle". The word is said to be derived from the Cape Dutch, and another word of exactly the same spelling refers to a Persian weight of just over one pound.

Chapter 7

A WINTER'S MORNING IN THE KOHTRI DOON

"Sweet is the breath of morn, her rising sweet,
With charm of earliest birds. . . ."

MILTON.

THE dense white mist of early morning lies like a huge sheet of cotton-wool caught in the elevated mountain-fringed plateau which forms the doon. All around, dimly visible in the all-embracing mist, stretches a dense carpet of fantastically tall grass, festooned with the glittering white brilliants of a thick deposit of hoar-frost; while vaguely here and there can be seen the phantom outlines of the surrounding hills, the apparent height of which is greatly magnified by their soft enveloping mantle. At intervals stands a bare shisham tree, which has already dropped its leaves rather than wait until Jack Frost shall nip them off; but the hardy sal trees are less wise, or perhaps one might say, more brave. In front, bordering the edge of the mountain stream which drains the water from the doon down to the plains below, lies a thick belt of trees shaped like the familiar Lombardy poplars of Europe. Their numerous short branches are covered with dark glossy green leaves, whereas from their crowns stand up, cold and naked in the mist, a number of bare dead limbs which vividly suggest the antlers of a stag. The leaves near the base have recently turned a rich brown for a few feet above the ground, showing the height to which their enemy has already risen this year, and the antler-like crowns indicate that,

a year or two previously, the trees were entirely enveloped in the annual frost-belt. Yet these sal trees, which are truly more at home in a warm damp climate like that of Bengal, still struggle on and show a wonderful example of Nature's persistence against overwhelming odds—an example which we human beings might emulate with advantage to ourselves.

The continuous song of the rippling stream now catches the ear with its sweet melody, and so clear is the intensely cold water, with the mist eddying and swirling like smoke above it, that every stone lying on the bottom stands out sharply defined from its neighbours. On this bitter winter's morning the mahseer, for which the stream is famous, are not visible; they dislike the cold and are now lying dormant on the sandy bottoms of the deepest pools. A Himalayan whistling-thrush, sometimes known as "the whistling school-boy" and very like an English blackbird dressed up in a coat of dark purple, is already on the move. It is not yet the mating season, and his wild melodious whistle, so wonderfully suggestive of the glorious freedom of Nature's mountain fastnesses, is for the moment stilled; but he evidently believes in the old maxim of the early bird catching the worm, for he is the only sign of the abundant wild life as yet to be seen, beyond the fresh otter-tracks on the belt of sand at the edge of the water.

The sun is by now rising above the high hill to the east, but it has not yet penetrated through the dense blanket of mist and appears only every now and then as a yellow ball of light, hanging in a fluffy white curtain which eddies to and fro with the gentle morning breeze. Faintly from the top of the hill comes the moaning roar of a tiger, who has gone to bask in the warmth of the sun after his cold night's hunting in the dew-soaked forests of the doon below; whereas, away to the south, the shrill piercing

cries of cheetal suddenly ring out in intermittent bursts as they catch fleeting glimpses of one of their bitter enemies—the family of leopards which, a constant menace, has lived in comfort for many years in their chosen domain. The leopard, who is the father of the family, is not, however, interested in the cheetal at the moment, for he is padding silently along a man-made path fully occupied with some business of his own and soon passes out of sight—and out of mind so far as the cheetal are concerned, for an all-merciful Nature has endowed them with short memories, without which their lives would be passed in perpetual fear and trembling.

At last the sun, as though tired of dallying with the fog, bursts through with unexpected strength, and almost at once the glittering fairyland of hoar-frost changes its form to another that is, if possible, even more beautiful. For the giant grasses become covered with large drops of water, which, catching the early morning radiance of the sun, shine back its brilliance as though it were from a thousand diamonds hanging in the air. Then comes a slight stirring of the breeze and the dew-bespangled spiders'-webs, which stand out here and there glittering like miniature baskets of jewels, shiver and shake as they scatter their gems to the ground beneath them. Surely Browning, that great lover of mountain scenery, must have been captivated by some such scene, viewed after a storm, when he wrote those beautiful lines—

"*But morning's laugh sets all the crags alight*
Above the baffled tempest: tree and tree
Stir themselves from the stupor of the night,
And the strangled branch resumes its right
To breath, shakes loose dark's clinging dregs, waves free
In dripping glory."

The mist is now rapidly dispersing, and man and beast and bird alike emerge into the grateful warming rays of the sun—terror of the Indian summer, but a source of great comfort after the damp cold winter nights of this forest-clad doon.

The jungle workmen, whose business it is to cut and remove the valuable timber and bamboos for sale in distant markets, now begin their day's labour, and always, as is the custom of the East, to the accompaniment of much noise and shouting. From a neighbouring hillside comes the grating screech of a saw, soon to be drowned by the shouts of the owners of the buffaloes which are dragging heavy loads of bamboos down the rough jungle road to the plains below. The red roof of the little forest rest house, built many years ago on the edge of the doon, is giving off a cloud of vapour as it dries in the morning sun; and the brown monkeys, which, until now, have been huddled together in the trees in great round furry balls, with a few legs and arms entwined to keep them together, start to disentangle themselves. The younger members of the party, ever ready for fun, immediately begin chasing one another helter-skelter through the trees in the eager rush for the daintiest morsel for breakfast, whereas the older monkeys perch themselves in the full sunlight and begin the day well by vigorously scratching to remove any undesirable company they may have collected during the night.

The morning is now perfect; the sky is intensely blue and its wonderful colouring is accentuated by the presence of great billowy clouds, which can just be seen above the further hills. A few dots are visible circling round and round in the pure air above, as though to serve as reminders that all is not quite so peaceful as it appears. The vultures are hoping, perchance, to espy some wretched dragging-buffalo which has been struck down by the

ever-present cattle disease, or, over-worked in the cruelly hard labour of dragging heavy timber over rough jungle roads, has fallen by the wayside to pass away lingeringly, but perhaps with little regret, from a world where its lot has been so hard. Myriads of tiny birds are twittering and darting among the grass and leaves, and then a cock kalej, that fine pheasant of the Himalayan foot-hills, gives a sharp hiss of alarm, and flying up to the branch of a tree gazes down with many cries of abuse to the grass below, where a graceful form, very like a leopard in miniature, is to be seen carefully approaching. A pause: the muscles are suddenly braced tense, and then, just as the leopard-cat is about to spring, the kalej's soberly-dressed mate realises her danger in time, and with a hurried flutter of wings flies up to join her husband in safety in the tree. The beautiful but ferocious cat, baulked of its prey, stalks carefully on, for it must catch its breakfast or starve; then, its wonderfully developed senses sounding a warning of some strange presence, it slips quietly away among the quivering grass stems and is lost to view.

Away across the plain the shouts of men are still to be heard, and every now and then comes a terrific heart-rending crash as some splendid tree which has stood for hundreds of years through storm and fire, frost and flood, is hacked mercilessly down to meet the ever-increasing demand for timber to supply the needs of India's millions. Timber is a vital necessity to mankind and we must all bow to the inevitable, but no forester who loves his jungles can view with any feeling but deep regret the ultimate sacrifice of the trees which he has watched over with such care, and which to him are friends and companions in his beloved forests. These sounds of human activity, with its constant strife and everlasting searching after money which brings no happiness even when



" The mother pig frequently lifts her head "

secured, jar upon the senses in such surroundings. This is a world of Nature: of beasts and birds and trees, where men are intruders —temporarily, it is true, since they remain only some five or six months in the year, but none the less intruders in a jungle where normally all is peace, disturbed only by the occasional arrival of some carnivorous creature. The family of wild pigs, rootling vigorously among the stems of the grass for food, seem fully aware of this possibility and are constantly on the alert. The babies are almost hidden amongst the grass, but the mother, who depends upon her well-developed senses of sight and hearing for protection from the risk of an attack by a wandering tiger or leopard, frequently lifts her head and cocks her ears to make certain that all is well in this bright sunny spot, where her babies are enjoying such a good meal.

Suddenly there comes a clattering of stones from the dry torrent-bed running down from the steep mountain behind, and the pigs, taking no risks, scatter immediately into the comparative safety of the dense grass. Certainly in the jungle "He who hesitates is lost," but these pigs need not have been so precipitate in their retreat, for the noise has been caused by a young sambar stag followed by two hinds, which are passing across the slope on their way to some favourite retreat high up on the mountain-side. The hinds pause for a moment, the one brilliantly illuminated by a slanting beam of sunlight, the other, a little way ahead, hardly visible in the deep shade. Standing on the wooded slope in this way they form a striking picture of the jungle as it really is—a contrast of vivid sunlight and dark shadow, of care-free happiness and fear, for fear does occasionally enter into the lives of most of the denizens of the wild, even though it usually lasts for but a very short time and is soon forgotten. On this occasion, however,

all is well, and the hinds soon follow their lord and master. A few minutes later the party of three, good climbers that they are, reach a prominent ridge thickly covered with the long wiry *bhabar* grass which is in such demand by the great paper-mills of Calcutta. Settling down comfortably on their soft beds of grass they gaze carefully around in all directions to make quite certain that neither man nor beast can approach unseen, and then compose themselves for their daily rest. To one side of them is a very steep gully, difficult of approach and densely covered with scrub. A slight opening is to be seen among this scrub, and there, standing quite motionless in the full sunlight, is a solitary serow—that shy hermit who is so rarely shot and whose very presence is barely suspected by the death-dealing shooting-parties which frequently visit these tiger-haunted jungles. The sambar glance carelessly in the direction of the weird donkey-like creature, perhaps wondering why he stands so still for such a long time, or why he is so fond of his own secluded retreat from which he has rarely strayed during the lifetime which he has spent there. His curious long hair and short curved horns are certainly unusual; but all that concerns the sambar is their own safety, so their glances soon pass to the open doon below, which they will visit once more when the sun again sinks behind the hills and the landscape slowly fades away into the darkness and the hush of night.

Chapter 8

WHAT IS THE USE OF LEOPARDS?

"Nature hath made nothing so base but can
Read some instruction to the wisest man."

ALEYN.

A QUESTION often put to the naturalist and student of wild life is: " What is the use of creatures like the leopard, the scorpion, the cobra, or the malarious mosquito: what is their place in the general scheme of life and would not the world be a much better place if they did not exist?" Such a conundrum is not easy to answer, for many complicated factors are involved, including the questioner's religious beliefs as to the respective influences of creation and evolution in the formation of wild life as we see it to-day. In any case, hard though it may be to convince the man who has just been stung by a scorpion; or whose dog was taken yesterday by a leopard, there can be little doubt but that every living creature has some definite place in the general scheme of life on this earth. The inter-relationship between animal and animal, or the "balance of nature" as it is termed by naturalists, is the guiding principle upon which the whole scheme of life is built up, and it is perhaps the most marvellous organisation that it is possible to imagine. The numbers of each kind of animal must be kept within reasonable limits, and Nature does this by limiting the food supply, by providing most animals with others which prey upon them, by variations in the rate of breeding, and by means of epidemic

diseases when other methods have failed. I have been ridiculed by reviewers and others for standing up for tigers, but it is possible that the man who cannot see the use of creatures like the great carnivores and scorpions, if he thinks at all, may come to realise that perhaps he is a little short-sighted, and is considering mankind only, forgetting that there are myraids of other creatures which are also fellow-inhabitants of this earth.

Suppose we consider cobras first. Now rats, since they carry plague, which is possibly man's most dreaded disease, as well as destroying enormous quantities of the cereals which provide the chief food of mankind and other creatures, are really far more serious enemies than cobras; and the chief food of cobras is rats. In other words, the cobra's place in the balance of nature is to act as a check on the undue increase of rats, not necessarily so that man alone shall benefit, but because, in the general interest, the number of rats must be kept within bounds. True it is that this terrifying snake sometimes kills man as well, in self-defence, but that is not his normal function and provided one keeps well out of his way it is possible to look upon even the dreaded cobra as a friend of man. The same argument can be applied to the scorpion, which preys upon certain types of insects whose numbers might otherwise become excessive. The venom in his sting is there to enable him to do this effectively, and, however unfortunate it may be that this venom is extremely painful when injected—in self-defence only be it noted—into one's body, it is not quite fair to claim that the scorpion serves no purpose.

The malarious mosquito is a more difficult creature to justify. Some regard it in the light of one of the curses cast upon the world consequent upon the expulsion of Adam and Eve from the Garden of Eden; or another school of thought will hold that the food-

supply of mankind is distinctly limited, in the same way as that of other animals, and some check must be put upon an excessive increase in his numbers or there would soon be insufficient food to go round. Actually medical science is making such rapid strides that it is possible even now to imagine the day when the population of the earth may exceed the limits of the food-supply, and one dreads to contemplate what must happen should that terrible calamity ever befall mankind. Those of us who believe in the balance of nature, however, doubt whether the human population of the earth will ever increase to such an extent, for Nature has her own ways of dealing with excessive numbers of any particular species. Giant earthquakes are always a possibility ; new epidemic diseases such as the terrible influenza plague of 1919 may spring upon us at any time; the rate of breeding tends to decrease as food and employment become scarcer; and in any case the abolition of war and such Utopian ideas would soon disappear should men's stomachs remain empty.

So much for other creatures: now let us see if we can justify the existence of the leopard, or panther as he is more commonly called in India. Some people—sportsmen these—claim that the leopard was specially created in order to provide the exile with good sport; others state that such a marvellously beautiful creature requires no justification for its existence; another class of thinkers vehemently uphold the idea that the leopard, like the tiger, is an anachronism which should be wiped out at the very earliest opportunity. But the real facts are that the leopard is a very important unit in the general scheme of animal life in India. Deer and wild pigs are extremely prolific and voracious animals which, if allowed to breed and increase without any check, would soon become so numerous that they would consume all the available food inside

the forests they at present mainly inhabit. When this food had become exhausted they would scatter in all directions, and would thus become a very serious menace to the vegetable and cereal food supply of man and other creatures. No: Nature knows better than that, so she arranges a balance between the Ungulates and the Carnivora which works in an astonishingly efficient manner. A concrete example will make the position clearer. There is a certain forest division in the foot-hills of the United Provinces, with which the writer is intimately acquainted. The area of this tract of forest is about three hundred square miles, and there are usually roughly about fifty tigers and fifty leopards permanently in residence. It is a safe estimate to say that each of these leopards and tigers kills at least one deer a week, or fifty in the year. Hence the tigers and leopards check the increase in the deer population in this small forest alone to the extent of five thousand annually! Now, supposing the tigers and leopards were all to be removed, what would happen? Inevitably, in a very short time, the deer would increase beyond the food supply. Many would scatter elsewhere and the remainder, enfeebled by insufficient food, would in all probability be attacked by rinderpest until the numbers were again reduced to normal. In the meantime, other wandering tigers and leopards, finding plenty of food and no rivals, would settle down in comfort and breed rapidly until the normal balance was once more restored.

In India sportsmen are constantly shooting the carnivora, and, considering the extreme efficiency of modern firearms and the great facilities afforded by the advent of the motor car, it is remarkable that they have managed to keep up their numbers; although tigers are undoubtedly less common than they were, say, a century ago. Hence many forest officers are of the opinion

that it is high time that the greater carnivora were afforded some measure of protection, if the normal balance of nature is not to be seriously upset.

Now let us take the case of ungulates and carnivora in places where man has not appeared to interfere with the normal working of Nature's rules. At first sight it would appear that the carnivora, having no enemies, must breed so rapidly and increase to such an extent as to eat out their own food supply, and thereby destroy their own means of existence. Yet in actual fact this does not happen, as has been observed many times by explorers penetrating into wild and lonely parts of Africa. These explorers have found places totally uninhabited by man where the relative numbers of lions and ungulates always seem to be correctly adjusted, and it is difficult to explain how this is done. Probably Nature arranges that the lions breed more slowly when they suffer no casualties, and certainly the larger and more powerful males drive others away from their hunting grounds as soon as they find that there are too many of their tribe in the neighbourhood.

Times without number has man interfered with the normal balance of nature with disastrous results, and the commonest way that this has been done is by introducing some animal into another country where its normal check may be absent. The classic example is of course the introduction of rabbits into Australia, where they have been an unmitigated nuisance ever since. In one case—in New Zealand I think it was—an effort was made to get rid of the rabbits again by introducing stoats and weasels; but unfortunately these animals themselves increased very rapidly, and instead of eating the rabbits, turned their attention to defenceless indigenous birds, such as kiwis and ground-parrots, some of which are now on the verge of extinction!

India has so far escaped the evil results following upon the admission of exotic animals, which luckily has never been permitted upon a large scale, but she is suffering severely from the introduction of foreign plants, which, having no competitors, have in some cases increased to an appalling extent. The two best-known examples are the water-hyacinth in Bengal and the *lantana* shrub in the United Provinces (Haldwani), both of which were originally introduced by misguided individuals as ornamental plants. The water-hyacinth in Bengal has become a provincial problem and has very seriously interfered with navigation upon the numerous waterways of that low-lying country, vast sums having to be spent annually in unsuccessful attempts to check its further spread. The *lantana* also is rapidly spreading over some of the forests of Upper India and is totally preventing the regeneration of the valuable tree species under which it forms such a dense undergrowth.

Enough has been said to show that, so far as we know, every creature has its definite place in Nature's great balanced scheme of wild life, and even the leopard, despite his numerous detractors, has ample justification for his existence. What else can be said in his favour? He is certainly not a popular inhabitant of the jungle, where so far as we can judge he is even more feared and disliked than the larger and more renowned tiger. This is possibly because he is perhaps even more destructive, for he often kills an animal like a cheetal, makes one meal, and then abandons the carcass. The tiger, on the other hand, provided he is not disturbed, generally completely consumes the whole of every animal he kills, and thus is not quite so distrusted by the jungle population, particularly the monkeys, who never feel safe from leopards morning, noon, or night. I remember one occasion, late in the

afternoon, when I followed a leopard down a jungle path for a mile or two. I was mounted on an elephant and maintained a constant distance of about one hundred yards, the leopard remaining totally unaware of my presence. Every fifty yards or so some sambar, or kakar, or monkey saw the dreaded feline calmly strolling down the path and the chorus of abuse which followed the leopard's movements vividly reminded me of the shouts of "Simon, go back," which were such a familiar accompaniment to the progress of the Simon Commission in India. The leopard, like Sir John Simon, realised that the only thing to do was to maintain a calm demeanour and to continue his progress unperturbed; but the inhabitants of the jungle were wiser than the non-co-operators, for once the object of their hate had passed out of their sight they promptly forgot all about him and continued their happy life without brooding upon their supposed wrongs, or longing for a swaraj of the jungle where all from the cheetal to the leopard, from the kakar to the tiger, should stand on an equal footing and have equal rights!

No: the leopard is certainly no more popular in the Indian jungle than is the policeman in the Indian village, but he is there for the definite reason that, unless deer, pigs and monkeys can be taught the principles of birth-control, some check must be put upon their unlimited increase if the jungle is to continue to be able to support them all. And the leopard, like the Indian policeman, has some very fine qualities. He is generally courageous to a degree, and his physical fitness would put the ordinary human athlete to shame. Further, he can climb trees with the greatest ease; he has marvellous patience when hunting; he can live for days at a stretch without water; and he can conceal himself, thanks largely to the extremely useful spotted coat with which a kindly

Nature has endowed him, in a way which is the constant envy of the human hunter, scout or soldier. In addition the mother leopardess shows great devotion to her cubs, for whom she will fight till the last gasp, and the whole leopard race would take a very high place in a beauty competition for animals.

To counteract this long list of qualities there must be, obviously, corresponding vices, but at least it can be claimed that the latter list is shorter. Undoubtedly leopards are unnecessarily destructive on occasions, and cases have been known of a leopard entering a goat-pen and killing the whole of the thirty or forty animals which it contained. The leopard is also less scientific in his killing than the tiger, so that he sometimes inflicts more pain in the process than is necessary; although it goes without saying that he does not do this with the object of being deliberately cruel, for it is my firm belief that man alone practises the debased vice of cruelty for cruelty's sake. From man's point of view, also, the leopard has his bad qualities. He is particularly fond of dog-flesh, and many are the loyal and trusted canine friends of man which have ended their career in the stomach of a prowling leopard. Again some leopards, generally of a lazy and debased type, discover that in preference to the comparatively hard work of stalking alert wild animals it is much easier to catch and devour the numerous cattle which are so carelessly left about in the neighbourhood of Indian villages. They undoubtedly do a good deal of harm in this way, although the fault is not entirely theirs but often lies at the door of those cattle-owners who place temptation in the way by carelessly leaving their cattle unattended at night, in places where they know perfectly well there is considerable risk from a wandering leopard. But perhaps the Hindu villager is not always quite so careless with his cattle as he seems to be. Like the farmer

throughout the world he would not be happy without his "grouse", and he really kills two birds with one stone when he leaves his old, worn-out and useless cattle where they are likely to be killed by tigers or leopards. He provides himself with a very comforting source of complaint and at the same time gets rid of the useless beasts which his religion prevents him from destroying with his own hand. It is even whispered that some of the Buddhists of Burma are distinctly fond of meat, but cannot obtain it because the taking of life is forbidden by the teaching of the great Lord Buddha. Suppose an old cow were to stray into a jungle where a leopard might be lurking. The cow is, perhaps, struck down and the indignant owner arrives just too late to save its life, but not too late to prevent the leopard from enjoying the meat. Well, the poor cow is dead, and the owner's conscience is quite free—he hasn't taken life! But why leave good food to be eaten by such sinful creatures as leopards? why waste what is really his own property? No: those of us who have some glimmering of the inner workings of the Eastern mind do not place very much value upon the statistics of cattle killed by wild animals when used to try to prove that leopards are so terribly destructive that they ought to be wiped off the face of the earth.

Then there are the fatal accidents which frequently occur when men hunt leopards for the sake of sport. Well, few sports appeal to the true sportsman unless they require considerable skill or entail a certain amount of risk, and the hunted leopard cannot be blamed for putting up the best show he can. After all, the hunter is armed with a marvellous rifle with which, provided he has sufficient skill in its use and the necessary knowledge of woodcraft, he can kill the leopard long before the latter can approach sufficiently near to make use of the close-contact weapons of teeth

and claws which are all that Nature has given him. If the hunter makes a mess of things and wastes the tremendous advantages he has—well, it is undoubtedly very sad, but the leopard is fighting for his life in an unequal contest, and it is only fair that he should occasionally turn the tables and kill the man, who is trying to kill him often for the sake of pleasure alone.

Lastly, there is the leopard man-eater, who from man's point of view is a terrible foe capable of paralysing a whole country-side, and, moreover, owing to his exceptional cunning, one often extremely difficult to bring to book. Man is not the normal food of leopards, and the man-eating leopard is therefore an abnormality without a word to be said in his favour. Probably not one leopard in ten thousand, however, develops into a man-eater, and the average representative of the race is, as I have attempted to show here, an animal with many good qualities and full of interest to the sportsman and naturalist. May the day be far distant—as it undoubtedly will be—when the name of the leopard will have to be added to the long list of wild animals that have been exterminated by the hand of man.

Chapter 9

DROUGHT IN THE JUNGLE

"Of sapphire are the skies, but when men cry
Famished, no drops they give."
"The Light of Asia."

NOON has passed some hours ago and the heat is now reaching its dreadful climax in the middle of the afternoon. A dull haze envelops the whole jungle and the surrounding hills are but vaguely outlined against the sky, which, as though feeling in disgrace for having failed to produce one single drop of rain for a period of months, has now turned a dirty yellow colour—sullen and menacing. The previous monsoon has been a failure; the winter rains, which might have helped so much, were a bitter disappointment; the hot weather storms—the last hope—are still awaited. The inevitable result of such a shortage of the life-giving rain is that drought, cholera and famine, that dread trio, are now stalking forth, arm in arm, to take their fearful toll from man and beast, bird and fish, tree and plant alike. The trees have already dropped most of their leaves, in their valiant effort to save their lives by stopping transpiration of the little moisture which their far-spreading roots can suck up from the parched ground. The green grass, which should have sprung up after the winter-burning of the low-lying grassy areas, has completely failed, and the hordes of half-famished cattle and herbivorous jungle animals are wandering aimlessly from place

to place in their forlorn search for the food which practically does not exist.

The cattle, many of which have been brought from the famine-stricken village lands on the edge of the forest, present a terrible picture. Every rib stands sharply out from the tightly-drawn discoloured skin, the quarters are deeply sunken, the eyes staring, and many a miserable beast already carries the unmistakable hall-mark of approaching death on its drawn and haggard face. The wild animals' plight, though bad, is perhaps not quite so serious as in the case of the cattle, for Nature's wild creatures are at all times far healthier and stronger than the domestic animals of man. Also a dweller in the wilds, born and bred in the jungle, has much more experience in obtaining food when food is scarce than the miserable over-worked and under-fed cattle of the Indian villager. The scavenging and carnivorous animals, on the other hand, although also troubled by the scarcity of water, are now waxing fat on the trials of their neighbours, just as the war profiteer grows bloated at the expense of his country and countrymen during times of stress. The tigers and leopards have little difficulty in obtaining more food than they can eat, for the deer and cattle are too weak to look after themselves properly, and are forced to drink at one or another of the very few remaining pools of water, even though they know that death in feline form is probably awaiting them there. As for the hyænas, foul but necessary scavengers that they are, they now feel that "Der Tag" has indeed come at last for them, and their hideous forms are to be seen everywhere each evening as they set out on their nightly bouts of gluttony. Even the very expression of their faces seems to have changed, if one may judge by the leering grin of one which passed near the camp the previous night—a grin which seemed to say, "Ah: now

it is my turn. I, the despised outcast, am coming into my own at last!"

The birds also, except those again that prey on their lesser neighbours, are not their usual bright and happy selves. Many are now sitting about dejectedly in the stifling heat, with their beaks wide open in the vain effort to lessen the dryness of their throats. Here a crow, that impertinent and ubiquitous villain of the East, squats with his head thrown back and mouth gaping like an Indian sepoy waiting to receive his dose of liquid quinine on a sick-parade. There a magpie-robin, which at this season of the year usually sings happily to his mate as she sits comfortably on her nest in a neighbouring tree. True, following Nature's imperious call to reproduce their species, the nest is there and the faithful housewife is doing her duty nobly; but the insects which make up their food have nearly all died in the drought, and unless the long-delayed rain should come in time the parents will be very hard put to find sufficient nourishment for the four or five voracious youngsters which will presently occupy the nest and clamour for food from morning till night.

Not far from the magpie-robin's nest, and at the mouth of a gorge leading up to the foot-hills, simmers in the heat a timber camp where the contractors who are working within this area have collected their produce, preparatory to taking it away in bullock-carts to the nearest railway station some twenty-five miles away. Sawn scantlings and sleepers of pine and sal, toon and laurel-wood, are scattered about all over the place, while here and there men and dragging-buffaloes are lying down and making the most of what little shelter they can find from the scorching rays of the afternoon sun.

A deep hush lies over all, and the only sound to be heard is

the creaking of the punkah in the forest rest-house at the edge of the *parao*. Even this sound is not continuous, for the punkah sways but erratically to and fro in response to the dreamy efforts of the punkah-puller, who naturally feels that it is indeed hard that he alone should have to work while everyone else is resting. A short distance in front of the rest-house is a small pool of water, where the tiny hill-stream, one of the very few that have not yet dried up, makes its last farewell before disappearing underground to be lost in the enormous bed of boulders which for untold ages have rolled down the hills, and now compose the bone-dry sub-soil formation of the *bhabar* tract. It is this pool of water that makes the place still habitable for man and beast and bird, and continuously, all day and all night, a constant stream of thirsty creatures appears from all directions to drink of the life-giving fluid. At the moment, the men and domestic animals are all dozing and the turn of the birds and more daring wild animals has come. A large party of langoors, seemingly quite indifferent to the blazing sun, are sitting about in the stony stream-bed, and one or two are bending down in a most ungainly manner to lap up the tepid water, which has been stewing in the sun all day long. A jackal, fat and lazy as the result of the Gargantuan feasts he has had during the last few weeks, is just sneaking back to the fœtid carcass of a bullock which died of famine a few days ago. In a tree above the pool is a party of Paradise fly-catchers, and what a vivid contrast there is between the almost unearthly beauty of the cock bird, with his snowy-white livery, black crest, and long white tail, and the repulsive sneaking appearance of the departing jackal. Surely one might mistake the one for a wanderer from Heaven and the other as one of Satan's minions, waxing fat on the present troubles of other creatures. If this were truly the

case, however, the former would certainly find the Earth, in its present famine-stricken and sun-scorched state, a very poor substitute for the lush gardens of Paradise.

Presently a stir arises among the drowsy human beings in the camp, for word passes round that a *musth* wild elephant, driven almost mad by a combination of his temporary functional derangement and the lack of sufficient water, is advancing through the jungle towards the pool and must pass right through the stacks of timber to reach his objective. A *musth* elephant is a creature that is treated at all times with the greatest respect by everyone from the mighty tiger downwards, and a *musth* elephant that is also suffering from heat and thirst may only too easily become a murderer on the slightest provocation. Once the dread news is out there comes a sudden stampede, as everyone flees to leave the thirst-racked creature a clear path to the water which he must and will have, for he, a lover of the night and the cool depths of the jungle, must be in desperate straits indeed to have ventured out in the open blazing sun in the middle of such an afternoon. Then once more the hush falls—this time a hush pregnant with the possibility of coming events. Even so, one or two of the human inhabitants of the *parao*, more daring than their fellows, hide themselves among the bushes in the line of approach of the elephant and nervously wait to watch his arrival.

For a short time absolute silence reigns; then comes a crackling of dry leaves and branches. Once again all is still and it seems that he must have stopped. But no: he suddenly comes into view and—what a splendid sight he is! A magnificent *makna*, fully ten feet in height at the shoulder, striding slowly along with stately majestic tread, he looks the veritable giant among wild elephants that he is. His head is held very high; he appears to tower among

the neighbouring trees; his whole appearance is suggestive of utter contempt of any lesser creature that may dare to block his path. The dark *musth* discharge on his cheek is still clearly visible, but he is evidently nearing the end of his functional derangement; his whole body is drawn and emaciated, partly as a result of his condition and partly from lack of water and sufficient food; his eye is sunken and angry; and although he is evidently not in a bloodthirsty mood, woe betide any creature that dares to check his progress. And woe betide the puny human photographer who, ready to flee at a moment's notice, timorously stands in his path, risking more than he cares to think about in his effort to secure a portrait of this splendid creature. But all is well; the elephant moves steadily forward, scorning even to glance at the photographer, who quietly steps to one side the moment he has made his picture, deeply thankful that he has been ignored. As the *makna* passes, the quaking spectator wonders how many scores of years have passed over that stately head; how often has this huge creature seen the jungle stricken with drought and famine like the present; how many times has he visited this life-giving pool of water in similar circumstances?

By now the elephant has reached the timber *parao*, which may check his progress or cause his slumbering temper to arise. But no! He pauses not for a moment, nor does he deflect a yard to the right or left. Straight through the *parao* among the cut timber he advances, seemingly unconscious of the cowering workmen who are lying concealed here and there among the logs, and now at last he is within sight of the water which has drawn him here at this unusual hour. A man on such an occasion would rush the last few yards and eagerly lap up the precious fluid, but this jungle monarch shows not the slightest sign of eagerness or

excitement. On he goes at exactly the same pace, advancing like inexorable Fate, until at last he has reached the pool and his greatly needed drink and bath are at hand. Even now he does not hurry, but pushes the end of his trunk gently into the water, carefully washes it out, and then, with one sharp intake of breath, draws up two or three bucketfuls of the tepid liquid. He then lifts up his trunk to squirt the water over his heated body, and one can feel with him the intense satisfaction that he obtains as the water trickles down his enormous flanks, and washes away the dust and dirt which have collected on his body during his tiring journey to the pool. Again and again he draws up trunkfuls of water, sometimes squirting it right up in the air so that it falls over him like a shower-bath, sometimes shooting it right down into his soft fleshy mouth, and sometimes swishing it over those muscular legs which must have carried his great frame tens of thousands of miles during the century or more that he has spent in these forests. Once or twice he pushes the end of his trunk further than usual down his throat and then vibrates his body in a most astonishing manner, as though he were trying to force the water to the very extremities of his parched and emaciated frame.

In the meantime the human refugees, realising at last that this elephant is far too absorbed in his enjoyment of the water to pay any attention to them, gradually creep nearer to watch the unusual scene. First one and then another of the jungle workmen and camp servants collect on the edge of the stream-bed some fifty yards away, until at last two score or more spectators are there, even including the forest officer's little four-year-old daughter, who, in her short life, has already had fine views of a tiger and a leopard, to which is now added the almost unique picture of a *musth* wild elephant bathing in broad daylight only a few yards

distant from a forest-camp. The spectators finally lose all fear, and, squatting about quite openly all over the place, freely comment on the elephant's figure and manner of bathing, as though they were watching some performance in a circus. Yet even now, although the human voice is usually anathema to a wild elephant, this monarch of the jungle pays not the slightest attention, but remains entirely absorbed in his own occupation. Perhaps he regards human beings with the contempt which many of them deserve and does not even notice their existence, or maybe his mind and intelligence are befogged as the result of his affliction, combined with the parching thirst which may have been racking his body for days past.

In any case he remains for perhaps fifteen minutes longer and then he turns, satisfied at last, although still not deigning even to glance in the direction of his audience, and strides off at exactly the same even steady pace that marked his arrival. As he leaves the open river-bed to reach the tree jungle he passes over some soft sand, where he leaves clear footprints five feet one inch in circumference. Twice the circumference of an elephant's fore-foot gives the height at the shoulder almost to an inch, so that he thereby proves that, even though he has no tusks, he is over ten feet in height, and, as regards size at any rate, fully deserves his claim—as testified by his magnificent appearance and bearing—to be a veritable monarch among the numerous inhabitants of these famous jungles.

Chapter 10

INDIAN WILD CATS

"What right have you, O passer-by-the-way, to call any flower a weed? Do you know its merits, its virtues, its healing qualities? Because a thing is common, shall you despise it? If so, you might despise the sunshine for the same reason."

THE above appears to me to be an apt quotation with which to begin a discussion on some of the commoner and less striking wild cats of India, for there are people who may ask what there is concerning insignificant jungle cats that I must go and pad up a book with petty details of no interest to anybody. I can only answer that the interest in a wild animal is not solely confined to its rarity, or its ferocity, or its size. All living wild creatures are interesting and I do not find the common jungle-cat, or the even commoner brown monkey or jackal, less so because there happen to be so many of their race to be seen in India. Who, for instance, has been able to explain why the jackal should make such appalling noises at night except the Hindu believer in the transmigration of souls?—and truly those unfortunate souls that find their resting-places in the bodies of jackals must be completely and unutterably damned, if one can judge from the cries of seeming agony and torture that they utter every night. But, O non-Hindu, can you explain what ails an animal which, although presumably suffering from no fundamental tragedy rendering him unhappy from the day of his birth, must yet con-

tinue, like the devil at the head of his legion of damned souls, to howl and lament throughout the so-called silent watches of the night?

But I must return to the subject of this chapter. When considering the Cat family in the Indian jungles, one's mind naturally reverts to the famous tiger, and the commoner though equally renowned leopard, and one tends to forget that there are numerous smaller and less conspicuous members of the family present in almost every jungle, whether it contains a tiger or a leopard or not.

The scientific definition of what constitutes a "cat" and what does not, or to be more precise, which species of carnivorous animals can be included in the family Felidæ and which cannot, would be somewhat too technical for a book of this description, but the chief characteristic of a cat is the possession of retractile claws. Blandford in his Indian *Mammalia* enumerates sixteen species of the genus *Felis* as inhabiting the Indian Empire, and one species only, the hunting-leopard, which has only partially retractile claws, as the single representative of another genus *Cynælurus*. This gives seventeen species of cats as occurring in our forests, the so-called civet-cats not being true members of the family; but subsequent re-classification by the modern school of zoologists has divided this number up into many more species, sub-species, and local races. It will come as rather a shock to some to hear that the old name of *Felis tigris* for the tiger has recently been abandoned in favour of the unusual and more pretentious pseudonym of *Panthera tigris tigris*. The old generic name of *Felis* is apparently now to be restricted to the domestic cat (*Felis domestica*) and its near wild allies, whereas the larger cats such as the lion, tiger, jaguar, leopard and others, owing to some slight differences in those bones of the skull which are con-

nected with the organs of voice, are separated out into another genus which is called *Panthera*. Truly some—or, to be quite fair, a very few—of the learned gentlemen who spend their lives within the four walls of a museum and have often never seen any of the wild creatures, except in zoos or as skins, about which they write so much, seem to be somewhat hard put to find sufficient occupation for passing their valuable time! One would have thought that there were quite enough genuine species of living creatures in the world without these excessive and constant hair-splittings on doubtful characters. Nearly all animals and birds now bear three scientific names each, and one begins to wonder when they will reach the four or five appellations apiece which some poor human beings are burdened with at the time of their christening and which they curse every time they have to write their signatures later on in life!

Among the lesser cats that occur in the Indian jungles are the snow-leopard, which is found only in the high mountains; the beautiful clouded-leopard, which is nowhere a common animal but which occurs sparingly in the Eastern Himalayas, Burma, Siam, and the Malay Peninsula; the lynx, which again is restricted to the high mountains; the caracal, which occurs very occasionally throughout most of India (one was shot in Dehra Dun in 1932); and a good many species of smaller cats, of which normally two only will be met with by the ordinary sportsman in the jungles. These are the common jungle-cat (*Felis chaus*), to revert to the simpler and now old-fashioned nomenclature of Blandford, and the leopard-cat (*Felis bengalensis*), both of which are common inhabitants of most jungles, although, particularly in the case of the latter, they are not very often seen except by those who specially look for them.

The common jungle-cat is quite a large animal, a little smaller than the average jackal and weighing up to as much as twenty pounds. It is therefore considerably larger than the ordinary domestic cat, with which it is said sometimes to interbreed. The colour of the body varies from sandy grey to greyish brown, but most specimens usually have a brownish tint. In adults there are, in most cases, no markings on the body or limbs, but the tail, which is normally rather short, is nearly always ringed with black near the end and terminates in a black tip. Sometimes there are slight transverse markings on the limbs, and occasionally a black variety occurs, an example having been brought in to me only last year. Few sportsmen can have failed to have seen this creature at one time or another, for it is by no means entirely nocturnal in its habits and is not particularly shy of human beings. It feeds on birds and small mammals, and is said to be especially destructive to partridges, peafowl, hares, and other game. Cases have been recorded of birds shot by sportsmen being snatched away by this cat before they could be picked up, and a reward of five rupees used to be paid for its destruction in the reserved forests of the United Provinces. The track left by this animal is exceedingly small for the size of the leg, and in the case of the photograph illustrating this chapter, which was taken by automatic flashlight, I expected the negative to show a much smaller cat than it actually does. The track is a typical cat's track, exactly like the spoor left by a tiger or a leopard, but on a miniature scale. Incidentally, I would point out that an early morning study of the tracks left on sandy roads in the jungle is one of the very best ways of finding out what animals are living in the neighbourhood, for most of the local inhabitants, with the exception of the deer tribe, are very fond of walking along the roads and paths made by man, presumably

because they form the easiest and most direct way of moving from place to place, but also because hunting animals can move along them extremely silently. Automatic flashlight cameras placed by me along such roads have been fired literally hundreds of times by various animals, from wild elephants down to hares and small cats, the commonest victims being hyænas; but the number of times that deer, which in numbers probably exceed all others put together except porcupines and monkeys, have fallen into my photographic traps could be counted on the fingers of one hand.

The other common wild cat of the jungles is the leopard-cat, which is one of the most beautiful animals in India. It is much smaller than the jungle-cat, and being more nocturnal, is far less commonly seen. It is somewhat like a leopard in miniature, but there are usually stripes on the back of the head and neck instead of spots, and the shape of the ears as well as that of the pupils of the eyes is different. To anyone who has in any way studied wild animals there is no more than the most superficial resemblance between a leopard-cat and a baby leopard, but I once came across a case of a military officer wiring to a neighbouring zoological gardens to ask if they would like to have a baby leopard, whereas the animal which had been caught was really a very fine specimen of a leopard-cat! The "Zoo" declined the offer, because, as usual, they had more than their requirements of leopards, so I induced the officer in question to let the poor creature loose; but in all probability the authorities would gladly have accepted the offer of an exceptionally fine leopard-cat.

Leopard-cats are normally exceedingly wild and ferocious creatures which are often said to be quite untamable, and the one referred to in the preceding paragraph certainly spat fire and brimstone at onlookers through the bars of the small cage

in which it was confined—just as we should probably do if, after a life of freedom, we were suddenly shut up in a cage little bigger than a coffin, and gazed at by all and sundry. I know of a case, however, of one of these cats, which became perfectly tame when kept in confinement by a forest officer in Southern India.

Another interesting cat is the fishing-cat, which, unlike most of its tribe, except the domestic cat which steals the kippers from the breakfast-table, is said to live chiefly on fish. The fishing-cat (*Felis viverrina*) is a little-known animal, concerning which Mr. W. G. Adam recently wrote a very interesting letter to the *Field*, describing observations he had made in Ceylon. The animal in question is far larger than the ordinary domestic cat, being mid-way in size between a cat and a leopard. The length of a good specimen is somewhere between three and four feet, including the tail, and weights up to twenty-five pounds have been recorded. The tail is short for the size of the body, or lengths would be considerably greater. The colour varies a good deal, as in most species of wild cats, but there are nearly always horizontal lines of elongated spots along the body. The photograph illustrating this chapter clearly shows these characteristic lines of elongated spots, and also the short thick tail, both of which features are typical of the species. This photograph—with a number of others—was recently taken in the forests of Oudh, within a short distance of a stream which provides the fishing required by this species.

I have myself never been so fortunate as to have had an opportunity of watching this cat emulating Izaak Walton, but Mr. Adam states that the manner of fishing is exactly that of a domestic cat when filching gold-fish from a bowl. Apparently the cat crouches on a rock in mid-stream or on a sand-bank, with fairly deep water near by, and then scoops out the fish with a single

paw as opportunity offers. It seems that, despite his angling habits, he resembles nearly all other cats except the tiger, and never swims or even wades in the water. Certain it is that this cat is by no means entirely dependent upon the fish he catches. If he were, he would assuredly often go hungry, for no angler (human or otherwise) who fishes entirely from the bank and does not care for getting even his feet wet can hope to subsist entirely upon his catch, which must fail altogether when wind or water are unfavourable. Undoubtedly fish form only a part of the diet of the fishing-cat, which he varies with molluscs, snakes, frogs, small mammals, birds, and indeed any edible living creature that he is able to overcome; but as he is nearly always found near water, either tidal, swamp, or stream, it would appear that fish comes first in favour in his menu.

Being powerfully built and extremely ferocious, the fishing-cat is no mean customer to tackle, and cases have been known where a single cat has routed a whole pack of dogs, leaving many badly scratched and some even seriously wounded. When injured, he is said to fight lying on his back and tries to rip open the intestines of his assailants with his hind claws. Sometimes he preys on fairly large animals, and in Bengal and Malabar—moist countries where he grows to his biggest stature—he has been known to seize calves, pariah dogs and sheep. Cases are even said to have occurred when he has carried off human infants from village huts in Malabar, but there is some doubt as to the authenticity of these stories. There is a definite record from Blyth, however, to the effect that a newly-caught male, caged by the side of a young leopardess, broke through the partition and killed the leopardess. An animal that can "take on" a leopard would probably be quite capable of snatching away a fragile human

baby should the opportunity offer; but baby-snatching is certainly not a habit of this cat, which prefers to hunt in peace on the sides of secluded jungle streams or marshes.

The spoor left by fishing-cats is very typical and should at once give a certain indication of the presence of the animal, even though it may be a considerable time before the maker of the track is himself seen. It is far larger than that of any other of the smaller jungle cats, and indeed looks enormous in comparison with the delicate foot-marks of the diminutive and small-footed leopard-cat. The spoor is smaller than that of a leopard, and although it might possibly be mistaken for that of a young leopard, it is more compact and less splayed out, the general effect being alike and yet not alike a diminutive leopard's track. I never met the fishing-cat until I was recently transferred to the jungles of Oudh, and very soon after my arrival there I came across these tracks, which at first glance suggested young leopards, and yet were not quite like any leopard's tracks I had ever seen before. Also it seemed strange that so many young leopards should be going about without their mothers. I soon suspected the presence of fishing-cats, since the tracks were generally near water, and it was not long before I discovered that this animal is quite a common inhabitant of these fine forests in the north of Oudh.

It has been recorded that the South American jaguar is another cat that spends a good deal of its time in catching—or trying to catch—fish, but it is not quite clear as to what method of angling he adopts.

Chapter 11

PHOTOGRAPHING SWAMP DEER

INDIA provides a magnificent field for the animal or bird photographer, and there are dozens of species of animals and literally hundreds of different kinds of birds which have never yet been successfully photographed in the wild state. The pursuit of such photographs provides an absorbing hobby, full of difficulties, full of disappointments, but always with the chance of splendid prizes dangling before one's eyes; and yet the number of really keen and successful animal or bird photographers in India is so small that they could easily be counted on the fingers of one's hands. I have never been able to understand why nature-photography does not become more popular in a country where every other Britisher is keen on shikar—keen to such an extent that no hardship, no privation is too great, provided only that the unfortunate quarry is ultimately brought to bag. Surely the atavistic lust to kill ought to become satiated sooner than it does; surely a living animal is far, far more interesting than a bloody carcass; surely those of us who went through the Great War saw quite enough of Death and all its horrors for one lifetime; and surely, oh! surely, the innumerable difficulties that beset the animal-photographer at every turn should act as a spur to men who will never admit fatigue or defeat when hunting to kill. And yet the animal-photographer in India is as scarce as he was ten years ago, and one begins to think there must be some truth in the Frenchman's alleged description of the Englishman, who

is said to greet the morning with "By Jove, what a beautiful day! Let us go out and kill something." And then there are the Hindus and Buddhists and other great races of this vast country, whose very religion prohibits them from taking life. Surely some among these numerous Indians must feel drawn towards the excitement of the hunt, the pitting of their wits against those of the denizens of the wild, the study of the beautiful creatures that inhabit the country of which they are so proud! Animal-photography is obviously the hobby for them—a hobby that does not entail the spilling of a single drop of blood, although it takes them right away from the soul-destroying study of politics and communal dissensions. Yet the Indian nature-photographer is even rarer than his British counterpart, and one despairs of advocating a hobby when so few seem to listen to one's most eloquent appeals.

Now let us turn to the subject of this chapter—the swamp-deer, or bara-singh, or gond, as he is called in different parts of India. Firstly let us consider these various names, which, like so many others given to wild animals in India, are not altogether satisfactory. "Swamp-deer" is an excellent name for the species in the United Provinces, where these splendid animals are never happy far from the great jheels, and, indeed, spend the greater part of their lives at least with their feet wet, and often submerged up to their abdomens. And yet in the Central Provinces and Assam the same species appears to be quite at home on great grassy plains with no swamps or jheels anywhere near, so that for those places the name swamp-deer is distinctly misleading. Then there is the name "bara-singh" (twelve horns), which is again open to objection in that the horns may have any number of tines up to twenty; and the same name is also sometimes applied

to the great Kashmir stag or hangul. Lastly the name of "gond", by which the species is invariably known in Oudh, is also applied to a race of aborigines inhabiting the central parts of the country, so that, when the word "gond" is heard in conversation, one has to guess whether it is a stag or a man to which reference is being made!

My experiences of this deer have been confined to the United Provinces, where gond is the only name used, so I will employ this name from now onwards. Gond are essentially gregarious animals which live in herds of various sizes, and in some places there are still vast numbers collected in small areas of suitable country. Indeed, the place where the photographs illustrating this chapter were taken, consisting of only a very few square miles of swamp and grass land and belonging to one or two *talukdars* of Oudh, contains anything up to five thousand of these magnificent creatures. When driven by a line of elephants, the sight of hundreds upon hundreds of deer, with the horns of the stags silhouetted against the horizon, beggars description, and is probably unequalled by anything that can be seen elsewhere in India at the present day. The sound of the rushing of innumerable hoofs through a foot or more of grass-covered water resembles continuous thunder or a whole regiment of cavalry making a charge, and is one of the most thrilling sounds that the hunter or photographer could wish to hear.

Gond are noisy animals and the hinds in particular are very easily startled into making their characteristic alarm cry, which is sometimes continued all through the night when a tiger or a leopard has entered their chosen haunt. Then there is the rutting cry of the stag, which in my opinion is by far the most attractive sound produced by any of the wild animals of this country—a

cry which almost invariably causes the human listener to pause in the hope that it will be repeated. It is difficult to describe in words, but is something like that of a donkey braying, only saying "Ring-hon: Ring-hon" instead of "Hee-haw: Hee-haw", and it is always accompanied by a drone almost exactly resembling the drone of a Highlander's bagpipes. The rutting season varies, but it is usually in the autumn continuing up to Christmas, and I would recommend all who are interested in the wild life of India to make a special effort to hear this cry once at least, and, if it does not thrill them through and through, then indeed they can have no love of wild Nature in their bones.

As a photographic subject, gond are among the most difficult animals I have ever tried my hand upon, and they seem to show distinct signs of possessing the "sixth" sense which is discussed in another chapter. Anyhow, no matter how carefully or cunningly I arranged my hides, they always seemed to find out where I was hidden in a way that was quite inexplicable to me. They live in swamps or long grass where it is usually very difficult to see them at all, and often a day's stalk will show nothing more than a brown streak rushing through the grass, with a bundle of dried hay caught over and completely hiding the horns. Indeed, in November and December, which is the rutting season and therefore the best time, it is almost hopeless trying to take photographs on foot, for the grass is so long and the ground so wet that complete failure is invariably the result. Stalking on a tame elephant is generally equally unproductive of results, since gond in the United Provinces are nearly always shot from elephants, and one is extremely lucky if one can approach within a hundred yards of an animal which knows from bitter experience that the entry of elephants into its home is synonymous with the entry

of Death itself—and Death in an even worse form than that of the striped king of the jungle, who will take one victim only without wounding others, whereas a shooting party mounted on elephants may kill six and wound a dozen, and will certainly make a terrifying noise by banging off their rifles at the extremely difficult targets afforded by rushing gond fired at from the backs of swaying elephants. One is therefore left with the alternatives of employing "hides" or stalking on foot in the hot weather after the grass has been burnt—and also after the stags have dropped their horns.

I first tried with hides made to resemble the deserted termites' nests, which occur sparingly in the drier parts of the gond jheels. Such hides are not easy to utilise as they are often completely surrounded by long grass in which photographs cannot be taken. If one cuts down this grass, the gond immediately find out that something is wrong and give one a wide berth; and if a hide is erected in an open place these wily deer seem to discover somehow or other that all is not as it should be. Living as they do in very confined areas, it is probable that they notice the slightest change in the shape of the ant-hills; and in any case such a low stance nearly always results in the scent of the photographer reaching the deer, for the wind is constantly changing and parties of gond may appear on any side of the hide. Another objection to ant-hill hides is that, being the only dry places in vast areas of swamp-land, they are greatly favoured by snakes, and it does not help one's peace of mind when crouching motionless in an ant-hill hide, to feel that one may be sitting on a cobra's den, and that the owner may appear at any moment to show his resentment at the unwarranted intrusion. Whatever the causes may be, ant-hill hides have not proved very successful, although

on one occasion a fine hind came and posed within three or four yards of my camera and gave me quite a good picture before she went off with a terrified rush on hearing the noise of the shutter.

Tree-hides, higher off the ground, are undoubtedly more suitable in many ways. They give one a better view-point; they are less likely to be spotted by the deer; and most important of all, they eliminate many of the troublesome scent difficulties. Unfortunately trees are very few and far between in areas favoured by gond, and these wide-awake deer seem instinctively to avoid those containing hides, however cunningly they may be concealed. Yet most of the photographs that I have produced have been taken from such hides, although even with the help of judicious driving and careful placing of stops, I have never yet succeeded in getting my subjects at a closer range than forty yards.

Another method I have tried is stalking the grazing deer—which, incidentally, are quite tolerant of the sun—concealed in an Indian *lehru* (trotting bullock cart). The owners of the gond jheels very wisely totally prohibit shooting from such carts, so that it is sometimes possible to approach fairly closely in this way; but of all the uncomfortable experiences I have ever undergone in the pursuit of animal photographs, I think the palm goes to stalking gond in a *lehru*. The only such *lehru* available was of the most primitive construction, with no springs of any kind; the driver could not or would not understand what I wanted; the ground was appallingly rough with mole-hills and water-filled depressions all over the place; my wife, who started with me, felt so sick and shaken that she had to drop out after a short time; my valuable reflex camera got banged about and many of the plates in the slides became cracked or broken as a result of the constant jarring; and when ultimately I did reach within photo-

graphic distance, my view-point was too low and I could make exposures only by rising like a Jack-in-the-box out of the pile of hay in which I was concealed in the cart—much to the astonishment of my intended subjects. I did in the end take a number of photographs—one of which is included with this chapter—with the help of this appalling contrivance. I am sure that I could have done much better with a properly sprung and constructed cart controlled by a more intelligent driver, but it will be some time before I face such an experience again.

I have now given some idea of the difficulty of photographing gond in the wild. I have been extremely lucky in that I have had free access, with invaluable local help, to what is probably by far the best place for gond in India—certainly as regards numbers even if not for the measurements of the trophies that are obtainable. Famous globe-trotters and highly-placed officials in Upper India are almost invariably taken to the gond grounds I have described, for, however bad shots they may be, there are so many gond that they never go away empty-handed. Yet I have spent many days in this area, with every facility, and I have still a very long way to go before I can justly claim that I have really obtained an entirely satisfactory series of pictures of one of the finest of the rapidly diminishing wild fauna of India. These difficulties, in a greater or lesser degree, have to be overcome before one can obtain good photographs of any kind of wild animal, and give some idea why I at least consider big-game photography, even apart from other aspects of the case, to be so much finer a sport than the mere destroying with a marvellous rifle of some of the most beautiful creatures in the world.

Chapter 12

FREEDOM VERSUS CAPTIVITY

"Stone walls do not a prison make,
Nor iron bars a cage."

WHEN Richard Lovelace wrote those well-known lines to Althea, while he was in durance vile in the Gate-house at Westminster, he was referring to the philosophy of a human lover; but can we expect wild animals or birds, shut away from the glorious life of freedom which is theirs by right of birth, to adopt the attitude of mind of an exceptional human being, with his vivid imagination, with his yearning after things that are beyond the intellect of the simple creatures of the wild?

The present agitation against the caging and offering for sale, sometimes tied up in a tiny paper bag, of song-birds like the thrush and the skylark, calls to mind the vexed question as to whether we are justified at all in imprisoning wild creatures, and if we are, to what extent. I will now examine both sides of the question and produce what arguments I can either way, although I am fully aware that some readers will say that a crank who can stand up for such horrible and debased creatures as tigers, can certainly not be trusted to adopt a fair attitude on such a question as this!

Let us take the arguments of those in favour of caging wild creatures first, so as to give them every prominence. The chief of these arguments is based upon the prevalent idea that nature

is cruel and harsh and remorseless—that fear is the first rule of the jungle, closely followed by the twin sisters, hunger and thirst. Hence some claim that wild creatures are far better off in cages, where they know neither terror nor the pangs of hunger and thirst; where they live a life of continuous ease and comfort; where there are ample compensations for the loss of a so-called freedom—a freedom that really means a constant striving to escape from sudden death, a never-ending hunt for sufficient food to eat, and the constant risk of failing to find enough water to satisfy the ever-recurring demands of that insatiable demon, thirst.

In support of these arguments they will quote selected passages from writers, who to my mind, as must be obvious from a perusal of this book, have painted a totally false picture of life in the jungle, and to a lesser extent, of life even in the gardens of our own homes. I will now give two quotations, taken from the writings of Leonard Woolf, as examples. We read:—

"There is fear everywhere—in the silence and in the shrill calls and the wild cries, in the stirring of leaves and grating of branches, in the gloom, in the startled, slinking, peering beasts."

And again:—

"The herd must come down to drink at the water-hole. They come down driven by their thirst, very silently through the deep shadows of the trees to the water lying white under the moon. They glide like shadows out of the shadows, into the moonlight, hesitating, tip-toeing, throwing up their heads to stare again into the darkness, leaping back, only to be goaded on again by their thirst; ears twitching to catch a sound and nostrils quivering to catch a scent of danger. And when the black muzzles go down into the water, it is only for a moment; and then with a rush the herd scatters back again, terror-stricken, into the darkness. And

behind the herd comes the leopard, slinking through the undergrowth. Whom has he to fear? Yet there is fear in his eyes and in his slinking feet, fear in his pricked ears, and in the bound with which he vanishes into the shadows at the least suspicious sound."

Now the photographs included in this book, and my profession as a forest-officer in the employ of the Government of India, should be sufficient credentials to prove that I must know at least a little about wild animals and their lives in the jungles in which I spend the greater part of my time, particularly as my attitude towards all creatures of the wild is that of a keenly interested friend, and not the more common one of an assassin eagerly awaiting to destroy the record head among the herd. Admitted then that I have the qualifications to express an opinion on this subject, I would state, and state emphatically with all due respect to Mr. Woolf and others like him, that the passages I have quoted do most certainly not give a true representation of life in the wilds: indeed they give a totally false impression and moreover, one that is even more dangerous than mere nonsense because it does contain a substratum of truth.

I am trying throughout this book to show that Nature is not cruel—that wild creatures do not live a life of terror, for ever trembling at the thought of the awful things that may happen to them at any moment—that they have little or no imagination, and, for the most part, live a happy care-free life of perfect physical fitness and keen enjoyment. How, then, can I explain away these passages, based on actual observation, that I have quoted? Let me take the first sentence of the second quotation to begin with. "The herd must come down to drink at the water-hole." Must it? In many parts of the jungle and at most seasons of the year there are streams and ponds and pools and puddles, scattered all

over the place, at any of which the members of the herd can drink their fill without much thought or fear of the panther that cannot lurk around every drop of water in the jungle. Admittedly, in certain very exceptional conditions of heat and drought, it may occasionally happen that there is but one pool of muddy water left for all to share, from the tiger to the mouse-deer, from the panther to the fawn. In such conditions, markedly abnormal conditions be it noted, it is undoubtedly dangerous for the deer to come to drink the water that they must have, and they are fully aware of that danger, although they forget all about it again directly they have succeeded in obtaining their drink in safety. But are they really so terrified as Mr. Woolf would have us believe? Their sensitive ears certainly twitch to catch every sound, their keen nostrils assuredly quiver in their endeavour to locate any dangerous scent; but, when they suddenly leap back, is it fear alone that is the cause? I say that quite possibly it is not. It appears to me that it may be a very clever move on the part of the deer, made in the hope of inducing any lurking carnivore to show himself while there is yet sufficient distance for the deer to make good their escape.

Then again Mr. Woolf writes, "There is fear in the eyes and in the slinking feet (of the panther), fear in his pricked ears and in the bound with which he vanishes at the least suspicious sound." Is there? I claim to a fairly extensive experience of panthers, and the last thing I should expect to find in such courageous animals is fear, of which the average representative of the race barely knows the meaning. The panther that haunts the solitary water-hole at times of drought is hungry and he is fully aware that the deer, which he normally secures so easily after a silent stalk culminating in a sudden and generally painless end, are far

more alert than usual; hence he must make full use of the acute senses given him by a thoughtful Nature—for Mother Nature remembers that even a panther must eat. It is not fear in his eyes, but acute watchfulness; his feet slink because he is endeavouring to walk softly and silently; his ears are pricked in order to help him to locate the deer before they locate him; and he disappears with a bound because he has been disturbed in his hunting by an observer who, having misinterpreted what he saw, has since tried to prove to a credulous world that Nature has devised a horrible system by which all her children are forced to live such unhappy lives in the wilds of their birth that they are far better off cramped up in the heart-breaking solitude of man-made cages —a solitude which, to them, in many cases at least, must be even worse than solitary confinement on Devil's Island to us.

No: no matter how convincingly Mr. Woolf may write about fear as shown everywhere among the "startled, shrinking, peering beasts", I do not believe a word of it, and I am convinced that, for the greater part of their lives, wild creatures are thoroughly happy, as must be perfectly obvious to everyone who with an unprejudiced mind will keep his ears and eyes open when out of doors. Further, it is quite unfair to argue that because wild creatures are just very, very occasionally put to trouble at times of drought, or severe frost, or by the carnivore, or by some other cause, therefore they must live lives of unending terror. We all wish that Kipling's beautiful story of the truce between the jungle animals at times of drought were more than the fancy of a master of fiction; but, because wild creatures have to undergo occasional times of stress, is it a correct deduction that they are, therefore, always unhappy? Do not some human beings achieve happiness despite the constant risk of being knocked over and killed on the

highways of Britain, despite ill-health (a thing that rarely affects wild animals), despite money troubles (animals have none), despite the hundred-and-one risks and worries that we all have to face at one time or another during our lives?

Another argument used in favour of keeping wild creatures in cages is that they are better fed, better housed, and better looked after by man than by Nature, so that they spend lives of greater ease and comfort and live for a longer time than they could ever hope to do in the wild state. Now let us examine this argument. Are they really better fed? When we go to the London "Zoo" to watch the tigers being fed we see a haunch of a few pounds of horse-flesh pushed through the iron bars of the cage. It is quite true that, in London at any rate, the tigers are given amply sufficient to keep them in as good health as can be expected in a wild animal confined in a cage, but what would a tiger of the Indian jungle think of such a miserable scrap of meat as a daily ration? Why, those that are acquainted with the tiger in his native home know that he can and often does consume the best part of a hundredweight of meat at one sitting, in comparison with which the London ration must seem like absolute starvation. And it is by no means every tiger caught and kept in captivity by man that is so comparatively well-fed as the fortunate beast—if any captive creature can be considered as fortunate—whose lot falls in Regent's Park. Are there not miserable half-starved beasts that are dragged round the country-side in second-rate and third-rate and fourth-rate circuses; are there not maimed and underfed bears that are made to stagger about India in order to perform in our compounds; are there not numerous monkeys chained to barrel-organs and fed or not according to the whim of their owner, or the state of his pocket, or even his sobriety?

Then there is the question of housing. I seem to have heard of apes that die of consumption no matter how carefully and expensively they are housed; I do not believe that a big cage and enclosure can in any way compare, in a tiger's mind, with the vast spaces of his native jungle, much less the tiny cramped coffin of the travelling circus; I do not believe that the eagle, monarch of the air, could be happy in any cage where he cannot even spread his wonderful wings, where he cannot experience the glorious thrill of sailing over the mountains of his home; I do not believe that a cage of gold and a sumptuous diet of all the dishes most tempting to a bird could be any compensation to the skylark, whose real cage is the blue vault of heaven and whose natural food is the lavish bounty of Nature.

But even admitting, which I do not, that the average wild creature could be better fed and better housed by man than by his Maker, would he in such circumstances live a life of greater ease and comfort than if he were left in his wild state? No, most assuredly he would not. Surely ease and comfort are directly dependent upon good health, and can any active creature of the wild expect to maintain his natural magnificent fitness and superb health when he has nothing to do but eat and sleep, sleep and eat, with interludes of perhaps a little play with a ball or some such thing if he is lucky, and all the time subjected to the constant staring of the human eyes that he distrusted so much in the days of his freedom? If then it be admitted that caged creatures cannot expect, on the average, to maintain such good health as they would do in the wild state, is it likely that they would live longer in such an existence of cramped boredom? Oh yes, someone will say, for nearly all wild creatures die sudden and violent deaths. Do they? I know perfectly well it is a common idea that such,

sooner or later, is the lot of nearly every wild animal; but I have seen no proof that such is the case and personally I believe it is the lot of some only, and that many others die peacefully at the end of a life-span considerably in excess of that of their mates which have the misfortune to be captured and caged by man.

Now for the other side of the question—the arguments against keeping wild creatures in captivity. Even though it is quite certain that wild animals have far less imagination than human beings, and hence probably suffer less in captivity than we should do in like case, the best way to approach such a question is, possibly, to try to imagine ourselves put in a cage for the rest of our lives —cramped, bored "stiff", unfit through lack of exercise or occupation, stared at from morning till night and even after dark by the aid of artificial lights, with no single detail of our daily lives escaping the curious, impertinent gaze of others. Should we like being made the object of ridicule, such as is the common fate of the performing elephant, or tiger, or bear, or sea-lion? Would not death to us, with our vivid imagination, appear to be a far preferable alternative? Hence why not apply the invocation of our own religion and do unto others as we would they should do unto us?

It must be remembered that sometimes an individual caged wild creature, such as an occasional bear or parrot, appears to be fairly happy in confinement; but some species and some individuals suffer much more from caging than others, and those that appear to be moderately contented are the philosophers that have decided to make the best of a bad job. It is certainly not fair to try to prove that, because a few bears and parrots have become resigned to their altered lot when shut up in cages, therefore *all* caged bears and parrots are necessarily happy.

The present agitation is to prohibit the capturing and caging of English song-birds that have known the glorious liberty and freedom of the garden, the wood, and the hill-side; and all lovers of wild creatures must fervently hope that it may succeed. Yet there are some who may ask: why stop at sixty species of birds; why not prohibit the caging of all wild creatures except those definitely required for educational or scientific purposes, such as a few recognised zoological gardens? Is it really fair to force, whether by kindness or by fear, wild creatures to perform the ridiculous antics so commonly seen in circuses and the such-like? There are others who hold the opinion that those who can find pleasure in keeping wild song-birds in cages should be content with canaries and similar birds that have been born and bred in captivity, and know nothing of any other life; that the owners of performing animals should breed their own bears and monkeys from those they already have, if mankind must be amused by seeing other creatures made to look absurd; that the general public should be satisfied with the dogs and other animals that have already been domesticated.

The answer often given to this humane point of view of this vexed question is that such restrictions would adversely affect the livelihood of some people and the innocent recreation of others. In different words, the moral and ethical side of the question is of minor importance when opposed to the "vested interests", or the throwing out of employment of a few bird-catchers and circus hands. The Home Office objection to the proposed Bill, as Lord Buckmaster points out, is suggestive of arguing that, because so many people are engaged in burglary and in the selling of burglars' instruments, therefore burglary ought not to be a crime. Nobody wishes to increase the prevailing appalling state of un-

employment, and perhaps the present is not the best time to bring in legislation on such matters; but, when one hears some of the arguments produced in favour of caging wild creatures, one is tempted to echo with Mr. Eric Parker, the editor of *The Field*, "Does the British public support cruelty?"

There is one other matter that I must add to this chapter before sending this book to be printed. I have been absent from England in the Indian jungles for the last five years, and I have only just had an opportunity to visit Whipsnade, which was only a derelict farm when I was last on leave. The first impressions of one who dislikes the caging of any wild creatures are that Whipsnade must surely be the Mecca of all captive animals; that, if man must keep wild animals in captivity, Whipsnade is the ideal of what such captivity should be—except for the enclosure provided for the tigers.

Chapter 13

CURIOSITY IN ANIMALS

"That low vice curiosity."

I SUPPOSE that we all agree with Byron that curiosity really is a vice, although it is not one that would rank very high (or perhaps I should say low) among the numerous sins of this world—at least I hope not, for I must confess to a marked curiosity concerning the home lives of the wild creatures that are fellow-inhabitants of the jungle with me. Also I sincerely hope that the objects of my curiosity do not resent my friendly probing into their private affairs, or look upon me as an impertinent Press photographer who spends his time taking pictures that they would much prefer not to be taken. Anyhow, I always feel that some of my photographs, however shy my subjects may be of having them made, may perhaps help to encourage that growing sympathy for wild creatures which is so marked a feature of this post-war period—and that in itself is sufficient justification for my having made them, with or without permission.

However, even if curiosity be considered as a vice among ourselves, it is not necessarily so in the case of other animals. Quite apart from the five primary senses which wild animals possess, sometimes in a greater and sometimes in a lesser degree than ourselves, the creatures of the jungle have many special traits of their own, often more or less as a general characteristic of the species, but quite frequently peculiar to the particular individual.

One of the most interesting of these traits is that of curiosity, which certainly appears to exist to a considerable degree in some animals, although the motives underlying curiosity will generally be found to be more primitive than in the case of human beings.

The vast majority of the actions of wild animals are governed by three dominant motives—the necessity of obtaining sufficient food and water, for wild animals all have to fend for themselves and cannot, like ourselves, rely upon servants or money to supply their needs; the instinct of self-preservation, which is just as important to wild creatures as to mankind; and the urge to propagate the species, which is Nature's way of ensuring the continuation of the race. Nevertheless, curiosity certainly does sometimes cause wild animals to do things which normally they would not do, and indeed at times induces them to run unnecessary risks. This is particularly the case with young animals, as with children, and is really one of Nature's ways of teaching them what is safe and what is unsafe; of helping them to learn quickly what is good to eat and what should be avoided; of educating them up to the standard which is required if they are to enjoy a happy and successful life.

The female sex in animals—as in human beings!—seems to be more curious than the male, and sambar hinds perhaps suffer more from an excessively developed strain of curiosity than any other creatures in the jungle. Quite frequently they will stand and stare with widely dilated eyes at a tame elephant or a motor-car, and if no sudden movement be made, they will sometimes come right up to the object which has excited their interest and examine it carefully. I can recall many cases of sambar hinds when their insatiable curiosity managed to overcome their natural instinct of distrust, which, in the interests of self-preservation,

must always compete with the urge to examine strange things. I well remember one case in particular. I was wandering about the jungles on a tame elephant looking for photographic subjects when suddenly I came upon a sambar hind standing on the edge of a bamboo clump. Wild elephants were quite common in the neighbourhood, so that she was obviously more or less familiar with the appearance of these huge creatures. Her large sensitive ears immediately shot forward, her eyes began to dilate, and one could almost hear her saying to herself, "Well, I never: here is one of those great elephants quite close to me. How I would love to stop and have a good look, but is it quite safe?" Realising what was passing in the sambar's mind, I immediately made my elephant "freeze", and decided to wait as motionless as possible, so that I might see what the hind would do. For a few moments she hesitated, curiosity and timidity competing with each other, and the slightest movement on my part would have resulted in her precipitate departure. My tame elephant stood like a rock, however, as though she understood what I wanted, and at last the hind, deciding that there was little to fear, began gingerly to approach. Every now and then the elephant, worried by flies, would flap one of her great ears, and the first time this happened the hind was so startled that she jumped about a foot in the air. The second time the jump was less, and soon she became accustomed to the movements of the elephant's ears. By this time she was only some six or seven yards away and following her appeared a second and then a third hind, all of which seemed fascinated by the sight of the great beast in front of them. Their fascination and curiosity gradually drew them nearer and nearer until finally all three were within a very few yards of the motionless elephant, by which time they decided that there was nothing more to see.

They therefore began to make a meal of the luscious grass in which they were standing, every now and then lifting up their heads to have yet another look at the elephant standing silently in front of them. This went on for about half-an-hour until finally they moved on, and I was able to release the elephant—which had behaved magnificently—from the strain of standing to attention for such a long time. There is no doubt whatever but that the behaviour of these three sambar hinds was due to pure curiosity, and most shikaris could probably remember somewhat similar examples that they have come across during their wanderings in the great jungles of India.

Monkeys are also extremely curious animals. A large mirror placed in a convenient spot where monkeys abound will often produce most amusing behaviour on the part of these creatures, which in many ways bear such a close resemblance to ourselves. They will come and look into the mirror and then go round to the back in search of the reflection which they see in it but cannot touch or find. Backwards and forwards they will go, making faces and clawing at the mirror, and all with no result. I once had an uncanny experience with a mirror and a domestic cat that had run wild and taken to looting food from forest rest-houses. I was sitting one evening in the central room of such a rest-house, when I was startled to hear an appalling noise coming from the bedroom. Creeping to the door I peeped in and there was the cat sitting on the dressing-table, spitting fire and clawing at its own reflection in the mirror. The whole episode was absolutely comical, as mixed with the look of rage on the cat's face was one of bewilderment at not being able to claw the supposed rival, which always struck out at the same moment!

Tigers can be extremely inquisitive at times. On one occasion

I wished to erect an automatic flashlight trap over a path passing through the domain of a particularly fine tiger, which we knew for years as "The King of Chaukham" but which we never succeeded in photographing. As this fine animal was notoriously cunning, I fixed the cameras and flashlight in position early one afternoon, so as to avoid making a noise in the evening for fear I should disturb my quarry. While arranging the cameras I heard a sambar call once or twice quite close by, and I formed a suspicion that the tiger was somewhere near, and was possibly watching what I was doing, but I was not quite certain. However, on returning just at dusk to join up the electric connections, I found that my suspicions had been justified, for there were the tracks of the tiger all round my cameras. He had obviously watched me arranging the photographic apparatus, and as soon as I was well out of the way, his curiosity caused him to come up in the middle of the afternoon—an unusual time for tigers to move about—and make a thorough examination of what I had been doing. He did not damage the cameras in any way, but needless to say, he did not fall into the photographic trap on that, or indeed any other night except once, and on that particular occasion the electric circuit unfortunately failed to work.

Another incident showing how inquisitive tigers can be recently occurred in the foothill forests of the United Provinces. The story as related to me was as follows. A certain sportsman drove his car out into the jungle one afternoon with the intention of sitting up in a machan over a tiger-kill. When he had reached within a reasonable distance of his machan, he left his car on the road-side in charge of an orderly, and went off to the kill. The tiger did not put in an appearance, and on returning to his car he was astonished to find that the orderly left in charge had

apparently disappeared. He called loudly but received no reply, until he thought of looking inside the car, where, to his amazement, he found the still terrified orderly crouching down beneath the dash-board. On questioning the man, it transpired that he was sitting quietly inside the car, when to his horror he saw a tiger walking towards him. He had no weapon of any sort, so he crouched down inside the car, hoping that the tiger would pass on. But his hopes were not fulfilled. The tiger paused, gazing at the weird object which obstructed his road, and then decided to come nearer to investigate. First he walked round and sniffed at the various parts of the strange vehicle, apparently quite unaware of the presence of the quaking orderly inside. Then he put his fore-paws on the bonnet, and looking in at the wind-screen, saw his own reflection in the glass. This gave him a shock, and he started to growl and paw at the reflection, quite unable to understand why his growls elicited no response, while the orderly, luckily for himself, remained hidden inside—comatose with fright. Finally the tiger gave a snort of disgust and departed, much to the relief of the most unwilling but undetected spectator. This was the story, as told by the orderly on his master's return, and from the clear pad-marks on the sandy road round the car and on the dusty bonnet, it could not have been very far from the truth.

It is interesting to recall that that excellent old-time writer "Hawk-eye" once put forward the theory that one of the methods of hunting employed by tigers was to play upon the natural curiosity of the deer which form their chief prey. The suggestion was that the tiger would lie absolutely motionless and half-concealed in some open place, in such a way that a portion of his strikingly coloured skin would catch the eye of the deer. They would watch it for some time, and then finding that it did not move,

they would gradually approach nearer and nearer to investigate, until finally the tiger, being now within striking distance, would hurl himself upon the hapless deer which he had thus lured to their destruction. The idea is attractive and just within the bounds of possibility; but unfortunately deer possess a strong sense of smell, so that the tiger would have to apply a good deal of deodorant if he wished to remove his own strong natural effluvium, which, accumulating owing to his remaining for some time in one spot, would it seems give him away almost every time. Even so, experienced human fowlers and trappers certainly do manage to catch animals and birds by taking advantage of the trait of curiosity displayed by some creatures, and many is the black-buck that has met his end in this way, so there is no reason why the tiger also should not occasionally achieve success.

"Hawk-eye's" suggestion of tigers catching deer by playing on their curiosity receives considerable confirmation in the following story related to Mr. W. Horst of the Indian Service of Engineers by a Nepalese Tharu named Ramji. This story refers to leopards catching monkeys, and I will give it in the man's own words, translated into English:—

"Yes, Sahib, panthers are very bold and very cunning. Have you ever seen one catch a monkey? No. Well, I will tell you what four or five men of my village and I saw in the patch of jungle you beat through yesterday. We had been ploughing since dawn and sat down to rest under the big mango tree. There were some brown monkeys feeding quietly in the trees near by, and suddenly one of them gave the usual sharp alarm call. We then heard the grunt of a charging panther, and saw a big one rush half-way up one of the smaller trees and then down again as the monkeys left it for the safety of the large *jamun*. He then

charged over to the foot of the *jamun* and scratched up the grass and leaves round its roots. The excitement among the monkeys was now tremendous and they leapt about the branches in an agitated way, which was just what the panther expected and wanted. Had a monkey missed his hold or had a branch broken under one of them, the panther would have had his meal. But his luck was out and in a short time we saw him stretch himself out on the ground a few feet away from the tree and apparently go to sleep. The monkeys soon quieted down and we could see them looking down at the panther with the greatest interest. After a little while one of the bigger ones climbed right over him and began to drop leaves and twigs on to him; but still there was no sign of movement. The other monkeys then began collecting closer and closer above him, and it was obvious that they couldn't understand what had happened. One then climbed down a tree a short distance away and took a few steps towards the panther, but his nerve failed him and he dashed back to safety. There was still no movement from the panther, however, and soon three or four monkeys were on the ground, taking good care to keep well out of reach of claws and teeth. This continued for nearly half-an-hour, the monkeys drawing nearer and nearer, until at last one, bolder than the rest, actually touched the panther with his hand. This was what the patient hunter had been waiting for; he struck immediately and, seizing the inquisitive monkey, he quietly carried his victim away to the patch of thick thorn out of which the pig broke yesterday. That, Sahib, shows the cunning and the patience of a panther when he is hungry, and how the inquisitiveness of monkeys can lead them to their destruction."

Although I have never myself had the good fortune to see such a trick carried out, the story to my mind rings absolutely

true. The Tharus are an illiterate simple race of jungle people, naturally truthful and straight-dealing, and there would be no object in romancing in this way. If leopards can catch monkeys by such a trick, it is more than possible that tigers can also be equally successful.

Among other animals of the jungle that exhibit curiosity is the wild elephant, which will often come within a few feet of a tame elephant brought up near him or her. This is partly due to the wild elephant not being able to understand the curious mixture of scents emanating from a tame elephant on which men are riding. The scent of elephant attracts wild elephants, and the scent of man repels them. It is a very interesting, even if a somewhat nerve-racking amusement, to watch a wild elephant coming nearer and nearer, pausing every now and then to test the unusual mixture of scents and gazing with curious eyes at their cause. Wild elephants are also very quick to notice anything unusual placed in their chosen haunts, for which reason fences and boundary pillars have a very bad time. Curiosity causes them to examine such man-made erections, and resentment at what they possibly consider to be objectionable additions to their domain results in their being speedily destroyed.

I have read that in Africa zebras and other animals will often race along parallel with motor-cars as though curious to see if they can outpace them, and when they have succeeded in doing so, they will suddenly cross in front of the car. I have never noticed this habit among Indian animals, largely because most of them live in forests where there are too many trees to permit them to attempt to keep pace with a motor-car. Cattle, however, often run after cars or after tame elephants.

I have sometimes attempted to classify Indian jungle animals

according to the amount of curiosity they display, but individuals vary so much that it is a very difficult task. I would certainly place sambar hinds first, closely followed by *Macacus* monkeys and peafowl, with elephants and tigers not far behind. Animals in which I have so far not noticed this trait as being particularly marked are leopards and sloth-bears, but this is more than likely due to lack of sufficient observation on my part. Indeed, some authors give bears, which are distinctly intelligent animals, a name for inquisitiveness, both in the wild and in captivity. It would appear that omnivorous animals would tend to be particularly inquisitive, as almost everything is worth examination in the hope that it may prove to be good to eat.

It is more than probable that if only we were sufficiently acquainted with their private lives, we should find that practically all the higher animals are inquisitive to a greater or lesser degree.

Chapter 14

A FOOT-HILL STREAM

"*. . . The rivulet,*
Wanton and wild, through many a green ravine
Beneath the forest flowed. Sometimes it fell
Among the moss with hollow harmony,
Dark and profound. Now on the polished stones
It danced, like childhood, laughing as it went."

SHELLEY.

TO those who delight in the wild places of the earth, far removed from the toil and strife of every-day existence, few spots could be more attractive than a secluded jungle stream where it winds its tortuous course through the rugged forest-clad foot-hills of the great Himalayan mountains. The particular stream which I will now describe has been a favourite haunt of mine for many years, so that I am now familiar with every bend and corner and feel more at home there, alone with wild creatures, than I can ever do in a big town.

The stream bed, or *sot* (pronounced to rhyme with boat) as it is called in Hindustani, is about forty or fifty feet wide, with very steep banks, which run up many feet above the level of the water to the surrounding hills. The actual stream itself varies in volume with the season of the year, but from November until May it consists of a series of deep rocky pools with almost vertical sides. These are joined by shallow stretches, where the water

flows more quickly over the rough bed of boulders which have been washed down from the mountains above and rounded, like pebbles on a shingly beach, by the continuous action of the water. Dotted among the boulders are willow bushes, strikingly beautiful when they throw out their new leaves in the spring, and interspersed with the willows are large numbers of a shrub which botanists term *Nerium odorum*, the sweet-scented reddish flowers of which, set off by the glossy green leaves, appear in all their glory at the very hottest season of the year. The steep banks, in places where they are rocky and shaded from the sun, are covered with ferns of various species, among which the beautiful maiden-hair fern predominates, and during the spring wild violets and Doon primroses clothe the whole in a wonderful raiment of purple and gold. Elsewhere the sun strikes more fully and the soil is better owing to the gentler slopes. The result is that there is a dense undergrowth of grass, above which various jungle trees struggle for existence with each other, and also against the scorching sun of the summer and the bitter frost of winter, both of which take an almost annual toll of the weaker trees and leave their marks even on the strongest.

Such a spot seems almost made for tigers. Indeed, it is one of those places in the jungle which always contain a tiger, and generally a big one. If the one in residence is shot, the news soon seems to spread round among the neighbours, and the finest of these will be found to have filled the vacant place within a few weeks of the death of the last occupant. Despite the innumerable stories which have been written about tigers, no writer has yet been able to explain quite why they are so fond of these particular places or how they find out that they are vacant. Anyhow, the fact remains that they do find out, and big-game hunters who

shoot every year in the same forests have been known to kill tiger after tiger in the same spot—which may be, perhaps, an easy place to beat—whereas they would quite likely have gone away unsuccessful, were the tigers only to realise that from their point of view such a place is dangerous, and should be left severely alone. Again, why, oh why! are tigers so foolish as to kill buffalo-baits which are tied out in the jungle at night? It would seem obvious that animals of the intelligence of the tiger would realise that there is something strangely suspicious about a young and juicy buffalo calf being left out, tied by the neck or leg, in the places they are most likely to pass at night. They must be familiar with the habits of *gujars* and *gothias* (the jungle herdsmen), who take the greatest care to protect their young cattle by enclosing them at night in a fence of thorns, aided by numerous fires. Then why should they leave one *tied* up all by itself in a conspicuous place? If it were loose one could understand the tiger thinking that it may have strayed apart from the others, but not when it is tied up! Yet nine out of ten tigers which men succeed in shooting owe their deaths directly to their having killed one of these tethered calves; whereas in most cases the tigers could easily obtain enough food, were they to refuse to touch such baits. Just occasionally, it is true, one does come across a tiger which has learnt wisdom and refuses to have anything to do with tied-up baits. Such a tiger probably dies of old age, but why he does not pass on his wisdom to his more foolish brethren is a problem which continues to intrigue those who are interested in the intimate lives of wild animals at home.

But we are wandering away from the subject of our story. Personally, I prefer to study and photograph wild animals rather than shoot them, so that the same tiger and his mate have been

in possession of this mountain stream for a good many years, and are still there as photographic subjects for anyone who is clever enough to outwit them. The reader will now accompany me on one of my photographic expeditions up the stream-bed, the charm of which it is to be hoped some idea has now been given.

It is a fine day in early March, and, as the distance is about four miles from our camp, we send on ahead the tame elephant, Balmati, which has carried me hundreds of times in pursuit of photographic adventures. After an early lunch, we ride after the elephant on horses, arriving at the rendezvous at about 1 p.m. We then leave our horses, and, mounting the elephant, begin to stalk very quietly up the stream-bed in the hope of catching a glimpse of the tigers or of some of the other wild creatures which inhabit this delightful spot. At the mouth of the *sot* where it joins a larger stream is a deep clear pool, so full of small mahseer not exceeding a pound in weight that literally they form a dark cloud in the water, so dense that it is quite impossible to see the bottom owing to the intervening mass of fish, one floating above the other in apparent harmony. Such a great store-house of fish is bound to support fish-eating animals, and we have not far to look for them. An osprey, that fine fisherman, which when striking often plunges so violently into the water as to become completely submerged, sails overhead, and gives a shrill scream of annoyance at finding his favourite haunt disturbed. On a branch above the pool is sitting a splendid Himalayan pied-kingfisher—aristocratic and far larger relative of the common pied-kingfisher of the plains. He is gazing down at the water waiting his chance, and even as we watch he darts almost vertically down from his perch and plunges into the pool, only to rise again on

missing his mark. He then poises over the water preparatory to a second dive and hovers in the same spot, maintaining his position by means of the rapid beating of his wings; but he has not the skill of his smaller relative or of the English kestrel in this difficult feat, and soon returns to his perch, where we leave him gazing at the water as intently as ever.

We next notice absolutely fresh otter-tracks running up the stream-bed, which tell us that the party of otters which we have so often seen cannot be far away; so we creep cautiously on to the next bend, and peeping round, are delighted to see three otters basking in the sun in a very favourable position for a photograph. Gradually and with the greatest care we bring the elephant nearer and nearer, making exposures as we approach, until just as we are beginning to hope for an exceptional picture, the air is suddenly rent by that common and nauseating sound of the East—the violent clearing of a man's throat preparatory to expectoration! The otters, thoroughly disgusted at the revolting noise, rush away as we turn to rend the unexpected arrival who has ruined so good a chance. It turns out to be the local forest-guard, a man of particularly limited intellect and specially posted to this lonely beat as he is incapable of doing the work elsewhere. His answer to a furious question as to what he thinks he is doing is to the effect that he has heard that the forest officer has entered his beat, and he is now following to see what he is doing there! As though a forest officer cannot enter his own jungles without an escort! Words fail us, so after cordially inviting him to visit a very much warmer place, we continue our progress.

A little later we notice the fresh tracks of the tigress. We follow these tracks for some distance, and then lose them again;

but shortly afterwards we are fortunate enough to find marks in the sand (called *gussait* in Hindustani) showing where the tigress has dragged some animal which she has evidently succeeded in killing. Greatly excited, we now follow the *gussait* cautiously until we reach the steep bank on the other side of the stream. Then one solitary vulture suddenly flaps up from the dense grass in front of us, thereby denoting that the kill is there and that the tigress is not at home—otherwise the vulture would be perched in a tree awaiting his chance to enjoy a meal in safety. We now inspect the kill and find that it is a sambar hind, which the tigress has left right at the mouth of the otter's den, after having eaten only one of the hind-legs. On bringing our elephant up to the kill, her great weight shakes the ground and disturbs an otter which is resting in the den—so much so that he pops out like a Jack-in-the-box and rushes away between Balmati's legs, much to her discomfiture! After quieting the elephant, the next half-hour is spent in searching the neighbourhood for the tigress, but there are no signs of her presence, and she has probably gone off in order to call her lord and master to the feast. We have not time to arrange a machan and sit perched in a tree to await her return, so we decide upon a spot where we think the tigress is likely to pass in the night, and arrange the automatic flashlight camera in such a way that, should she pass as we hope, she will inadvertently take her own photograph by flashlight. We then return to our camp, hoping that all will work out as we have planned and that the tigress will take a nice picture of herself during the night. On our way back we see a small crocodile, fast asleep in the sun and balanced in a precarious position on an almost vertical rock. We make an exposure from across the pool, but he is only about four feet long and his back is covered with mud which has dried

almost white in the sun, thereby giving him rather an unusual appearance.

The next day sees us once more moving quietly up the stream-bed to find out what has happened. The otters are not to be seen to-day, and the place seems deserted except for a pair of white-capped redstarts, those characteristic birds of the foot-hill streams, which, dressed in their beautiful livery of chestnut and black, crowned with a shining white skull-cap, bow to us as they flit from boulder to boulder. On reaching the spot where the kill was lying we find that it has gone, which tells us that the tigress has been there and has taken the kill away to some other place to eat—perhaps because she did not care for the smell of the otters' offal lying at the mouth of the den! It now seems quite likely that the tigress has fallen into our photographic trap, so we push on eagerly, only to find that we have miscalculated the spot, and that her tracks have passed within a few feet without actually touching the trip-wire. This is very disappointing, but it is now worth while stalking the kill again, so we follow up the drag through the dense grass, keeping every sense alert for those numerous jungle signs which indicate the presence of a tiger. There are at the moment no monkeys in the neighbourhood, so it is no use relying on their assistance, and we have heard no alarm cry of sambar or kakar since we have been in the *sot*. This means that the tigress is probably not moving about; but perhaps she is lying down resting after her meal and has thus not been seen by the numerous watchmen of the jungle. Ah! There are five or six vultures sitting patiently on a tree in front of us and looking longingly down on the ground beneath. Now why are they doing that? It is too early in the day for them to have eaten their fill, and it can only mean that they are afraid to

approach the carcass which they have located. This is a very strong indication of the presence of the tigress, so we hold the reflex camera all ready for action as we gradually approach nearer and nearer.

At last we can see the kill, but there appears to be no sign of the tigress. What! Have we misread the jungle signs, and is she not here after all? No, surely not; we must look more carefully. With extreme care we bring the elephant right up to the kill and gaze among the thick grass and bushes in every direction. A minute or two's inspection shows that our optimism is justified, for there she lies, only a few yards away, right in the middle of a dense thicket of bushes. She is watching us closely, opening and shutting her mouth in a mild snarl as she is doing so. The distance is only a few yards, but unfortunately—as so often happens—her position is impossible from a photographic point of view, since she is lying in very deep shade with many intervening branches and twigs. We focus the reflex on her, but she is hardly visible on the mirror owing to the lack of light and the blurred intervening twigs. Bitter experience tells us that it is quite useless to make an exposure in such circumstances, so we sit and watch the tigress making faces at us—so near that we could almost shoot her with a catapult, but as distant as the North Pole so far as photography is concerned. This mutual inspection goes on for some minutes, until at last the tigress, preferring solitude, gets lazily up, stretches herself, and moves quietly off into some impenetrable scrub where it is quite useless to follow her. That being so, we decide to try once more to catch her during the night, so we set the automatic camera again in a slightly different position, arranging it in such a way that, should we succeed, we shall obtain a full-face picture of her wonderfully handsome head.

The next day we arrive early in the morning to find out if we have been successful, and are delighted to find that everything has worked beautifully, in that she has posed exactly as we wanted her to do. She has fired the flashlight at a distance of some twelve feet from the camera and facing towards it, so that she should have given us exactly the picture we are seeking. Delighted with our good fortune, we proceed to dismantle the camera. On doing so, however, we receive a rude shock, for we find that, as has so often happened before, we have been counting our chickens before they are hatched. Certainly she has fired the flashlight exactly as we wanted her to do, but alas! the intricate mechanism has failed to work satisfactorily and the shutter has not been released. The result is that we have disturbed her unnecessarily, wasted Rs 10 worth of flash-powder, and obtained nothing but disappointment for all our trouble. However, he whose hobby it is to photograph wild animals soon learns that "There's many a slip 'twixt the cup and the lip", so, after nursing our disappointment for a day or two, we philosophically realise that after all no harm is done and we can always try again.

In this way, sometimes by stalking, sometimes by sitting in a machan, and sometimes by automatic flashlight, I have been hunting these two tigers with my camera for years. The tigress I have never yet succeeded in photographing, but one day I secured a good picture of the tiger going down to have a drink in the stream. I also obtained a portrait of their grown-up daughter, who now occupies a neighbouring beat, and occasionally, though rarely, ventures to intrude upon her parents' beautiful home—which I make a point of visiting every time I happen to be in that particular neighbourhood. The appeal of the place grows, if possible, greater every visit, and despite years of failure,

I still hope that some day I shall succeed in photographing the whole family of tigers there. Even if I do not, I shall always remember this fascinating mountain stream as one of the most attractive places I know in the beautiful forests of India.

Chapter 15

BHALOO, THE BEAR

"Horrible, hairy, human, with paws like hands in prayer,
Making his supplication rose Adam-zad, the bear,
I looked at the swaying shoulders, at the paunch's swag and swing,
And my heart was touched with pity for the monstrous pleading thing.

Touched with pity and wonder, I did not fire then. . . .
I have looked no more on women—I have walked no more with men,
Nearer he tottered and nearer, with paws like hands that pray—
From brow to jaw that steel-shod paw, it ripped my face away!"

KIPLING.

THOSE people in India, and also other countries, whose knowledge of black bears is confined to the begging animals seen in "Zoos" or the miserable maimed beasts, shorn of teeth and claws, that are dragged about the country-side and made to perform in the compound for our amusement, tend to think that bears are harmless amusing animals specially provided by Nature for the entertainment of children—not to mention their parents! But to the hill-man collecting firewood or grass near his home, or the forest-guard patrolling his beat in the depths of the forest, black bears are a constant menace, and every year there is a long list of casualties among those unfortunates who have happened to stumble upon a sleeping or unwary bear. Unlike tigers or leopards, bears very rarely if ever become man-eaters,

but they are possibly more dangerous in their own way. They have poor hearing and poorer eyesight, and they generally sleep heavily during the day-time, so that it quite often happens that they fail to hear men approaching, with the result that they are very liable to get surprised at the last moment. In their surprise they lose their heads, and before they know what they are doing they have attacked and horribly mauled the unfortunate and unintentional cause of their annoyance. Tigers and leopards, on the other hand, sleep with one eye and both ears open, so that they almost always hear anything approaching, and for reasons best known to themselves they get out of the way in good time, thereby avoiding sudden and unexpected meetings. Hence, unless there happens to be a man-eater in the neighbourhood, it is far safer to wander about unarmed in jungles teeming with these big felines than is the case in bear-infested country. To the armed man or shikari the position is of course reversed, for a wounded bear rarely charges home, whereas a tiger or leopard fighting for his life is a very different proposition indeed from an unwounded animal, which nearly always wishes to avoid encounters with human beings.

Three species of black bears occur in India—the Himalayan, the Sloth, and the Malayan. Firstly let us consider the big black Himalayan bear, the terror of the hill-man, which steals the maize and fruit from his fields and sends numbers to the hospitals annually, nearly always with face wounds and often with the loss of eyesight. This species of bear, although it normally lives in the hills and is found right up in the snow, has a comparatively short coat, whereas the sloth-bear of the hot foot-hills and plains has long shaggy fur. Surely Nature must have made a mistake here, for the long hair of a sloth-bear suggests wearing a big fleecy

overcoat in the hot weather—an overcoat which would be much more useful to his cousin when wandering about on the snow-clad hill-sides.

Himalayan black bears are very fond of acorns, and they are often to be seen making a hearty meal high up in the hill-oak trees. They are also extremely partial to the fine wild raspberries that occur in the mountains of the extreme north of India on the borders of Afghanistan. When gathering these raspberries one has to be extremely careful not to stumble across a bear on the same quest, or there is likely to be a bad accident. I wonder how the numerous gatherers of blackberries in the British Isles would care to find a huge fierce bear already in possession when they arrived at a likely bush for filling their baskets!

These black bears of the hills are, on the average, fiercer in disposition than the sloth-bears of the plains, and they are also at times distinctly carnivorous, killing sheep, goats, deer, and even cattle and ponies on occasions. One particular bear that I knew of in the Sufed Koh range of mountains in the Kurram valley was reputed to have killed some thirty goats in a single year, and others are said to have been equally destructive elsewhere, but such bears are the exception rather than the rule, and I believe that many Himalayan black bears do not kill anything larger than grubs and ants during the whole of their lives.

Sloth-bears are of much the same size as the hill bears, but they are more ungainly animals with bare snouts and a shuffling gait, apart from their long shaggy hair. Actually the two species are sometimes found in the same forests in the foot-hills in the United Provinces, and the photograph of a hill-bear illustrating this chapter was taken some miles below the foot of the main Himalayan range at a height of only about one thousand feet

above sea-level. These hill bears, however, make only short excursions into the plains to obtain some particular article of food, for they are wonderful field botanists and know exactly when each of the various edible jungle fruits ripen; but they soon return to the fastnesses of their hilly homes after gathering the harvest. Sloth-bears, on the other hand, hardly ever ascend any distance into the high hills, although they occur to a height of about two thousand five hundred feet on the Siwalik range.

At first sight it might appear strange that active animals like sloth-bears, which travel long distances in search of food, climb trees even without branches with ease, and dig deep holes in the ground in search of white ants or grubs, should have been labelled with a name that suggests sluggishness. Actually, however, such an insult is not intended, and the name was adopted by earlier naturalists because of the absence of two median incisors in the upper jaw which suggested an affinity in structure with the sloths of America—animals that really are somewhat sluggish. At the same time casual meetings with these bears do constantly occur, suggesting that they are too lazy to get out of the way, which might give the idea that they are creatures of sloth; but the real fact is that their senses of sight and hearing are so poor that they are much more liable to be surprised than is the case with creatures that are endowed with more sensitive ears and stronger eyes.

At one time sloth-bears must have been among the commonest of the larger animals in India, but their numbers have been sadly reduced during the last fifty years, although they are still common in some forests and occur sparingly in many more. Although Himalayan bears do a good deal of damage to forest trees, particularly deodar, steal village crops, and sometimes even kill cattle, sloth-bears are purely forest animals, which do little or no harm

beyond digging occasional holes in roads. Unfortunately, however, the risk of an unexpected meeting with a short-tempered bear is a constant menace to forest officials and employees, and so many people have been mauled in recent years in the forests of Oudh that Government has been forced to place the large reward of Rs 25 (nearly £2) on their heads. It is a pity that this has had to be done, for it will certainly result in a great diminution in their numbers; but there appears to be no other remedy. If one could only enforce an order that all sloth-bears were to wear a bell round their necks with which to warn people to give them a wide berth, the difficulty would be solved, but the writer for one is not prepared to undertake the fixing of the bells!

Sloth-bears are really most interesting and intelligent animals with characteristics peculiar to themselves. They have wonderful powers of suction and draw white-ants out of their homes by digging a hole in an ant-hill and then sucking for all they are worth; they have an extraordinary knowledge of the times of fruiting of jungle trees, and travel long distances so as to arrive at particular places where some favourite fruit is just fit for their somewhat specialised palates; they carry their babies about on their backs like miniature jockeys (see plate lxi); they cry out like human beings when wounded; and they are said sometimes to get violently drunk by imbibing large quantities of fermented toddy from the vessels placed beneath the wild date-palms by villagers. Except small creatures like wasps and moths they are probably the only wild animals which indulge in this particular vice of the human race—and in any case they go one better than us, for they at least, presumably, have the excuse that they are unaware that a long drink of palm toddy will reduce them to a state of glorious intoxication!

Many species of bears tend to become scavengers at times, and I have taken some three or four flashlight photographs of sloth-bears actually eating tiger-kills, sometimes in an advanced state of decomposition, although none of these is sufficiently good to justify inclusion in this book. It has been recorded that the beautiful and clean-looking polar bear has been known to feed on the highly decomposed carcass of a whale, and the black bears of America are said not to be above grubbing in rubbish heaps for tasty morsels, like the tramps of the English country-side. So the sloth-bear is really no worse than his relatives.

Mr. Dunbar-Brander's excellent book on the wild animals of Central India begins with a most interesting chapter on sloth-bears. He records weights of over four hundred pounds, but the average weight he places at a little less than that of wild pigs. He states—and I am totally in agreement—that sloth-bears are exceptionally fond of their young, which they will defend in the most determined manner. Adult bears are also affectionate towards each other, and express sympathy if a companion is wounded. An extreme instance of affection for a mate was recorded by Gordon-Cumming, when a male bear removed his dead spouse, apparently with the object of affording her succour.

No reference to sloth-bears would be complete without a mention of two remarkable habits of the species. The first of these is the unusual custom of sucking their fore-paws, like a school-boy after eating sticky toffee, which has never yet been satisfactorily explained. It has been suggested that such sucking is in the nature of a salve to the paws, which must get considerably bruised with the hard work that they have to do in digging; while another suggestion is that there is a certain secretion of greasy matter, possibly of a saline nature, between the pads of the feet,

to obtain which is the cause of the sucking. The other habit is the extraordinary behaviour of sloth-bears when wounded. When two or more bears are in company, and one is wounded, the injured beast often turns and furiously attacks his companions, apparently under the impression that the injury has come from them. Dunbar-Brander records a remarkable case of this when one wounded bear became involved in a quarrel with three of his companions, which resulted in a seething yelling ball of fighting bears rolling down into a nala in front of them.

The last of the three black bears of India, the Malayan black bear, is much smaller than the other two species, and it occurs only in parts of Eastern Bengal and Assam. Its true habitat is the Malay Peninsula, Burma, Sumatra, Java, and Borneo, and very little is known of its habits except in captivity. It is said to be a most amusing and active animal, very easily tamed if caught young, and a source of constant mirth to its owner. It is a great pity that its distribution in India is so limited.

"*Squatting over the ant-hills, or robbing the Kawa's nest,*
Life is enjoyment to Bhaloo, he liveth his with zest.
Rumbling, and grumbling, and tumbling, through the forest he goes,
The hill-side, daylight robber, the mirth of friends and foes."

W. J. K. S.

Chapter 16

THE GANGES FORESTS

"If thou art worn and hard beset
With sorrows that thou wouldst forget—
If thou wouldst read a lesson that will keep
Thy heart from fainting, and thy soul from sleep,
Go to the woods and hills—no tears
Dim the sweet look that Nature wears."

LONGFELLOW.

HINDUSTAN—land of the lordly Brahmin and the down-trodden Untouchable, of fabulous riches and abject poverty, of ancient temples and picturesque mosques, of snow-capped mountains and great waterless deserts; land of prostrating heat and bitter cold, of devastating floods and parching drought, of wonderful colouring and infinite variety! Truly there is much in this "Land of regrets" to compensate the exile for the separation from his home and family, and to justify the Indian in his natural pride in his motherland. Surely the "glamour of the East" is more than a mere phrase, and there is room in this great land for all to find contentment and to forget for a time at least the seething unrest which the Great War has left as an unwelcome legacy to a battered world.

Perhaps happiness is more difficult to find in great cities, where the nerve-racking and unsatisfying scramble of many human beings collected together leaves little time for appreciation

and study of the more beautiful and less sordid things in life. But once away from the clang of the trams, the hooting of motors, the bustle of many people intent upon urgent affairs, the ugly buildings erected by man—away in the heart of the great jungles where Nature reigns supreme—how different is the atmosphere, how restful everything seems, how like a new and better world!

Let us pass to Kunaon, a lovely little thatched forest rest-house perched on the left bank of the mighty Ganges, the "Mother Ganga" of the Hindu, only a few miles below where she emerges from the last outer rampart of the Himalayas and rushes along with a pleasing murmur—as though she feels that she must hurry now, or never will the long and arduous journey to her ultimate resting-place in the Bay of Bengal many miles away be completed. We sit on the verandah of this quaint building, now, after the abnormal floods of 1924, only a few yards away from the steep bank which is for ever being washed by the sacred waters so close. In front of us is the rushing water, singing as it goes merrily along, and bearing rafts of pine and deodar logs which it has kindly brought down in its bosom, as a free service to mankind, from the distant forests high up in the mountains near its source. Perched on a boulder near the bank is a handsome pied-king-fisher, or fish-tiger as he is sometimes called, gazing eagerly at the swirling waters in front of him, and waiting for the chance to plunge in and gather the food which the kindly river provides for him. Above the water, two terns, birds which for grace and elegance take a very high place among the aristocrats of Nature's wild creatures, are circling round as they search for their evening meal. A little further down the stream seven otters, a whole family party, are sporting about, sometimes diving deep down into the water, sometimes raising their heads well out of it, and

at all times blatantly revelling in their complete mastery of the element in which they spend the greater part of their happy lives.

On the further bank is a belt of rich and fertile grass-land, fed by the life-giving river, and affording excellent pasturage for cattle, as well as shelter and food for numerous pea-fowl and grey-partridges whose happy cries ever and anon strike upon the ear. Beyond, we see the beautiful plateau of Dehra-Dun, with its background of the famous Mussoorie and Chakrata hills, or mountains as they would be called in England. To our right, a few short miles away, there is the mountain-fringed gorge cut by the river untold ages ago, and now once more spanned by the splendid suspension bridge of Lachmanjhula. Only a few years ago the mighty river, as though resenting being bridged by puny man, rose in a giant flood and swept away the previous bridge—the one-time pride of the engineers who constructed it. Once more a bridge is there, finer in the eyes of mankind even than the last, but one wonders how long the river, more powerful and of much greater ancestry than man, will allow this new affront to her dignity to stand.

To our left, further down towards the plains, the horizon is bounded by the jagged crests of the Siwalik hills, which form the outer boundary of the doon and act as a rampart to protect that happy valley from the devastating hot-weather winds which scorch the less fortunate plains below. Behind us and stretching right up to the very bungalow in which we are sitting are the Ganges forests, home of the wild elephant and the tiger, the black bear and the sloth-bear, the leopard and the hyæna, the sambar and the cheetal, and scores of other creatures down to the porcupine and the hamadryad, the python and the crocodile—and it is here that our guests are going to spend the next few days with

us, and forget the worries of city life, the annoyance caused by the omnipotent congress-walla and the picketer, the menace from the assassin and the bomb-thrower.

Our guests have had a long and somewhat troublesome train journey before reaching the nearest convenient railway station to our chosen retreat. On leaving the railway where we met them, we crossed the Ganges by the temporary pontoon bridge below Hardwar, and the remaining twelve miles along the forest road we have come on foot, with our kit following on baggage camels. Motors are rapidly making us all more and more lazy, and we are genuinely pleased on this occasion that the road to our destination is not fit for motor traffic, so that we can leave that useful, but in some ways objectionable, adjunct of modern civilization behind. Some of us in these fast-going times have got into the bad habit of not going to jungly places which cannot be reached by motor, and yet, for those who really love the wilds, this is possibly an advantage, for it keeps the lazier sportsmen away, and leaves the wilder places more undisturbed and therefore all the better for those who still know how to make use of shanks' mare in order to get right away from the "madding crowd"! Also there is something markedly incongruous about a motor-car in the heart of the jungle, where it seems just as much out of place as an elephant would be strolling down Piccadilly! Hence we feel no regret at having left our petrol carriage far behind and we experience a thoroughly pleasant feeling of well-earned relaxation as, lolling in long chairs on the verandah, we stretch our limbs after our enjoyable walk, and watch the sun sinking down behind the rugged crests of the Siwaliks upon the first day of our holiday in the jungle. What perfect bliss! Delightful scenery in front of us, rendered even more beautiful by the mellow evening light;

the melodious rhythm of the swirling waters rushing by, mingled with the varied cries of the evening birds to soothe us; no files, no post or office, no trains to catch, no troublesome business or interviews on the morrow—just a fortnight's rest and change to be spent in a jungle famous for the number and variety of the wild animals which it contains. What more could the ordinary healthy man require?

Thus the evening rapidly slips away and we are soon ready for bed; but a thrill is in store for us, for, just as we are settling down for the night, the sound of elephants' trumpeting comes from the jungle behind us, and tells us that the wild elephants which we are particularly anxious to see are not far off, and that the chances are good for our guests to obtain their first view of the familiar *hathi* of India in his wild and natural state on the morrow. And so to bed and sleep, with fantastic dreams of elephants throwing bombs at police officers and tigers picketing foreign cloth shops.

Early in the morning we are out on a tame elephant trying to pick up the trail of the wild elephants which we heard during the night, and it is not long before we find freshly broken bamboos, with the leaves and twigs of the graceful foliage scattered in all directions, for wild elephants are very wasteful feeders and destroy ten times as much as they consume. A little later we find fresh tracks of all sizes, which tell us that the whole herd of some fifteen to twenty elephants was here only a few hours before. Hope now runs high, for it is certain that the herd cannot be far away from such good feeding-ground, with drinking and bathing water in abundance. Very quietly we follow up the trail, assisted by our mount, who is excited by the—to her—strong scent of her wild cousins, and who assists us by stretching out her trunk in the

direction in which they have gone. We follow eagerly but silently for a mile or so, the trail being often quite clear in the soft ground and littered with the debris left by the giants of the jungle as they passed along.

Then comes a check, for the wild elephants had reached a dry stony belt of forest where their favourite bamboos were absent, and we are at a loss to tell which way they have gone. A good tracker could certainly pick up the trail even in such difficult country, but it is beyond our power, so we decide to go up a dry watercourse at the head of which there is water known to be frequented by wild elephants. Our guess soon proves to be a lucky one, for only a few minutes pass before we hear the sharp crack of a breaking bamboo—a certain sign of the presence of a wild elephant. Very very gently we push our elephant forward in the direction of the sound, but the jungle is thick and for a time we see nothing, so that we are beginning to fear that the wild elephants have scented us and have disappeared as silently and rapidly as only these huge beasts can. We decide to wait, as it is quite useless to follow a retreating wild elephant, and presently an extraordinary sight greets our eager gaze. In front of us is a dense growth of shrubs only three or four feet high, and above these shrubs what appears to be a large dark-coloured snake begins to wave its head from side to side, backwards and forwards, in a most fantastic manner. Our thoughts immediately turn to hamadryads and pythons, both of which occur in these forests, but the colouring is not right for either of these great serpents, and in any case what is the snake doing waving about in this uncanny way? We do not think of the possibility of an elephant, as the bushes are too low, but gradually it dawns upon us that our "snake" is really the trunk of a baby elephant whose body is entirely con-

cealed in even such short bushes. This exceeds our wildest hopes, for if there is one photograph we want more than another, it is that of a baby elephant, and here is one only a few yards away—if only he will come out of his retreat and give us a chance to take his picture. It is quite useless to attempt to stalk him in such thick cover, so knowing that nearly all wild animals have the trait of curiosity strongly developed, we decide to stand quite still in the open in the hope that he will overcome his nervousness and approach closer to examine this new and strange member of his family that has appeared.

We thus wait quietly for a few minutes, until, quite unexpectedly, from some thick jungle a little behind the baby, a second elephant appears, and we instantly jump to the conclusion that it is the mother coming to protect her child, and probably to attempt to drive us away. The excitement now becomes intense, for one cannot play tricks with a mother wild elephant, and we are hesitating as to whether it would not be better to beat a retreat while the going is good, when we notice the gleam of a white tusk, which at once tells us that it cannot be the mother, for the females of Indian elephants—in contrast to their African cousins—have no tusks. The new arrival does not seem in the least nervous, and calmly strolling out of the jungle in our direction, stands in full view a few yards away and subjects us to a close scrutiny. This examination seems to satisfy him that we are neither particularly interesting nor particularly dangerous, and he soon turns away to look for the food which is the main desire of his young life, for he is a "boy" elephant about ten years old who has presumably been deputed to look after "baby". The latter, finding that his brother comes to no harm, at last emerges from his dense retreat and scuttles across to join his larger com-

panion. What an attractive little fellow he is! Under three feet high and obviously not more than a year or two old, he must be one of the very youngest members of the herd, and it is difficult to realise that in all probability he will still be roaming these very same jungles when the year 2000 dawns—long after most of us have returned to the dust from which we came. He takes care to keep fairly close to his brother, and every now and then up goes his miniature trunk—our supposed "snake"!—as he takes good sniffs of the curious scent of tame elephant mixed with another and objectionable scent which he does not now recognise, but which later he will learn to belong to untrustworthy man.

Shortly afterwards a third young elephant appears, and all too soon every plate we have is exposed on these delightful elephant children, which have given us the best chance we have ever had to photograph wild elephants. How we wish we had more plates and also a cinema camera, for the light is comparatively bright, and it will be many years before an equally good chance again presents itself. However, we have been very lucky and in all probability we have secured pictures which will vividly recall the scene to us in years to come, when perhaps we may have left India and its fascinating jungles for ever. As we have no more plates and it is getting late in the morning for wild elephants to remain in the open, we decide not to seek to-day for the remainder of the herd, which cannot be far away, but to return to the forest rest-house more than satisfied with an experience which does not often fall within the lot of even the host, a forest officer who spends most of his life in the jungles. Eagerly we await the night so that we can develop the exposures we have made, and when at long last it comes, and the critical time of development is past, we are delighted to find that five of the negatives have turned out

so well as to produce some of the best animal pictures we have ever made in the Indian jungles.

Our first day in the Ganges forests having been so strikingly successful, it is only to be expected that fickle Fortune will decide that it is time to show us that we cannot have everything our own way, and certainly she does not smile on us again so far as wild elephants are concerned during the remainder of our stay in this alluring spot. The very night that we develop the photographs taken the first day, the whole herd collects together and crosses over to the other bank of the Ganges, so that we see them no more. Perhaps the youngsters related their experiences of their meeting with us to the elders of the herd, who decided it was time to move on, or maybe they intended to cross the river in any case—but what matter! Our guests have had an extremely interesting experience, and there are so many other wild animals besides elephants in the forests that our time passes only too rapidly. Some days we try for mahseer in the river; other days we wander about on the tame elephant seeing all sorts of wild creatures. We have two or three tiger kills, over one of which we manage to secure quite a good photograph of the slayer, and on two occasions we see sloth-bears carrying their babies about on their backs like miniature jockeys.

Thus the all-too-short time of our stay in this animal paradise slips away, and reluctantly we are forced to pack up our kit and bid our guests farewell, on their return to the dust and noise and worry of civilisation. They have spent in these jungles perhaps the best holiday that it has ever been their good fortune to enjoy, and they will always, whenever they weary of life in the East, remember this one spot where, if nowhere else, they spent a fort night of perfect happiness.

Chapter 17

JUNGLE CAMOUFLAGE

"Tread lightly, for a thousand hearts unseen
Might now be beating in this misty green!"

TO the casual visitor, or those who do not know it well, one of the most striking features of the Indian jungle, as contrasted with the African veldt, is the fact that it is possible to spend a whole day or even longer in a forest teeming with wild animals and yet see none at all. Indeed, I know of one case of a more or less experienced shikari who spent a fortnight in a certain shooting block and then reported to me, as the forest officer in charge, that it contained practically no cheetal, whereas I knew that there were large numbers of those beautiful deer permanently in residence in the area in question.

Various factors are involved in this deception practised upon the uninitiated by the great Indian jungles. Firstly, many of the creatures of the wild in this country are so harried by sportsmen, poachers, and other possessors or borrowers of firearms that they have been forced to become largely nocturnal in their habits. Secondly, the jungles are often extremely dense with thick matted undergrowth forming a natural screen. But lastly, and one might possibly say mainly, a kindly Nature has endowed many wild animals with a colouring which, in certain circumstances, provides them with a mantle of invisibility which is often of extreme value to them. This colouring of animals, which is usually termed

"protective coloration", has been the cause of many violent arguments between naturalists and sportsmen, extremists on both sides having pushed their views to absurd lengths. The fault probably lies chiefly with a few fireside naturalists who, having discovered a law of Nature which undoubtedly holds true with certain animals in certain set conditions, have let their enthusiasm run away with them, and have made claims which the man who lives in the wilds and does not spend his time within the four walls of a museum realises at once to be ridiculous. The result is that the latter, finding bad flaws in the arguments set forth by one or two misguided enthusiasts, tends to condemn the whole idea and goes to the other extreme by boldly claiming that all that has been written or said about protective coloration is "solemn nonsense".

An example, taken from Mr. W. P. Pycraft's valuable book *Camouflage in Nature* will make the matter clearer. The flaming red of the flamingo of the Bahamas, we have been gravely told, has been tinted to match the sky at sunset or sunrise as the case may be. The author of this singular theory, realising that against such a sky these birds (being opaque) would appear, not red, but black, even though he paints them red against a red sky, goes on to tell us that they would match the sky only when seen at the opposite quarter of the heavens—where the sky is not red! Of what advantage can such a livery be? The author's thesis is designed to show that all coloration is to invest the wearer in a mantle of invisibility. What possible benefit can it be to a bird to display a harmony of tone with the rising or setting sun, considering that the heavens shine with a reflected glory for a few minutes at most at the beginning and end of the day. If such a protective colouring were really necessary to the well-being of

flamingoes, where could the poor things hide themselves during the long hours of daylight when their supposed colour scheme failed to work?

Ignoring then, for such obvious reasons, the extremists on both sides, the coloration of animals is at the present time regarded as presenting four main types—protective, warning, mimetic and sexual colouring. It is the first of these, the protective or obliterative colouring, that is most obvious to the ordinary man who keeps his eyes open in the Indian jungles, and it is interesting to find that both the hunter and the hunted have, in many cases, adopted similar devices in the matter of coloration. In the former case, such obliterative colouring helps the famished carnivore to creep upon his victim unawares, whereas similar colouring in the same way assists the intended prey in concealing himself from the eyes of the prowling hunter. In this connection it must be clearly understood that obliterative or protective colouring is of value only while the creature so coloured is quite motionless, and failure to realise this essential point is the reason why many people refuse to believe that there is any meaning whatever in the infinite variations in the colours of animals.

Let us take the case of the tiger. The bold yellow and black stripes are considered to resemble the yellow stems and black shadows of reed jungles and the tiger is thus said to be obliteratively coloured. This theory, plausible though it sounds, is however open to certain objections. In the first place, most zoologists agree that the tiger is a comparatively recent immigrant into India from Central Asia, so that his colouring, which must have been fixed before he ever came to India, cannot be compared with the vegetation in his present habitat, which incidentally consists but rarely of reed jungles. Certainly the predominant

colour in most Indian jungles is green, for nine or more months in the year, so that it would appear that a more suitable colouring would be green and black, and those who have ever seen a tiger walking through a sunlit green jungle must have been struck by the astonishing colour contrasts so produced. Yet the tiger seen thus strolling through the jungle is not hunting, and apart from man in recent years, he has no enemies from which he needs to hide himself. The ordinary tiger nowadays hunts by night when his striped hide, breaking as it does the solid mass of his body, certainly renders him almost invisible. When hunting by day, as presumably he normally did at an earlier period before the advent of firearms, he takes advantage of every scrap of cover, and whenever he has to expose himself he keeps his eyes glued on his intended victim. The moment he feels his presence is suspected he "freezes" instantly, and it is astonishing how difficult it is to see a motionless crouching tiger even in the green grass. Hence we can claim that the tiger, even in present-day conditions, either by day or by night, is coloured in such a way as to help him in stalking his prey. Perhaps if he were given a green and black instead of a yellow and black livery he would have too great an advantage and obtain his food too easily—with the result that he would soon lose his magnificent physical condition and marvellous skill as a hunter.

It may interest some juvenile readers of this book to hear a Malay legend that accounts for the yellow and black stripes of the tiger in quite a different way from that of the scientist or the sportsman. It is to the effect that there was once a boy of such an incorrigibly naughty disposition that he was soundly thrashed by his schoolmaster, with the result that he was changed into a tiger, whose descendants carry on their hides to this day the marks

of the whip with which he was beaten. Truly an ingenious and typically oriental explanation of a problem which still continues to intrigue the student of natural history!

Many other animals in the Indian jungles are protectively coloured, the leopard being an outstanding example. When crouching in a shady place with the light striking on his body after passing through the screen of leaves, he is often extraordinarily difficult to see. Indeed, many accidents happen when sportsmen are following up wounded leopards purely and simply because the angry animal has crouched motionless until the advancing hunter, whose comparatively weak eyes have failed to detect his dangerous quarry, has stumbled right upon him—often with serious or even fatal results. The cheetal is another animal to which a spotted colouring is often of great value. Cheetal feed mainly in the morning and evening, when they remain for the most part in the open, and trust to their eyes and noses for protection from prowling enemies. During the heat of the day they rest sitting down in shady places, and at such times they remain motionless and often totally undetected. The accompanying photograph, on plate lxii, is a good example of the lighting which enables a cheetal to merge into its surroundings. I have shown this photograph, sometimes upside down, to a number of people, some of whom have exclaimed "What is it: I cannot see anything at all?" And yet, as soon as one's eyes have picked out the large cheetal stag quietly resting in the shade, the photograph becomes perfectly clear. Numerous other examples occur to one at once. A motionless sambar standing on an open hillside matches wonderfully well with the dark trap rocks so common in Central India; a crocodile drifting in a pool looks exactly like a piece of wood; a brooding partridge or nightjar is almost in-

visible; green pigeons sitting among green foliage often deceive the sharpest of eyes; the chameleon even goes to the extent of changing colour to match his surroundings; and then there are the praying-mantises, the leaf-butterflies, the stick-insects, and a hundred and one others too numerous to mention in a book of this description.

I think that enough has now been said to show that there must presumably be some meaning in the first form of protective or obliterative coloration of animals, although we are as yet a long way from a full understanding of all its aspects. We will now consider the second division of protective colouring—that which affords protection to its owner by warning its enemies that it is better left alone.

The commonest case of such coloration is the American skunk, which is so conspicuously banded with black and white that it cannot escape discovery, either by day or by night. Indeed, it does not make any attempt to conceal itself. Its main method of defence is to squirt nauseating liquid from glands near the tail, and its striking colouring is thought to be intended to warn enemies that it is better to keep at a distance lest worse befall them. Such warning coloration is not very well represented among the inhabitants of the Indian jungles, although the black and white quills of the porcupine are considered by some to serve this purpose. They cannot, however, be very successful in this way so far as tigers and leopards are concerned, since both of these carnivores consume considerable numbers of porcupines whether they are warned off by strikingly banded quills or not. Yet the porcupine sometimes "gets his own back", if we may judge from Major Trevor's opinion that the death of a lion (and also presumably a tiger) is nearly always the same—that his life is generally

terminated as the result of porcupine quills sticking in his jaws and pads, and thus preventing him from catching or eating his prey. While I certainly do not entirely agree with the above-quoted opinion, none can deny that tigers often suffer as the result of their inordinate fondness for porcupine flesh. Yellow and black is a warning coloration that is worn by many poisonous creatures such as snakes, wasps and caterpillars in India, and in some other countries such as South America, where the venom from highly-coloured toads is so powerful as to be used even for poisoning the tips of arrows. Those of us who live in the East and are constantly exposed to danger from the inconspicuous dust-coloured krait often wish that this extremely venomous snake would also adopt the strongly-marked colouring of some of the other creatures which fall in with the man-made theory of warning coloration.

The third type of coloration is that of mimicry. By this is meant, not the resemblance of a sitting bird to its surroundings or of a moth to a tree trunk, but cases where the body loses its identity by assuming the likeness of some other creature. Such examples are uncommon among mammals, and are chiefly to be found among butterflies, in which species that are edible by birds sometimes take on the form and colouring of others that birds dislike. An Indian example is the bee hawk-moth, which, by looking like a humble-bee, tends to escape attention from those birds which feed on butterflies and moths, but not on bees.

Another example is the Indian cuckoo, which is only too well known to every dweller in the East under the descriptive name of the brain-fever bird. This parasitic bird closely resembles the Shikra or Indian sparrow-hawk in appearance, and takes advantage of this resemblance to deposit its eggs in the nests of

babblers, while the latter have fled in terror from what they imagine to be an extremely pugnacious and active hawk.

The fourth aspect of colouring, that of the beautiful colouring adopted by male birds at the breeding season, is a vast subject which hardly comes within the scope of this chapter or of this book, so I will refrain from making any remarks on a subject to which I feel that I cannot possibly do justice.

Chapter 18

AN INDIAN HILL-STATION DURING THE MONSOON

WITH what eagerness is the arrival of the annual monsoon in June awaited throughout India! What a tremendous relief it is, after months of heat and drought and dust, to smell the delicious scent of wet earth once more, to see green grass sprouting out of the parched ground, to feel that the monsoon, provider of food to India's innumerable cultivators and annual cleanser of the whole country-side, has really come at last! Truly at such a time we can echo with deep feeling those two lines of Longfellow:—

"*How beautiful is the rain!*
After the dust and heat."

Yet after the monsoon has been in full force for but a few weeks, it is often cursed as heartily as its arrival was blessed by the dwellers in hill-stations, where the rainfall may be anything from fifty inches up to the fantastic figure of about five hundred inches in Cherrapunji! Certainly a rainfall of about forty feet—the height of an average double-storied English house—quite beggars the imagination; yet reliable statistics prove that this prodigious amount of rain does actually fall in most years in peculiarly situated parts of the Assam hills. For ourselves, we find the seventy-five inches of the ordinary Upper India hill-station quite

enough to cause our clothes to grow mushrooms, to ruin our tennis and polo, to make our bungalow leak like the proverbial sieve, to cause us to hate the sound of rain beating on the roof, and to remember with deep feeling that old nursery rhyme: "Rain, rain, go to Spain, and never, never come back again!"

But there is another side to the monsoon in the hills as well as its discomforts, which, after all, are really far less than in the plains. We do at least have a reasonable temperature instead of a constant Turkish bath; we do not suffer from floods—although landslides are not unknown—for the ground is so steep that however heavy the rain, the surplus water drains off very quickly; cholera and other dread monsoon diseases of the plains are rare. Then, again, there is the beauty of the waterfalls; the infinite charm and variety of the cloud effects and sunsets; the occasional glimpses of the eternal snows peeping through beautiful settings of cloud; the wonderful abundance of the ferns which clothe the oak trees, the rocks, the walls, the culverts, and indeed almost everything which is capable of supporting vegetable growth.

It is a common idea that a hill-station, being the haunt of man, contains few or no wild animals, and is thus a very poor place from the point of view of the hunter with the rifle or camera. I venture to suggest that this idea is quite wrong, and that almost every hill-station teems with creatures of interest to the lover of natural history, whereas there are far more opportunities for the hunter than he commonly realises. To begin with, I doubt if there be a single hill-station along the Himalayas which does not permanently support several leopards, and yet how many shikaris make real efforts to bag these leopards in preference to sitting in the club bar imbibing short drinks and complaining woefully about the never-ending rain? Station leopards are generally half-starved,

since their natural food is scarce except for an occasional kakar or gural, and the very few wild pigs that are sufficiently cunning to have escaped from the wily Gurkha—and a pig that can get the better of a Gurkha shikari is quite capable of looking after itself so far as leopards are concerned! The result is that such leopards are usually far more daring than their fellows in the dense jungles, and for this reason should be easier to shoot. Yet in actual fact, very few are ever shot. This apathy on the part of shikaris is really paradoxical, since many a man who thinks it is not worth while to try for a station panther will willingly go to great trouble, discomfort, and expense in hunting for leopards in distant jungles. Yet his chances there are if anything less, since the true jungle leopard obtains his food with such consummate ease that quite frequently he kills a deer, makes one meal, and then abandons it for good—much to the disgust of the disgruntled shikari who, tormented by malaria-carrying mosquitoes, waits patiently for the return of an animal which has already obtained a fresh kill elsewhere.

A good example of this lack of belief in panther-shooting inside a station recently occurred in the particular place which I have in mind at the time of writing. A certain military officer, a keen and successful shikari, found a natural kill of a leopard only two or three hundred yards away from the nearest bungalow. He himself had already shot several leopards, so he placed a friend of his in a machan and told him that the leopard would probably come early. The friend had little belief in station leopards or their daring ways, so he was thus quite unprepared for the fine beast which arrived a short time after he had entered his machan, and while the sun was still shining brightly on the kill. Indeed, it appears that he was so astonished at this early arrival that, despite

the excellent light, he proceeded to make a clean miss at a range where a miss seemed almost impossible!

Actually station leopards are a great nuisance, and many a fine dog has ended its life in the stomach of one of these beasts. Cases frequently occur of dogs being snatched away in full view of the owner, and I know of one occasion when a dog chained to a bed was taken away, chain and all, while the dog's master was asleep in the bed! Apart from dogs, leopards sometimes manage to enter sheep- and goat-pens containing flocks intended for the consumption of Indian troops, and once inside, the half-starved beasts, confronted with probably more food than they have managed to secure within the whole of the last year, seem to go mad with gluttony and the lust for killing. An example of this occurred a few years ago when a station leopard entered a goat-pen, killed every single one of the thirty-nine goats which it contained and then, after gorging itself to the utmost extent, went away unharmed, and is quite possibly still alive to this day. Truly a station leopard, sneaking, hungry, daring dog-thief that he is, is not a pleasant creature, and the keenest of animal lovers can heave few sighs on his well-merited death.

Another animal which occasionally strays into hill-stations is the Himalayan black bear, and this beast also can be very unpleasant at times, as a visit to the casualty ward of the station hospital will often too vividly show. About a dozen villagers living in the particular station which I have in mind were more or less severely mauled in one year, and some two or three were killed outright. At the moment of writing this a wretched hill-woman is lying in the hospital with her lower jaw removed entirely, one eye gouged out, and various other injuries which have left her in such a state that death would be a merciful release. Yet,

such is the perversity of Fate, she appears to be recovering. Should she do so—and the kindest thing is to hope that she will not—she will bear the hall-mark of "Bhalloo, the Bear" for the remainder of a life which can no longer be of much pleasure to her. The real seasons for bears in hill-stations, however, are the hot weather, when they come from long distances to eat the wild raspberries; and the autumn, at which season they are attracted by the acorns which appear in great profusion on the hill oak-trees. The few bears that arrive during the monsoon are usually strays, spending a day or two in the neighbourhood of man, and then passing on to the denser forests which are their real homes and where they are comparatively harmless, unless suddenly surprised or nervous for the safety of their cubs. Nevertheless, Indian black bears, both Sloth and Himalayan, however harmless and amusing they may appear to be in zoos and circuses, are nasty customers to meet at close quarters unless one is armed with a powerful weapon, and it is quite as well that they do not frequent hill-stations more than they actually do.

Of lesser animals, hyænas probably occur occasionally, and most stations contain a few hill foxes, jackals, and civet-cats, although these creatures are normally not very common. Pine-martens, or *chitraulas* as they are called in the Kumaon hills, are frequent visitors, or rather permanent residents, and the mem-sahib who keeps English fowls at great expense is asking for trouble if she leaves even the smallest hole in the netting of the fowl-run. These small but voracious beasts seem, like leopards, sometimes to go mad with the lust for slaughter once they get inside a fowl-run, in which case they are unlikely to leave a single fowl alive, although they cannot possibly eat more than a fraction of what they kill. Another beast always to be found in hill-

stations, and deeply beloved by those who struggle to grow English vegetables in a foreign climate, is the ubiquitous porcupine. These wretched creatures seem to know the exact date on which one intends to dig a crop of potatoes, or cut one's Indian corn, and cheerfully remove the whole crop the night before! This happens so frequently that one wonders they do not leave their cards inscribed with the words "Sold again" after they have consumed, doubtless with great gusto, a crop which was just ripening after months of struggle with weeds and insects and excessive rain!

Another great enemy of the gardening enthusiast in the hills is the langoor, which from his greater numbers is even more destructive than the porcupine. These large monkeys—often incorrectly called grey apes—are quite common in most hill-stations, and, as they are sacred to the Hindu, they become extremely bold and daring, caring little or not at all for the volleys of abuse which follow them on their raiding expeditions from garden to garden. There are nearly always numbers of dogs following in their train and barking as hard as they can, but the langoors care as little for the dogs as they do for the gardeners, and a big old langoor may often be seen sitting a few feet up a tree and telling a yapping terrier below him exactly what he thinks of him and his ancestors, knowing full well that, so far as the dog is concerned, it is a case of "so near and yet so far". These monkeys are appallingly destructive in gardens, and are especially partial to nasturtiums which they gobble up as fast as they can stuff them into their greedy mouths. This fondness for nasturtiums is so marked in Naini-Tal that it is a waste of energy planting them in many gardens, even though the climate is particularly suited to their growth. The photograph of a langoor illustrating this chapter was taken from the door of the office-room of my

bungalow, and shows a big langoor, fully replete after a raid on my garden, carried out while the gardener was having his food—the usual Indian excuse for doing no work—and while I was too busy with my office papers to pay much attention to what was going on outside. I wonder what the English or Scottish owner of a garden, who complains bitterly of the depredations of an occasional rabbit, would say if he saw the damage done in five minutes by a troop of some twenty langoors, or even by a single langoor in a couple of minutes! While writing of langoors, I would mention that at one time there were supposed to be two species, the one inhabiting the plains, and the other the hills. Recently a new classification has been made, which introduces all sorts of permutations and combinations of the two original species —a classification which, considering the extremely limited material and evidence on which it has been built up, leaves the ordinary student of Indian animals gasping! Incidentally in this latest classification—which I personally cannot accept—I see no mention of a marked characteristic of the Naini-Tal langoors, which is that they nearly all have from six inches to a foot of the end of the tails practically white, a colouring I have never seen in the langoors of the plains.

From the gluttonous porcupine and greedy langoor it is a pleasure to turn to the beautiful Himalayan flying-squirrel, which, although purely nocturnal and thus rarely seen, occurs in most hill-stations. This interesting creature, dressed in rich chestnut fur streaked with grey, has its fore-legs joined to the hind-legs by a kind of membrane or parachute, by means of which it can jump off from one tree and sail through the air to another. Very little is known about these flying animals, and it was therefore with great pleasure that I recently discovered the nest of one,

some thirty feet above the ground, in the fork of a banj oak-tree not fifty yards away from my bungalow. The nest was made of twigs and leaves of oak and was domed like that of an English magpie, with a soft lining inside of pine-needles. Early in the morning the rising sun used to strike the nest, which was most cunningly hidden, and the beautiful creature was often to be seen basking at the mouth of its home and enjoying the warmth of the early sun after the damp chilly nights of the monsoon. Such a photographic opportunity was too good to be missed, but unfortunately the tree was covered with slippery moss, and was situated on a steep slope where a fall would have been a very serious matter. After a number of failures, however, by tying myself into a tree with a piece of rope, I managed to make a few exposures at close range. The best of these is reproduced in this chapter. It is probably the first photograph of a wild flying-squirrel sitting in its nest ever made.

I have now mentioned various kinds of animals that are to be found in almost every hill-station, and I have not touched upon the occasional serow or gurul which sometimes occurs, nor have I said anything about the numerous species of lizards which are to be seen everywhere. Grass-snakes of various kinds are very common during the monsoon, and are almost invariably described by the local Indian inhabitants as being very poisonous, with the result that they are usually destroyed on sight. In actual fact, except for small hill vipers, poisonous snakes are comparatively rare in hill-stations, although an occasional cobra or krait does occur up to a limit of six thousand feet.

After the four-footed beasts come the birds, and who can fail to be attracted by the wonderful avian population of the Himalayan hills. Surely everyone must have admired the scarlet

minivets, the verditer-flycatchers, the crested-tits, the blue-magpies, the hill-jays, the babblers, the hosts of others of every shape and hue? Even those who hate going for walks, and who do not notice birds when they are hurrying home from one game to another or dashing off to the club, cannot fail to have heard the joyful "Kaphal pacca" or "Orange pekoe" of the Indian cuckoo, or the monotonous double whistle of the "Seven-second bird", as the spotted scops-owl is called, or the melodious song of Tickell's thrush, so reminiscent both in voice and appearance of the familiar song-thrush of the English country-side. And yet I have heard men say that they hadn't noticed that there were many birds in hill-stations!

I suppose that a man who failed to see or hear birds, or to take any interest in them, would be even less likely to notice insects, but I defy anyone who has spent a rains in the hills to say that he has never heard a cicada, or "Tree-frog" as it is commonly and quite erroneously called. Yet many people who curse the persistent call, which is so loud and penetrating that it sets one's very ear-drums vibrating, know very little about the appearance or habits of the striking insects which make it, for unlike small boys who are supposed to be seen and not heard, cicadas are far more often heard than seen. Of course the cicada is neither a frog nor a locust, but is a homopterous insect, or bug in popular language, and the common Himalayan species is about two inches long, and of a beautiful mottled green colour which matches extremely well with the trees on which it sits. One of the most remarkable things about a cicada is that it takes many years to reach the stage of the perfect insect from the egg, and then its life consists only of a few weeks' hectic drumming and the propagation of its species, after which its short course as a mature insect

is run. It seems a little hard to have to spend seventeen years in the egg, larval, and pupal stages, and then not to be allowed even seventeen weeks of maturity—but such is life in the case of a cicada, and I have heard it suggested that even seventeen minutes would be far too long a life for such a noisy creature! I doubt if the complete life-history of the Himalayan cicada has been worked out, but it certainly closely resembles that of an allied American species, which takes exactly seventeen years from the egg to the adult, never more and never less, although nobody knows quite why the period should be so long or so exact in each case. The cicada's song is made, not with the mouth, but by vibrating a pair of drums situated at the base of the abdomen, and it is worthy of note that only the males possess these drums, so that the ladies have willy-nilly to be silent.

I have now given a brief sketch of a very few of the numerous interesting beasts and birds and insects which are to be found everywhere in every hill-station during the monsoon, and I can only hope that what I have written may raise a little interest in the minds of those who never tire of complaining about the rain, and who are frankly bored when their day's work is done and it is too wet to play any out-door game with pleasure.

Chapter 19

HYÆNAS—UNTOUCHABLES OF THE ANIMAL WORLD

"How he died and why he died
Troubles them not a whit.
They snout the bushes and stones aside
And dig till they come to it."

KIPLING.

FEW people in India—even sportsmen—realise how common an animal is the Indian striped hyæna, which is very widely distributed indeed and occurs, often in considerable numbers, almost from one end of India to the other, with the possible exception of Lower Bengal. Why then, if it is so common, is it so rarely seen or heard, and why is so little known about its habits? The answer is that the Indian hyæna is almost entirely nocturnal, and is normally as silent by habit as its African spotted cousin is noisy, whereas sportsmen despise it to such an extent that on the few occasions when they see a hyæna sneaking out of a beat, or creeping up to a tiger-kill over which they are sitting, they do not even consider him worthy of the expenditure of a cartridge.

We often couple wild creatures with their supposed attributes such as "sly as a fox", "proud as a peacock", "happy as a lark", or "quiet as a mouse", but when we wish to personify cowardice, it is almost always the wretched hyæna that first enters our thoughts.

Now why is this and is it really true that the hyæna may justly be considered as the personification of cowardice? Personally, I claim that it is not, and that the hyæna is unjustly condemned, particularly in India. As I have already said, very little is known about these creatures, and I wonder how much experience of hyænas Kipling had had when he wrote his well-known lines to the effect that the dead are safer meat than the weakest thing alive.

Yet Kipling obviously thought that hyænas must be the world's greatest cowards, and it is more than likely that his judgment was partly affected by the hideous appearance of the animal, which looks hopelessly misshapen, with its enormous head and shoulders and its pitiably weak drooping hind-quarters. Truly it is difficult to imagine anything much more ugly than a hyæna; but appearances are often deceptive, and we all know that the possession of a fine figure or raiment is by no means always a correct indication of the nature that lies beneath. After all, Nature has provided the hyæna with his enormous jaws, in order directly to assist him in the extremely useful work he performs of cleaning up the bodies of dead animals that would otherwise rot—disseminating bad smells and disease in all directions. He has drooping quarters because he does not need the powerful quarters of a tiger for the work it is his function to perform. He does not fight because Nature did not make him a fighting creature—and it is just as well that all wild animals are not endowed with fighting qualities, or the world would be one enormous cockpit, in which it is more than doubtful if man would ever have attained to his present dominant position. No: the hyæna is a hard-working peaceable scavenger—an untouchable among animals—which like the vulture does a great deal to make the world more

pleasant for others, and spends its time cleaning up the mess left by less cleanly animals. We do not, or should not, however strong our prejudices of race or caste may be, despise the honourable "Knight of the broom" because he has (poor man!) to spend his time cleaning up after others. We certainly do not envy him his job; but we do not expect him to be a great fighting man, and we do not immediately dub him as an arrant coward because his training and his work do not endow him with martial qualities. No: we all realise that he is a most useful member of society, and we should find it very difficult to carry on without him. The hyænas and the vultures then, are the sweepers of the animal world, and it is not fair to compare them with the tigers and eagles of a different stratum of society.

The kills of tigers and leopards are frequently visited by hyænas, either when they have been deserted or surreptitiously when the rightful owner is not present. Dunbar-Brander in his well-known book makes the statement that hyænas often annex the kills of leopards, and that he has known them not only to prevent the leopard from coming up, but even to attack him on the kill and drive him off. General Nigel Woodyatt in his *Sporting Memories* remarks that a leopard will desert his kill if a hyæna takes possession. Martin Johnson in his beautifully illustrated books on the wild animals of Africa says that he has known cases of spotted-hyænas in numbers driving leopards and even lions away from their own kills. Other writers have made somewhat similar observations, and it is difficult to argue in the face of such definite statements made by distinguished sportsmen and authors. I can only say that, despite a very considerable experience of hyænas—I must have taken at least a hundred photographs of them—I have never come across a case of a hyæna driving a

leopard or a tiger away from his kill in this manner. When all is said and done, a hyæna is really only a large somewhat timid dog, with very powerful jaws and notoriously weak quarters—and leopards prey upon dogs of all sizes whenever they get a chance to seize them. Further, the average leopard is an extremely powerful, active and courageous animal, that does not abandon his own kills anything like so readily as a tiger, and who is quite prepared to fight even a pack of domestic dogs of such plucky varieties as bull-terriers. Indian striped-hyænas generally move about alone at night and are essentially carrion-feeders, being quite content with meat or offal in an advanced state of decomposition, and even finding tit-bits in rotten marrow-bones. What happens is, I think, this. Hyænas are great walkers with strong powers of scent, and they cover many miles along roads, fire-lines, and paths every night. They must often find kills of other animals and they certainly make a meal whenever they find, after careful scouting round, that the rightful owner is absent. Such absence often means that the real owner has already, for one reason or another, abandoned the kill. This would account for why General Woodyatt found that leopard-kills with hyænas' tracks round them were not of much use, but I think he was wrong in his explanation of the reason. To my mind it was not that the hyæna had driven the leopard off, but that the former had found out that the leopard had already gone away, and that the kill had become his by right, as a result of his recognised position as the unpaid sweeper and cleaner of the jungle. Of course hyænas do also sneak in while the leopard or tiger is away getting a drink or for any other purpose, but in the vast majority of cases they beat a very hurried and undignified retreat on the faintest sign of the approach of the rightful owner. When considerable numbers of hyænas move

about together, as in Africa, the position is of course different. Even with human beings numbers beget courage.

It is quite certain that, normally, hyænas and leopards can live in the same forest on terms of harmony. There is a hyæna's den containing a young family within a hundred yards of where I am writing this, in the N. Kheri forests of Oudh, and there must be at least twenty other hyænas living within a radius of a mile or so. Every road and path anywhere near shows fresh hyænas' tracks almost nightly, and yet the place is also an exceedingly good one for leopards. Two were shot last Christmas; I saw one myself the day before yesterday; my orderly met another only last evening; and I believe that there are as many as six still present. Considering the exceptional number of hyænas here, it seems to me that they must frequently find the leopards' kills. If so, and they drive the leopards away, why do the latter stay here in such numbers, when there are vast areas of forest stretching away towards Nepal to which they could easily go? No: I am convinced that Mr. Dunbar-Brander and others have happened to come across one or two exceptional hyænas, which have led them to attribute to these beasts a daring before leopards that is very far from being the normal habit of the species. Their observations merely show that even the worm will turn on occasions —that even the despised hyæna will, at times, show great courage in attacking an animal far stronger than himself.

I regret that having just disagreed with other writers on the question of the attitude of hyænas towards tigers, it is now necessary for me to disagree on yet another subject. I refer to the sounds made by the Indian hyæna. I have studied these despised beasts for a good many years, and I am familiar with almost all the cries of the Upper India jungles; yet I can definitely state

that I have so far never heard one let forth any cry of any kind from its exceedingly ugly mouth—nor have I ever heard an unfamiliar cry which I could fairly have attributed to hyænas! I do not state that Indian hyænas never make a sound, but personally I believe them to be singularly silent creatures, and it is very misleading to hear them described as "laughing hyænas". It is surprising to read in the *Encyclopædia Britannica*, 14th edition, that the striped-hyæna has an unearthly cry, aptly compared with demoniac laughter, whereas no mention is made of the cry of the African spotted-hyæna, which is a notoriously noisy animal.

As I have already said, I have never heard a hyæna make any sort of sound, so I am unable to give a description from personal experience of the "laugh" of a creature which seems to me hardly ever to go the extent of even "smiling". Dunbar-Brander states that he has heard two cries—a sort of chattering laugh and a weird form of howling. A more exact description of a hyæna's laugh has been given to me by that keen shikari, the Rev. R. Wormald, Chaplain of Colaba, Bombay. He says that he was once sitting up for a leopard in company with Colonel Sir Frank Connor of the Indian Medical Service, when a hyæna came and started to eat the kill. Presently the leopard arrived unexpectedly, and the hyæna gave a most astonishing cackle of alarm as he bolted in terror, continuing the unusual cry for some two or three hundred yards. Mr. Wormald describes the noise as "Here's a to-do-ha. Ah-ee-woh-ha-ha-woh-ha!" made with the feet beating on the ground. Incidentally this occurrence, in addition to offering a chance to hear the rare cry of the striped-hyæna, confirms my experience, already referred to in this chapter, that the normal more or less solitary hyæna does not

dream of disputing with a leopard the ownership of a kill made by the latter.

Graziers in India often give hyænas a bad name on the ground that they attack and kill a good many young calves, but it is probable that the damage they do in this way is greatly exaggerated. Cows and buffaloes are very solicitous in the care of their babies, which they rarely allow to stray for any distance, and it is more than likely that almost the only calves that are killed by hyænas are those which have been lost and would have died of hunger in any case. A few young strayed fawns also fall victims to hyænas in the same way, but it is normally rare for a hyæna to attack a full-grown creature, because he is by nature a carrion eater, and has no wish to kill for himself when he can obtain sufficient food from the leavings of others. Annual Government returns usually show a few children as having been carried off by hyænas, but, as these returns are based on reports made by ignorant village chowkidars, very little reliance can be placed upon them. The African spotted-hyæna, on the other hand, is generally reported to be much bolder and more destructive. It is worth recording that Mr. Dunbar-Brander states that hyænas, although far from particular in their diet, have never been known to eat one of their own species—a thing that cannot be said for vultures, the other great scavengers of the jungle.

There are probably more myths and native superstitions attached to hyænas than to any of the other wild creatures of India or Africa. It is sometimes said that should their shadows fall upon domestic dogs, the latter become dumb; that they change their sex every year; and that they are capable of imitating the voices of men and even calling them by their names. Captain Pitman writes many interesting things about the hyænas of Africa,

of which incidentally there are three species—the common and noisy spotted-hyæna, which is one of the animals most frequently seen and heard in that "dark continent"; the rarer striped-hyæna, which is practically identical with the common hyæna of India; and the brown hyæna of South Africa, of which very few specimens now exist. He says that many of the weird and wonderful animals that are reputed to exist but are unknown to science, such as the famous "Nandi bears", probably have their origin in exceptionally large and savage striped-hyænas. Witch-doctors are very fond of the hyæna as a symbol of the Black Art, and a powerful secret society once used to flourish in Uganda which was known as the "Hyæna Sect". The members of this dreaded society claimed that they could call up at will a couple of hyænas to do their bidding. If they desired to bring evil upon a person they would claim to send a pair of hyænas, sometimes ridden by themselves, to dance and howl around the victim's hut, whereby he became accursed.

One of the most gruesome things ever recorded about hyænas is related by Major Radclyffe Dugmore, when he states that burial by some of the tribes of East Africa is rare. There is apparently a common belief that to have anyone die in a hut brings bad luck. Hence many poor wretches whose day is nearly done are placed outside at night, still alive, to be devoured by hyænas! It seems bad enough to be buried, apparently dead, in a coffin, and then to come to life again, as is said sometimes to happen to us; but I think I would prefer that remote possibility to being torn to pieces by the most hideous animals in the world while I was at my last gasp.

Chapter 20

THE SENSES OF THE TIGER

"The beasts are very wise,
Their mouths are clean of lies."

KIPLING.

PERHAPS one of the most interesting subjects of study to the field naturalist or shikari is the varying degree with which each species of animal is endowed with the five senses of sight, smell, hearing, touch, and taste. And some would even endow wild animals with a sixth sense—one of warning of impending danger—which, even if possessed by the creatures of the wild, is certainly no longer in the endowment of man, or at any rate has become so atrophied as to be of no value to him. A further consideration of this interesting question of a sixth sense will be found later on in this book in chapter 22.

Now the scientific way to undertake a study of the senses of animals would be to make a series of experiments with a large number of animals, absolutely free and in their natural wild state, in such a way that every possible condition was covered by several experiments, all of which gave conclusive results. Such an elaborate and accurate investigation is, however, quite impossible with wild animals, since individuals vary considerably in their endowment, and in any case, the wild animals themselves are by no means always ready to collaborate in making the experiments a success! Certain deductions can of course be made from a

study of animals in captivity, but such deductions, made under the artificial conditions of animals confined, even if not also born and bred, in cages must obviously be regarded with the greatest caution and cannot be considered as necessarily true for the same species in the wild state.

In the jungle, no matter how keen one is, one cannot very well—unless one is a second Mowgli—question a tiger as to the strength of his eyes or the refinement of his sense of taste: indeed, even if one could converse with tigers, any attempt to perform experiments might easily end in the same way as that of the young lady of Riga, who went for a ride on a tiger! The only way then, to learn something about the senses of wild animals, is to take every possible opportunity of studying them under varying conditions and then gradually to draw conclusions which may probably be true for the generality of the race. Such conclusions should naturally be compared with those of others interested in the same subject, and should be checked and re-checked on every available opportunity. But no matter how obvious certain conclusions may appear to be, it must always be remembered that animals are individuals, which vary considerably even among the same family, and that above all one must never judge from an isolated case. A good example of the fallacy of doing this recently occurred in a letter from a correspondent which was published in the *Journal of the Bombay Natural History Society*. On a certain occasion a wounded leopard passed beneath a belt of trees containing langoors, and the langoors did not give the usual alarm cry. Hence the writer suggested that langoors are unreliable as indicators of the large carnivora. Now I maintain that this is a totally unjustified deduction. Ninety-nine times out of a hundred the langoors would certainly have seen the leopard and proclaimed

the fact to all and sundry with their usual harsh grating alarm cry; but on this particular occasion for some reason or other it must have so happened that the wounded leopard escaped the keen eyes of the langoors. After all, no living creature is infallible, and an occasional mistake by a few individuals does not condemn the whole race. The fact that on one isolated occasion langoors failed to see a particular leopard does not in the least mean that langoors as a class can be considered as unreliable indicators of the presence of tigers and leopards. Indeed, in the experience of most keen observers and shikaris, the alarm cry of the langoor (which is discussed in greater detail later on in this book) is the most reliable of all the numerous jungle signs which give warning of the presence of the great jungle cats.

But we must return to the subject of this chapter. The eyesight of tigers is well known by all who have hunted them to be quite exceptional, particularly at night-time, when the pupils of the eyes increase in size to an extraordinary extent. This is apparent in the eyes of the animal figured in plate no. lxxiv, which was photographed at night by flashlight at a speed of 1/200th of a second, such an exposure being so short that the pupils had no time to contract from the effect of the brilliant light. Had this animal been photographed in a bright light by day, the pupils would have appeared far smaller than they do in the picture in question. Anyone who has ever wandered about in a dense forest on a dark night, when one cannot see even one's own hand held in front of the face, must have some conception of the marvellous eyesight of an animal which can move about absolutely silently and even stalk up to its prey without making a sound, in a way which to human comprehension seems almost impossible.

The sense of hearing also in tigers is extremely acute, and many a man, when sitting in a machan over a kill, has lost his chance of a shot by such a slight movement that the noise made appears to him to be negligible, although to the listening tiger it may be the reverse, and may, and indeed often does, give him warning of the presence of his deadly foe. The sense of hearing is perhaps the easiest sense to study in wild animals, and will usually not be found to vary very much in individuals of the same species.

There is a certain amount of disagreement as to the sense of smell possessed by tigers, some holding that it is strong and others weak, although the vast majority incline towards the latter view. General Wardrop in his book says that he never allows bare-footed men to go near a tiger kill, for fear that the tiger should smell them, and some big-game photographers in Africa adopt similar or even more elaborate precautions when photographing lions; but I have never worried about this in my flash-light work and my experience has been that it does not make the slightest difference so far as tigers are concerned. A tiger never seems to smell a man sitting in a machan above him, and my own opinion is that the sense of smell in the average tiger is probably no stronger than that of mankind. That careful observer, Dunbar-Brander, once carried out an instructive experiment with a tame young tiger. He tied a piece of meat on to a rope and dragged it about for some time before hiding it. He then sent the tiger to look for it and he found that the animal never attempted to follow up the drag-scent, as a dog would have done, but quested round in circles until he finally found the meat by chancing upon it. This, of course, is a single example carried out under artificial conditions, but experienced shikaris know that a tiger does not usually return to its kill by following along the drag, and it provides

additional evidence that the sense of smell of tigers is probably not strong. Indeed, it would appear to be a definite provision of a wise Nature that this should be so, or a tiger would become such a menace that he would rapidly destroy all other creatures. The following opinion by the late General Douglas Hamilton bears out this statement. "I maintain that if tigers added the power of hunting by scent and of stalking upwind to their wonderful sight and keen sense of hearing, to say nothing of the absolute noiselessness of their movements, they would seldom or never fail in securing their prey, and this would be against the law of Nature, which always allows a certain number of chances to the weaker animals in order to prevent their extermination." I might add that it would also cause the tiger to become a lazy slothful beast, for he would obtain his food so easily that he would never have to work for it, and thus his marvellously developed faculties would tend to become atrophied from insufficient use.

There now remain the senses of touch and taste, which are possibly even more difficult to investigate than the other senses. The sense of touch in the Cat family is supposed to be largely connected with the whiskers, and it is a common theory that a tiger knows that he can pass through an opening provided that it is wide enough for his whiskers. I am afraid that my experience in photographing tigers leads me to doubt this plausible theory, since some tigers possess enormously long whiskers (moustaches) of the "Old Bill" type, whereas others, in the prime of life and condition, have no more than the abbreviated tooth-brush moustache of the smart subaltern. These short whiskers are certainly nowhere near the width of the tiger at the shoulder, so that it appears that the theory cannot always hold. There is indeed some doubt as to the exact value of whiskers to a tiger or any other

animal. Perhaps the solution lies in the theory advanced by Miss Frances Pitt, that very reliable student of animals and birds in the wild. She says that a cat's whiskers are a very good indication of its feelings, whether the cat be a tiger, a leopard, or something smaller. When the owner's attention is fixed upon anything, the whiskers bristle forward, only to relax as interest wanes, and lie almost flat as the animal becomes sleepy or bored. This, however, explains only some of the movements of the whiskers, and does not quite tell us why whiskers are so markedly developed in the Cat family in particular.

As regards the sense of taste, the tiger is certainly very far from being a gourmet. In the hot weather his kills go bad a few hours after death and yet he eats them—presumably with gusto!—on the second and sometimes the third day, when they are seething with maggots and stink to such an extent that a near approach makes one feel violently sick. It cannot be pure necessity that forces a tiger to do this, for he eats from a kill up to three or even more days after death, in places which swarm with game, and where he could presumably obtain fresh meat every day should he so desire. No: it seems a safe conclusion that a tiger likes, or at least does not dislike, his meat "gamey", and is quite happy to have it served up with white sauce in the shape of innumerable maggots. It is also fairly safe to say that wild pig forms the favourite dish of the average tiger, and that most tigers prefer the meat of sambar to that of cheetal, which, on the other hand, appears to be the *pièce de résistance* to the vast majority of leopards.

Chapter 21

THE SIWALIK HILLS

"And somehow you're sick of the highway, with its noise and its easy needs,
And you seek the risk of the by-way and reck not where it leads."
R. W. SERVICE.

HOW striking is the contrast between the barren sun-scorched outer Siwalik hills, which fringe the great Himalayan massif, and the damp cool valleys of the inner foot-hills! Yet, in many places, the one geological formation tends to merge into the other, and the same species of wild animals, always so ready to adapt themselves to their particular environment, appear to flourish equally well in both.

The Siwalik hills, which run, a broken line of low jagged peaks, for many miles in a south-easterly direction from the Punjab, comprise the range of foot-hills which break the appalling monotony of the dead level of Northern India's great plains. And to many a man who may have spent a happy boyhood among the wonderful moors and glens of Scotland, or even the more humble downs of southern England, the sight of the rugged outline of these hills on the distant horizon serves as a constant reminder that the whole world is not so flat and uninteresting as the great Gangetic plain in which the lot of the unfortunate exile is so often cast.

Let us now take a closer view of these hills, which serve as an inspiration to the dwellers on the plains, and as a happy home

for countless numbers of God's wild creatures. They rise like great cliffs out of the sea from the dead level of the plains, and quickly reach a height of perhaps 2,500 feet. The outer slopes, parched by the cruel Indian sun, show but a sparse growth of stunted trees and shrubs where the ground is not too steep—as it often is—for the soft sand-rock and conglomerate of which the hills are composed have to bear the brunt of the first onslaught of the annual monsoon, and are thus cut into most fantastic shapes, with jagged peaks separated by the deep ravines which permit the rush of water to drain away quickly. Everywhere there is a dense growth of those forest grasses which can withstand the great heat and drought of the summer months, when the whole area is baked biscuit-dry by that dreaded wind of Northern India, which masquerades under the name of the "Loo", but which seems more like a blast direct from the eternal fires of the nether regions. In the more protected places, such as the sides of the steep gulleys and watercourses, Nature wears a more luxuriant garment, for bamboos grow in profusion and provide a satisfying diet for the wild elephants, which otherwise could not exist in these barren hills. Even so, they are forced to retire into the Himalayan foot-hills proper when the March sun begins to dry up the few pools of water which have been left by the monsoon and winter-rains—for springs practically do not exist in this rugged mountain tract.

Inside the first outer ridge of the Siwaliks the hills in places merge directly into the Himalayan foot-hills, and in others they slope down more gently to form an elevated plateau—or doon as it is called in India—which continues perhaps for some miles before the Himalayas proper rise in all their majesty in their gradual ascent towards their dazzling crown of eternal snow. It is these inner Siwalik slopes, with their better water supply and more

luxuriant vegetation, that provide a home for a large proportion of the teeming wild animal population of Northern India—for the few wild elephants which still survive from the vast herds of a bygone age; for magnificent tigers in far greater numbers than is commonly supposed; for numerous leopards, even though these destructive beasts appear to be quite indifferent to the absence of water and are thus just as much at home on the dry outer slopes; for sloth-bears, which are such nasty customers to meet unexpectedly round the blind corners of the deep ravines and which annually maul numbers of jungle workmen; for lordly sambar, whose horns grow as large here as anywhere north of the Central Provinces; for graceful cheetal in countless numbers, although when the weather gets warm, these deer will never be found very far from water; for diminutive kakar, which, ever ready to sound the alarm, sometimes with reason, sometimes without, can be heard calling at any hour of the day or night; and for a host of those smaller creatures which help to swell the numbers of the vast jungle population of the Government reserved forests of the Siwalik hills. Even the very rocks themselves contain numerous fossils of prehistoric monsters, which presumably spent a happy existence in these hills long before man, with his lust for destroying the lives of other creatures, ever appeared to strike terror in the hearts of the so-called lower animals.

In the very depths of this naturalist's and sportsman's paradise stands a delightful little forest rest-house, perched on the crest of a low hill between the Siwalik range and the Himalayan foot-hills proper. Standing on the verandah of this rest-house, one commands a magnificent view in all directions. To the north and east lie the first great outer ridges of the true Himalayas which here rise to a height of about five thousand feet, and although

one is too close to see beyond the nearer peaks, one can picture in imagination the succeeding ridges mounting one behind the other, higher and ever higher, until they reach their climax in the highest mountains in the world—that glittering fairyland which is called in Sanskrit "The abode of eternal snow". The southern and western horizons are bounded by the jagged crests of the Siwalik range, different in outline and perhaps less majestic than the Himalayas, but equally attractive in its own way. Truly, sitting on that verandah, watching the constant play of light and shade on the mountains, enjoying the wonderful colouring and infinite variety of the sunrises and sunsets, one realises to the full the truth of those two simple lines from the pen of John Dyer:—

> "*Ever charming, ever new,*
> *When will the landscape tire the view?*"

which so admirably sum up the love of the beauties of Nature—beauties which are free to all, and serve as a never-ending source of inspiration to those who are weary of the constant strife and worry of everyday existence.

But it is not the landscape alone which constitutes the charm of this secluded spot. Even as we sit on the verandah admiring the view, the varied cries of our jungle neighbours often strike upon the ear. It is now the evening, and we are watching the beautiful colouring of the last glow left by the setting sun when in the distance we hear the weird "pheaou" alarm cry of a prowling jackal. This is a signal that one of the pair of leopards, which have lived for several years in the neighbourhood of this rest-house, is on the move. The nature of these leopards is a curious mixture of daring and caution, foolishness and cunning. They rarely return to a kill if any man has been near it during the day-

time; they always seem to locate a shikari perched in a machan; they sometimes even find the photographer's cunningly hidden trip-wire connected with the flashlight. And yet, on one occasion, our cook saw one of them calmly strolling past his kitchen late one morning as he was preparing breakfast, and another time a female snatched away a shot peacock before the shikari had time to pick it up, and refused to relinquish it even when the second barrel was fired over her head!

But we are listening to the eerie "pheaou" cries of the jackal, which now die down to be replaced by those of a sambar, as he sees his enemy passing along the path towards the rest-house, and shows his disapproval by emitting a series of deep bell-like alarm notes. Then once again there is silence and the listeners on the bungalow verandah are beginning to think that, for the fiftieth time, the leopard has managed once again to avoid the photographic trap which is set across the path along which he is now advancing. But no. There now comes a sudden and agitated chattering among the troop of brown monkeys, which to the accompaniment of curious little sighing calls as of good-night, the one to the other, are just settling down to sleep in a belt of trees only a short distance away. This is a certain sign that the leopard is passing beneath them, but to make assurance doubly sure, the air is suddenly rent by the harsh sawing cry of the leopard—a cry which is almost immediately answered by his mate from some distance away. The excitement is now intense. We have been listening to the jungle signs which have indicated the advance of the leopard from perhaps a mile away to within a few yards of the photographic trap, and at any moment he may touch the wire with one of his legs and thereby take his own photograph by flashlight. It is now quite dark, and the tension becomes almost

intolerable, as for long minute after long minute we wait for the blinding flash and dull boom which will tell us that the leopard has at last been tricked into taking his own photograph. Ah! There it is: now at last we have obtained our picture! Hurriedly seizing lanterns we rush out to the spot to bring in the exposed plates. But alas! once more we are doomed to disappointment and again we have been caught counting our chickens before they are hatched. For directly we reach the spot the tracks only too obviously show that the flashlight has been fired, not by the leopard, but by a contractor's dragging-buffalo, which, having strayed apart from its companions, was hurrying home in front of the leopard before it should fall a victim to a wandering tiger! The leopard's tracks are only a few yards behind, so that it was quite possibly following the buffalo, and trying to make up its mind if it dare attack an animal of that size. Thus the unfortunate mischance of a strayed buffalo happening to pass our chosen spot just before the leopard was due to arrive has once more robbed us of the photograph which we had made so certain was ours at last!

There is nothing to be done now, however, for the leopard must have seen and heard the flashlight, and will in all probability avoid that spot in future. So we must study his movements afresh and try to find some other place where, as opportunity offers, we can continue our hunt for his elusive photograph. With these thoughts in mind, we return to the rest-house for dinner. After dinner we settle down comfortably in long chairs, and to the accompaniment of good coffee and tobacco, listen dreamily to the various sounds which tell us of the activities of our jungle friends and neighbours. Idly our thoughts run over some of the little incidents that have happened at one time or another in this

delightful spot. We think of the night when, hearing an unusual commotion on the verandah, we jumped out of bed and found a porcupine eating our tent-pegs; of another night when a noise outside proved to be a sloth-bear digging among the leaves a few yards from our bedroom window; of later the same night when a repetition of the same noise turned out to be, not a bear this time, but "Old Bill" the dhobi who, apparently quite oblivious to the risk he was running, was taking the night air all by himself in the very spot that had been occupied by the bear a short time before; of a young wild elephant, which we one day found digging for mineral earth in a bank and which, turning to stare at us, gave us a very good chance for a photograph; of the tiger which lay down beside his kill to sleep during the heat of the day while we were standing in full view only a few yards away; of the litter of baby hyænas which we came across one day in a hole quite close to the bungalow; and of a hundred other episodes full of interest to those who delight not in killing, but in studying and watching the intimate life of wild animals in their own homes.

But the sudden cracking of a bamboo clump as it is being devoured by the solitary wild elephant which has acted as the guardian spirit of this rest-house ever since it was built, brings us out of our reverie, so we retire to bed full of gratitude to a kindly fate which has cast our lot amid such delightful surroundings.

Chapter 22

JUNGLE RIDDLES—AND SOME ATTEMPTED SOLUTIONS—I

"Nature, mysterious even under the light of day, is not to be robbed of her veil; and what she does not choose to reveal, you will not extract from her with levers and screws."

GOETHE.

EVERYONE who is interested in shooting or natural history must have come across, at one time or another, various episodes which cause him to doubt the accuracy of some of the commonly accepted theories concerning the animals in which he is interested. He must also have heard some at least of the numerous superstitions and myths so common among Indian shikaris—superstitions which in some cases have spread far beyond their source among the aborigines of the jungle. I have already touched upon a few of these difficult points elsewhere in this book, but I now propose to examine some others in greater detail in the remaining chapters. Needless to say, I do not for a moment pretend to be a "know-all", nor do I wish to join the ranks of the "sub-janne-wallas" of India. Indeed, like many another, as I grow older I find that the more I study natural history the less I seem to know about it; and I hope that readers who may disagree with some of my conclusions will bear with me when I emphasise that my object in writing on such controversial subjects is not to try to prove someone else wrong, not to pretend

to a greater knowledge than that possessed by others, but to try to approach a little nearer to a real understanding of some of the numerous complexities which beset the student of natural history at every turn.

Tigers will naturally be considered first, for of all animals in the East, if not the whole world, the tiger has been the subject of the tallest stories, and there seems to be no end to the wonderful thrills and experiences that these fine animals are supposed to be able to provide. Indeed, in any Mess or Club or place where shikaris foregather, one has only to produce an unusual yarn about a tiger to find that some other member of the party will immediately cap it with a story which puts one's own little experience quite in the shade. I well remember a good example of this. I was dining one evening in the Mess of a famous regiment and the subject of conversation turned, as it so often does turn, upon tigers. I told one or two comparatively ordinary stories about my own experiences with these animals—stories which, being quite true, were possibly not quite up to the thrilling standard of what is normally expected in a "tiger-yarn". There was a slight pause, and then a senior member of the Mess, a noted wit and story-teller, went on to recount the experiences of a friend of his, which he considered were more unusual than mine. This friend was a keen fisherman, and it appears that he was once trying to tempt the Indian mahseer to take a dry fly after the manner of the English trout. Mahseer are not particularly keen on baits offered in this manner, and sport being dull, his attention began to wander in the direction of some monkeys which were making a tremendous fuss in a belt of trees near by. He was however continuing to cast automatically, until, suddenly feeling a terrific jerk on his line, he instantly jumped to the conclusion that he was fast in the biggest

fish of his career. On looking in the direction of his cast, however, he was astonished to find that he had indeed hooked the record "fish" of his or anyone else's lifetime, for his hook was firmly attached to the flank of a tiger, which was swimming across the pool, and which was the cause of the agitatior among the monkeys! The wit then went on to explain, with a wealth of detail, how his friend continued to play the tiger for a considerable time, and it was only the shouts of derisive laughter that prevented the story from concluding in his friend successfully guiding his unusual catch safely into the landing-net!

The above is typical of the tall stories concerning tigers that are so commonly heard in India, and I will now give a true one as related by Mr. A. Wimbush of my own Service:—

"About 7.30 p.m. Mr. V. I. was doing some office work by the light of a petrol-lamp in the side-room of a forest rest-house, situated in the Nallamalai hills of Madras, while three other officers were talking in the adjacent room. Suddenly Mr. V. I. appeared in a state of some excitement, saying that a tiger had just walked into his room! The statement sounded singular if true, but investigation seemed to be indicated . . . a rifle was therefore loaded and an investigation was made. . . . That truth is stranger than fiction was proved by the fact that an unmistakable tiger was underneath the office table near the back door, which, though open, was protected by bars. A shot was taken, which was followed by pandemonium, silence, and darkness as the light went out. Subsequently another shot was fired and the tiger killed. It proved to be an extremely emaciated tigress, with an old bullet-wound full of maggots in her stomach, and one of the pads on a hind-foot was badly lacerated. It appeared that Mr. V. I., in retreating from his office table in the first instance, had

actually brushed against the tigress!" I wonder how a City man would care to find a tiger under his office table!

Stories of these types are so common in India that ordinary yarns and experiences tend to fall very flat by comparison; but nevertheless the tiger is a wonderful animal, and despite all that has been written about him at one time or another, there still remain many points which are not fully understood, and about which acute differences of opinion do exist. The great point for a sportsman or naturalist to remember is that it is extremely unwise to dogmatise as to what an individual tiger—or any other animal—will do in any particular set of circumstances. What so many of us tend to forget is that every tiger, like every human being, has its own individual nature and character, so that it is almost impossible to generalise about tigers as a class. We may say, thoughtlessly, that tigers are courageous animals, whereupon someone will immediately recount an episode in which an individual tiger behaved like an arrant coward. Or it may seem a fairly safe statement to make that tigers cannot climb trees. Yet I believe there are one or two tigers in the Mysore "Zoo" that are frequently to be seen perched quite high up in the branches of trees within their enclosure, and cases have been known where desperate tigers have managed to attack sportsmen high up in machans which were thought to be absolutely out of their reach.

Enough has now been said for generalisations; now let us examine some of the commoner problems in greater detail.

Do tigers and other wild creatures possess a sixth sense—a sense which gives them warning of approaching danger, and enables them to ascertain whether one's intentions towards them be hostile or not?

This subject is one of deep interest to every student of the wild, and almost all hunters at one time or another must have had occasion to wonder if there is not some truth in this idea of animals possessing a sixth sense, which is no longer in the equipment of the human race, or even if it still exists, has become so atrophied as to be of no use to nine hundred and ninety-nine people out of a thousand. I have purposely left a loop-hole in this last sentence because, without broaching on the subject of spiritualism, it is a fact that some of us poorly-equipped human beings occasionally, for no explicable reason, do get a terrible feeling of impending calamity—a calamity which sometimes eventuates. Spiritualists will quote case after case when people, either awake or asleep, have suddenly felt that evil is befalling loved ones, perhaps half-way across the world, and at least in the cases quoted by the advocates of spiritualism, such warnings have proved on investigation to have been absolutely true. If we admit, then, that even some human beings possess this sixth sense to a certain degree, is it not possible that the sense may be more highly developed among wild creatures, which often possess such marvellous eyesight or hearing or powers of scent? At times I think it is possible and at others I have doubts on the subject, and wonder if, after all, what appears to be good evidence cannot be explained in other ways.

I am, for instance, checking the drafts of this chapter while on leave in bonnie Galloway. Everyone here remarks on the extraordinary difference in the behaviour of black-game after the closing of the shooting-season. From August 20th to December 10th these wily birds are notoriously difficult to approach, and it is only with luck and great care that one can get a shot at them at all. Yet, directly they are closed to shooting in December, one seems to find them sitting about all over the place, and calmly

flying a few yards above one's head in a way that they never appear to do while the shooting-season is in progress. Those who believe in this theory of a sixth sense would say "There you are: there's a perfect example for you. Those black-cocks can read your mind and know that your intentions towards them cease to be hostile directly the shooting season is over." Perhaps this is so, but I have my doubts on the subject. I have known people who have spent the whole season unsuccessfully trying to get shots at black-game, to curse violently when a fine cock sailed over their heads a day or so after the season was closed. If thoughts could kill, that black-cock would fall dead on the spot! The thoughts of the sportsman are just about as hostile as they could be, and it is only a sense of sportsmanship combined with fear of the law that prevents him from seizing the opportunity to slay the black-cock which he has hunted in vain for months. Is it not possible to explain this behaviour of the black-cock—I take black-game as an example only, for many jungle animals such as cheetal act similarly—in another way? It seems to me that wild animals and birds, which live entirely in the open air, must have an extremely good knowledge of the seasons, and I do not see why a knowledge of the safe and unsafe times of the year, gained by long experience, should not be passed on from mother to child. We know that wild creatures teach their offspring many things which it is good for them to know. In countries like the South Polar regions, where there are no human beings, birds apparently display no fear of mankind whatever. Fear of the human race is, then, inspired only by bitter experience. Why should black-game not have learnt that sportsmen are to be feared only during certain seasons of the year?

Colonel Glasfurd in his interesting book *Musings of an Old*

Shikari has devoted a page or two to this subject. He remarks upon the frequency with which one hears exclamations such as: "You'd have thought he *knew* I hadn't a gun," and "You can't get near them when you want to." He suggests that this is because wild animals *do* know when no gun is present, and that on such occasions their minds remain in the undisturbed condition of not receiving a message of hostile intent. Once again, I would say that this may be so, but I have another explanation to offer. It is one of the hard facts of life that the missed chances always seem to us to be greater and better than those of which we actually take advantage. The fish that broke away always tends to be larger than that brought to the basket; the "might-have-beens" of life are always so much more rosy than what actually is. Further, many shikaris are so keen to bag their quarry that they shoot at the very first opportunity, and thus do not get anywhere near so close as they might do were they only to try to take up stalking just for the fun of it, rather than with the sole object of bagging the quarry directly a good chance presents itself. They tend to think that, on these other occasions, it is because they cannot shoot that they are, willy-nilly, not sending out thought messages of evil intent towards the quarry. Hence they assume that they can get nearer on days when they have no weapons; but I am not convinced that this is really the case. Personally, I do not shoot at all, and my intentions towards my friends of the jungle are entirely amicable at all times. All I want is to take photographs of them, without injuring or annoying them in any way. How often have I stalked to within a certain distance of a wild animal, and thought as hard as I could think: " All right, old thing: don't get nervous. I don't want to hurt you. Just let me approach a little nearer and take a photograph and I will go straight away and

leave you in peace." But my thought-waves seem to have no effect whatever, and I can get no nearer with a camera than I can with a rifle. Yet, if the theory be true, the absence of evil intent should be of the greatest assistance to the hunter with the camera.

Colonel Glasfurd goes on to say that he thinks that failures to bag animals may be due to excessive keenness, which results in very strong danger-waves reaching the quarry, and giving it early warning of its precarious position. He then suggests that the hunter should avoid staring too intently at the object of the chase; that he may be as keen as he likes provided that he does not give away his keenness to the hunted creature.

This idea is expanded to a much greater extent in an extremely interesting article entitled "Experiments in the Primitive" by "Forepoint Severn", which was published in the issue of July 1931 of *Blackwood's Magazine*. The writer of this article describes various episodes of his shooting career which nearly—but in my case, not quite—convince the reader of the truth of his claim that animals, in varying degree, do really possess this sixth sense. He describes how, by concentrating the whole of his will power into sending out thought messages such as "Good beastie: friendly beastie: nobody is going to hurt you: come here: come he-ee-re!", he managed to draw animals which were otherwise out of shot within range. True it is that in his case he was doing this largely from an experimental point of view, but to my mind the whole idea is horrible. The real object of the hunter in attempting to send out such messages was to slay the quarry. His intentions were in fact hostile in an extreme form, in that by deliberately trying to send out false messages of goodwill, he was really all the more to be feared, for he was cunning in addition to being dangerous. Personally I have doubts as to whether he actually did succeed in

sending out messages at all, and I think it quite likely that curiosity was the underlying motive which caused the quarry to behave in the way he describes. I am somewhat sceptical on the whole subject of thought-waves and spiritualism, but I do most emphatically believe that—except perhaps by the Devil himself—it is impossible to cheat in the way described by "Forepoint Severn". I do not, and cannot, believe that thought-waves of avowed friendship can be sent out by a person or an animal, when in reality the sender of the waves is actuated by violently hostile intentions. If such a wave is really sent out, surely it must represent what is, in fact, in the sender's mind—not what he tries to pretend is there? Surely the world and the human race is not so debased that cheating can be carried out even by emanations—if they exist—from our innermost thoughts?

"Forepoint Severn" gives another example of the effect of thought-waves when he was shooting Ammon. He had been watching some of these magnificent wild sheep at rather long range for hours on end waiting for a chance to shoot. At long last he decided to risk the shot, and, simultaneously with his decision, the three Ammon, which had paid no attention to him all day, jumped to their feet, fully alert, even though he had not made the slightest sound or movement. He then states that the Ammon must have instantly become aware of his intention to shoot by means of thought-waves giving them warning of danger. Personally, I cannot accept this statement. The danger and the evil intent of the shikari were there the whole time. The delay was merely due to the lack of opportunity to carry the evil intent into action. It seems to me that the Ammon must have learnt of the existence of the danger at the same moment as the danger became acute, either by coincidence, or from a very slight

movement made by the hunter unknown to himself, or from a sudden waft of scent, or from some other cause. The hunter, during his tedious wait, must have longed for his coveted trophies to come nearer; he must have thought that his chance was never coming. But all the time the desire to kill was there, and the danger to the Ammon never ceased to exist for a moment. Why then should they become conscious of that danger only at the exact moment when he decided to risk a shot? The thought-waves, if such things exist, must have been going out the whole time, for the intention to kill, should the chance arise, was there from the very beginning.

It will thus be seen that I am not yet convinced that this sixth sense really does exist, although I would most certainly not go to the other extreme and state boldly that it does not. I can remember cases which bear on this subject which have occurred while I have been sitting in machans waiting for tigers to arrive, especially when the bait was a live buffalo. One case in particular seems strongly to suggest that there really is something in the idea. I was sitting in a machan one night trying to obtain a photograph of a tiger actually killing an animal, in a place where I knew that a tiger was likely to be about. About 9 p.m. a kakar gave one or two sharp alarm cries, and then complete silence reigned—a silence that was terrifying, uncanny—that seemed almost to vibrate with evil. Although I could give no reason why it should do so—except that I suspected that the tiger was approaching, and that is no reason, for I am not nervous of tigers—I felt my skin begin to creep, I felt that something awful was going to happen. And yet, so far as I could make out in the dark, my wretched buffalo bait was not affected in the same way, although the danger was to him, poor beast, and not to me. This

awful vibrating silence went on for several minutes, getting more and more intense, until finally there was a sudden rush and all was over: my buffalo's end had come; the evil that I had felt but not seen or heard had reached its climax in the arrival of the tiger. This example would tend to suggest that on this particular occasion I showed signs of possessing the sixth sense, whereas the buffalo, whom the danger threatened, remained, so far as I could judge, unaffected.

The photograph of a tiger just about to spring on one of my automatic flashlight cameras, reproduced on plate lxxxi, is of interest in connection with this subject. This tiger was walking quietly along a jungle path at night after the manner of his species, when, for no adequate reason that I can give, he suddenly became aware that something was not quite right—aware that some danger threatened him. He crouched to spring, and in doing so he tightened my trip-wire and fired the flashlight, giving me the accompanying photograph; but he was too late to stop his spring for he leapt towards the camera, and swerving slightly, just failed to ruin it, but left a considerable portion of his skin on a rough tree-trunk about a foot away. Now what caused that tiger to suspect my camera on this particular occasion? Scores of times I have had tigers walk quite unconsciously into my flashlight-traps; yet in this one case, this individual animal spotted the camera, carefully camouflaged with bushes though it was, and very nearly ruined it. It is just possible that the wire rattled a little before completing the circuit, or that the tiger's wonderful eyes detected the lens and didn't like the look of it, or that he sprang at a sambar standing just behind the camera; but none of these possible explanations quite convinces me, and as nobody was there at the time, the matter must remain a mystery—to be added to the numerous

inexplicable happenings in the jungle which are of such absorbing interest to the student of natural history.

In connection with this subject I recently read a letter from Mr. H. W. Fisher of Hendon in *John o' London's Weekly*, which described how the writer of the letter and his wife used frequently to experience warnings of danger when they were close to tarantulas and scorpions in the West Indies and South America. I will quote one passage of the letter as an example:—

"A few weeks after my wife arrived in Trinidad she was picking flowers in the garden with her back turned to the bungalow when she was suddenly oppressed with the sense of fear. She turned round and instantly perceived, high above her in the eaves of the bungalow, a tarantula or 'black hairy spider'. She had never seen one before but immediately recognised it from descriptions (I had told her about two geologists who had shortly before died of spider-bites). Our yard-boy soon dislodged the brute with a bamboo pole and crushed it to the ground. With legs spread-eagled it measured fully nine inches across."

This is one of several examples given and it would appear that Mr. and Mrs. Harris could detect the proximity of tarantulas in a way that is explicable only by the possession of a sixth sense—which they describe as being their "guardian angel". Mr. Harris suggests that the close proximity of poisonous creatures possibly causes a subtle reaction on the human sense of smell—not perceptible as an odour, but registered in a reflex of revulsion and awe. If so, it can only be with very exceptional human beings that this is the case, for I have scores of times been very close to scorpions and dangerous snakes and have remained totally unaware of their presence until my eye has happened to fall upon them. And this also must be the common experience of the vast majority.

Truly one does not know what to think. Sometimes I decide that this idea of a sixth sense is pure imagination, backed by an occasional very exceptional episode that happens to fit in with the theory; sometimes I am convinced for a short period that the sense really does exist; and yet generally I return to the conclusion that the whole thing can be explained by the fact that the five ordinary senses of wild animals are so strongly developed, that we make a mistake in attempting to compare them with the degree of development of the same senses in ourselves. We make a movement so slight or a sound so faint that we think it impossible that it could have been seen or heard. So it is as far as human beings are concerned; but does it necessarily follow that wild animals do not possess in some cases a degree of perception which passes our comprehension? Is it not possible that a combination of sight, of sound, of smell, developed to a wonderful degree, may be able to give wild animals the warning of danger which seems inexplicable to us except by the possession of a sixth sense?

Chapter 23

JUNGLE RIDDLES—AND SOME ATTEMPTED SOLUTIONS—II

"It is with history as it is with Nature, as it is with everything profound, past, present, or future; the deeper we earnestly search into them, the more difficult are the problems that arise."

GOETHE.

Does the tiger leave a single or a double spoor?

A POINT concerning tigers that is constantly cropping up is connected with the tracks left by them on soft ground. Some sportsmen hold that a tiger makes a habit of carefully placing the hind-foot on each side exactly in the track left by the fore-foot, the idea being that he is thereby enabled to move much more silently in search of his prey. By doing this, of course, he will leave only a single track on each side, corresponding to the single track left by a man, and I have quite often heard it stated by people who ought to know better that tigers invariably leave single tracks as though they had two legs only. This idea was first started, I believe, some forty or fifty years ago by a member of my own Service and I will quote his exact words on the subject.

"When moving at either a slow crouch or a walk the hind-feet of a tiger usually exactly cover the spot vacated by the fore-feet, but cross-wise—cross-wise, because it stands to reason that

an animal must have at least one leg on the ground simultaneously on *either* side to preserve its balance; thus the right-hind foot takes the place vacated by the left fore-foot, and then the same with the other two feet. In a feline, of course, this is a provision of nature to aid the animal in performing a silent stalk. . . . Thus a tiger usually leaves only a double trail as if it had only two feet instead of four. . . . It is only when the tiger is standing or moving fast that the prints of all four feet of the animal will be seen on the ground."

I have given this question close study during the last few years, and I regret to say that I cannot agree with either of the two statements made. As regards the former, that tigers bring their feet forward cross-wise, I am completely at a loss to understand what is meant. I have never seen a tiger cross its legs in the way suggested, which seems to me to be an extraordinarily unnatural and uncomfortable method of progress, quite incompatible with the graceful movements of all the Cat tribe. A study of the numerous photographs of tigers and leopards in motion included in this book will, I hope, effectively disprove the accuracy of the statement.

The second question, that of the spoor left, requires more detailed consideration. As is well known, there is usually a considerable difference between the shape of the fore-feet and that of the hind-feet of a tiger, the fore-feet being larger, rounder, and more splayed out. The difference is much less marked in the case of a tigress, and the fore-feet of a tigress often bear a great resemblance to the hind-feet of a tiger. These differences, although usually quite clear, are not by any means without their exceptions, and I have known cases in which, from the tracks, I should have been quite convinced that a tigress had passed, yet

a flashlight photograph taken of the animal in question has proved what I thought was a tigress to have been, in reality, a tiger. I mention this point because, the more one studies natural history, the more one realises how dangerous it is to make a definite and positive statement about any animal. After all, animals vary among themselves just as much as human beings, the variations among whom are infinite.

For practical purposes, however, we can take it for granted that, in the vast majority of cases, it is quite easy to pick out the fore-feet and the hind-feet among the tracks left by tigers and tigresses. On this assumption, I have found that the type of track left depends very largely upon what the particular animal was doing at the time he made the track. The commonest type of track made by a tiger walking at an ordinary pace is definitely a *double* track, with the hind-foot placed in front of the fore-foot in each case. Plate lxxxii (*b*) shows a typical track of this type. The track in this case is that of a leopard, and I have included it in this book because I have already published a photograph of a typical double tiger track in my earlier book *With a Camera in Tiger-Land.*

At one time I used to think that almost all tigers and leopards walking at a normal pace on level ground left a track of this type, but I have since found that there are a number of exceptions. Indeed, I knew of one tiger which habitually used to put the hind-foot almost exactly on the spot vacated by the fore-foot, and plate lxxxii (*a*) shows his track, which is a single one, where, in almost every case—I have followed his track for miles—the hind-foot has been placed more or less over the spot vacated by the fore-foot. And yet I have known some shikaris to state positively that a tiger *never* leaves a single track, and others, such

as the author of the above-quoted paragraph, who are quite positive that he nearly always does so!

It appears to me that the whole crux of the matter lies in what the tiger is doing at the time he makes the track. When walking fast or at a normal pace the average tiger leaves a double track with the *hind-feet* leading, although some old tigers, probably as a result of stiffness in the joints, seem to leave single tracks at most times. When walking more slowly the tracks tend more and more to overlap, but this is almost certainly due to the slower motion rather than in an effort to move noiselessly. When stalking, the tiger moves extremely slowly and cautiously, often with the body crouched almost, if not quite, on the ground. In such cases, it is possible that he may deliberately attempt to put the hind-feet exactly in the places vacated by the fore-feet, but he certainly could not look down in order to do this, for his whole attention is engrossed on the quarry. Actually the pads of tigers' feet are like air-cushions, which he can put down so softly when he wants to do so that they make practically no noise whether placed over twigs and dry leaves or not. Hence there does not appear to be much advantage to be gained, with such marvellously constructed feet, by attempting to put the hind-feet over the exact spots vacated by the fore-feet.

I would refer anyone interested in the subject to the *Journal of the Bombay Natural History Society*, Volume XXXIII (2) of 1929, in which I have written a more detailed article on the same subject.

. . . . .

Is there any truth in the widespread belief among Indians that a tiger will return to a kill only if it is lying on its right side, and that he will never come near it again if by chance it should happen to be on its left side? (*Or sometimes the other way round.*)

It is astonishing how widespread this belief is among Indian shikaris, and it has even spread to a certain extent among moderately experienced sportsmen, both Indian and European. And yet I have never so far heard anyone give any sort of convincing reason why it should be necessary for a tiger to abandon fifty per cent. of his kills, for, by the law of averages, approximately half the animals killed by tigers must fall on one side and half on the other. Also the theory assumes that tigers can differentiate between the right and the left, so that in imagination one can see a tiger, just going off for his siesta after a heavy meal, inspecting his kill and saying to himself: "Let me see: is that kill lying on its right side or its left? Oh, bother! It's such a nice piece of meat, and it is lying on its left side. I would very much like another meal, and I can't come back unless I turn it over. Well; here goes." And the tiger, thirsty, replete, and longing to stretch himself in comfort in some cool spot, must heave over perhaps a heavy carcass before he goes off in order to make it possible for him to return for his next meal. I have heard various wildly improbable theories put forward as the reason why a tiger can return only if the kill is lying on its right side, among which is that a tiger is "left-handed" and hence usually attacks from the left side, causing the kill to fall on its right side. If, by any chance, he is forced to attack from the other side and the prey by misfortune falls the wrong way, the tiger is so upset that he abandons the kill after having gone to possibly considerable trouble to obtain it. There is absolutely no evidence to show that a tiger prefers attacking from any particular side. Indeed the attack will come from the direction which is most favourable to the tiger in each case, wherever that direction may happen to be, and this whole idea of "left-handedness" is really too fantastic to merit

serious consideration. The Indian shikari, when questioned on the subject, will merely reply that it is so, so why worry about reasons! If he is a Mohammedan he will possibly add that it is "The will of Allah"—a remark which, however satisfying it may be to a follower of the Prophet, does not give very much assistance to the ordinary delver into the secrets of Nature.

It is thus evident that I have never yet succeeded in obtaining any sort of proof of the truth of this astonishing idea. Indeed it is far easier to produce disproof, which I can give when I state that I have taken a good many photographs of tigers—including some illustrating this book—actually eating a kill which I have found lying on the forbidden side. The theory assumes that a tiger knows the difference between the right and left, and that all tigers, unless they deliberately turn over kills to which they intend to return before leaving, abandon approximately one kill out of every two that they obtain, even though the obtaining of even one kill may entail days of hunger and hard hunting! No: the theory appears to me to be absolutely fantastic, and yet why is it so widely held by Indian shikaris? There must have been some cause for its origin, or it never would have spread all over the Indian Empire; but why any thinking man can still believe the idea when disproof is so easy passes my comprehension. Perhaps some famous man-eater or other well-known tiger once developed this extraordinary characteristic, and, as is so liable to happen, the peculiarities of one individual have been exaggerated and distorted into a supposed habit of the entire race? Or it may be that indifferent shikaris eagerly seize upon the idea as an excuse which they hope may mollify the anger of incensed employers when they find that no tiger arrives at a kill—the real reason being, in all probability, carelessness and bad *bundobast* on the

part of the shikari. In any case this idea must certainly be given a high place among the real fallacies of Indian shikar.

. . . . .

Is the direction in which the head of a kill is pointing a sure indication of the direction in which the tiger is to be found?

Another common belief among Indian shikaris is that it is quite easy to locate a tiger lying up near his kill by following the direction in which the head of the kill happens to be pointing. This comes midway between fact and fallacy, since it may occasionally prove to be true, although there is no certainty about it whatever. The average tiger after killing his prey usually drags it by the neck into the nearest thick cover, and the distance he takes it may be anything from ten yards up to half a mile or more, depending upon the nature of the country and the idiosyncrasies of the particular animal. When he reaches what he considers to be a suitable spot he drops the kill, and either starts feeding at once from the hind-quarters, or else goes off for a drink, after the violent exertion entailed in killing perhaps a big animal and then dragging its heavy carcass for maybe a considerable distance. He may then return at once to the kill from his drink, or not, depending upon when he had his last meal, and the time of the day or night. In either case, provided he does not move the kill again after he drops it at the end of the drag, the direction in which the head is lying does give a fair indication of where he is likely to be found lying up in the middle of the day, particularly in foot-hill country, since it is only natural that he should take the kill in the direction of what he considers to be a suitable place, and he takes it head first. But there are many cases when this direction will prove to be wrong. In very cold weather the

tiger will often bask in the sun after his meal, and there may be no convenient sunny spot anywhere near; in hot weather he will nearly always lie up close to water, which may be a long distance away in any direction; the particular tiger may have some favourite locality to which he always goes when anywhere near, or he may be an experienced animal, too well informed in the ways of shikaris to lie up in the vicinity of his kill in the day-time; the slayer may be a tigress with small cubs far away, to which she must return after gorging herself; there may be no suitable cover in the direction where the tiger intends to lie up and he has to take his kill to the nearest cover, wherever that may happen to be; and last, but by no means least, the tiger may pull the kill about after he has dropped it at the end of the first drag, in which case the head may be pointing in any direction, including the sky, which would indicate that the tiger was to be found in Heaven!

It thus appears fairly obvious that the direction in which the head of a kill is pointing is sometimes of assistance in deciding where a tiger is likely to be found; but that so many factors are involved that no certainty can be placed upon this indication. It should also always be remembered that this applies only to fairly fresh kills, since partly-eaten kills are pulled about anyhow, and are not even dragged head first once they have ceased to be heavy.

. . . . .

Are tiger-kills left in the open abandoned and useless?

We now come to the vexed question of tiger-kills left in the open where they are likely to be entirely consumed by vultures before the tiger comes back again the following night. Most tigers do seem to realise the risk from vultures and drag their

kills into thick cover, where they are quite safe from the depredations of these scavenging birds, which locate their kills almost entirely by eyesight. Occasionally, however, kills, particularly those of tied-up baits, are left quite in the open, and it would seem obvious that the tiger must know that the ever-watchful vultures will completely consume the carcass before he returns the following evening. Hence he must also know that it is quite useless to return. At one time I used to think that if a kill were found lying in the open and exposed to the sky, either the tiger had been scared off by somebody or else he had deliberately abandoned it for good, in either of which cases the tiger was very unlikely to return again. I have since found, however, that this is by no means so obvious as it seems, and that a tiger will fairly often return to a kill which, if one hadn't oneself covered it up with branches in the early morning to keep off the vultures, would certainly have been nothing but a few picked bones by the evening. This seems to me to suggest rather a lack of intelligence on the part of tigers. If the tiger has been scared off, one can understand his returning the following night on the chance of there being just a little left, his thoughts running something like this: "Well, I had to leave that kill in a very poor place this morning and the odds are that those . . . vultures have consumed the lot, but I will just go and have a look." But when a kill has been deliberately or carelessly left exposed to vultures, the tiger must be either a fool or a born optimist if he really expects to find anything left to eat by the following evening—and yet I have come across several cases where, if I hadn't covered up the kill, there wasn't a hope of a single pound of meat remaining, and even so the tiger has duly arrived in the evening. Is it that some tigers are so ignorant as not to realise that vultures will

eat every kill they can find, or are they as optimistic as those holders of Railway Stocks who still hope that there is any chance of ever again obtaining a good return on the money they have invested?

In this connection I would quote the opinion recently expressed by a Nepalese Tharu:—

"There is no need to cover up this kill, Sahib. It may be in the open, but its head is pointing to the north, so that no vulture will ever touch it!"

I am afraid that I have never noticed the points of the compass when studying kills that I have found left in the open, but I must confess to a profound admiration of the wonderful way in which the inhabitants of the East manage to produce ingenious explanations for any and every problem that baffles the ordinary thinker!

Chapter 24

JUNGLE RIDDLES—AND SOME ATTEMPTED SOLUTIONS—III

"Nature will not be Buddhist; she resents generalising and insults the philosopher in every moment with a million of fresh particulars."

EMERSON.

Do tigers eat carrion?

WHEN studying wild animals the most important point to bear in mind—and one cannot lay too much emphasis upon it—is that it is often impossible to generalise and to state without fear of contradiction that "Tigers will do this: tigers will behave like that", any more than we can foretell the actions of all human beings, or even of ten individuals of exactly the same race, sex, age, temperament and education in a given set of circumstances. All we can do is to study the particular habits of every individual tiger we come across, and then try to classify those habits in such a way as to get an idea as to which of them are more or less common to most tigers, and which are peculiarities of individuals. And even then, when we have discovered some characteristic which we think is common to the species, we come across an exceptional tiger which behaves in quite a different way.

We must never lose sight of the fact that unusual circumstances or conditions will cause most tigers, as well as other

animals, to depart from the normal habits of the species. An example of this is the question of tigers eating carrion. Apparently in Africa lions will frequently eat comparatively fresh carrion, and a common way of hunting or photographing them is to shoot a zebra and then to leave the carcass in some likely spot. If there are lions in the neighbourhood such a dead zebra will probably attract them from a considerable distance, but in India shikaris hardly ever shoot buffaloes or sambar with the idea of leaving the carcasses to serve as bait for tigers. This is because experience has shown that the vast majority of tigers will touch no meat that they have not killed themselves, and in this way they are superior to lions, which tend to resemble hyænas, jackals, and vultures in being content with having their meals provided by someone else.

This habit of not eating carrion is so common to tigers as a class that one might feel tempted to state definitely that tigers will not eat carrion, and at once a mistake has been made. Individual tigers to the extent of perhaps one or two in a hundred will and commonly do eat any meat that they happen to come across; a wounded or old tiger who finds that he cannot fend properly for himself will thankfully eat whatever he can get, whether it be fresh or distinctly *passé*; a tiger that has happened to stray into country where wild animals are very rare must eat anything he can get in order to live; in times of famine almost all tigers will undoubtedly eat carrion.

I recently managed to obtain a photograph of a tiger actually eating carrion and it is published with this chapter on plate lxxxv. What happened was this. I tied up a buffalo bait in the usual way at a cross-roads and the bait was killed by an exceptionally fine leopard. The next night I arranged my automatic flashlight

apparatus over the kill and obtained the photograph reproduced on plate lxxxiv. The leopard abandoned the kill which I left where it was lying, hoping that the vultures would clear it up. The following day, happening to pass the place, I noticed that the kill had disappeared, so I went to investigate, expecting to find that the leopard had changed his mind and had decided to return after all. It was therefore with distinct surprise that I discovered that a large tiger had dragged the kill some two hundred yards into the jungle and had eaten a considerable part of it. The meat was decidedly high by this time, but by holding my nose, I managed to set up the flashlight apparatus once more. The tiger returned fairly early in the evening and gave me a photograph of one of these beasts actually eating bad meat three nights after it had been killed by a leopard. Unfortunately the kill was moved by the tiger to a different place, so that the two pictures suggest separate kills, but they were, in actual fact, the same one. A study of this picture suggests that this particular tiger may possibly have been disabled in some way. The left eye (right as one looks at the picture) is larger than the other, and the off-hind-leg is raised off the ground in an unusual manner. On the other hand, the tiger is a very large one and appears to be in good condition. A large tiger was known to have been shot at in this neighbourhood a month or two before the photograph was taken, so it is quite possible that the off-hind-leg or the left eye may have been damaged, which would account for the tiger eating carrion in this way.

The moral of this is obvious to the keen shikari—don't make up your mind beforehand as to what any animal will do. The really expert and experienced hunter always remembers that no two wild animals are alike. He therefore arranges his hunting

on a basis of probabilities; but he is always prepared for an individual animal that will not do what is expected and lays his plans accordingly, always remembering certain fundamental principles such as, when beating tigers for instance, that the key to success lies in driving the tiger—and this applies to all tigers—in the direction he wants to go. The expert shikari generally has a very fair idea of where the tiger does want to go, but as he cannot see into the individual tiger's mind he is quite often wrong.

The man who fails at tiger or any other kind of shooting is the man who lets fixed ideas, based on the actions of two or three individuals that he has managed to shoot, probably more by luck than good management, enter his head, and then proceeds to lay down the law dogmatically to the effect that: "Tigers do this: tigers do that." Such a man, sooner or later, finds that his hunting is not so successful as it was, and not realising that the fault is his own, decides that luck has deserted him, or that tigers are getting rare, or that he is always given bad shooting blocks, or any other reason except the true one that animals are individuals which do not follow any definite set of rules, particularly when those rules are man-made.

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Is the ordinary unhunted and uninjured tiger dangerous?

As a forest officer who spends a great deal of his time more or less alone and generally unarmed in jungles holding many tigers, the thought has often struck me that what on earth would one do if tigers were really so dangerous as many people imagine them to be. Quite certain it is that the work of the Forest Department would cease at once, and that nobody would dare enter the jungles on foot, unless he moved about with the greatest caution

and was prepared to fight for his life at any moment. In actual fact the casualties from tigers in the United Provinces reserved forests are not more than four or five annually, despite the fact that there must be several hundred tigers in residence, of which about one hundred are shot every year. And yet, in addition to the whole forest staff, thousands of workmen of all types live continuously right inside the forest for about six months every year. Of the casualties that do occur, more than half are caused by tigers that have been wounded by shikaris—and who can blame a tiger for putting up a good fight for his life? Ladies in England, whose menfolk have occasion to enter tiger-haunted jungles, tend to imagine that one lives in constant fear of being pounced upon by a cruel and ferocious tiger; and certain authors give credence to this belief by writing vivid but grossly exaggerated stories about the supposed terrors of the jungles. Personally, I don't come across many of these "terrors", and I very much doubt if they exist except in imagination or in popular films or books. On the contrary, I believe, and I am sure that many others who really know and love the jungles will agree with me, that the average tiger is not cruel, nor is he ferocious so far as human beings are concerned, and, unless deliberately sought out, does his utmost to avoid meeting or having anything to do with the distrusted human race.

I have already touched upon this subject in the chapter entitled "The alleged cruelty of tigers"; but in order to make my meaning quite clear, I would emphasise that I hold that the *average* tiger is not dangerous—not that every tiger on all occasions is as harmless as a lamb. Once again the question of the individual comes in, and, given sufficient provocation, all tigers must be regarded as potential man-killers. All hunted or wounded tigers

are dangerous, and so are all man-eaters. Every tigress with cubs and every really hungry or suddenly disturbed tiger is liable to attack the unwary intruder. And yet, as I have said before, it is possible to spend year after year in jungles teeming with tigers, and yet be far safer than if one were seated in a motor-car driving about the crowded roads of England.

It may interest some who imagine tigers to be such dreadful animals to read what Mr. J. K. Heughan, writing in the *Sydney Sun* under the heading of " Man's most terrifying jungle enemy", thinks of leeches:—

". . . Millions of them—tens of millions. The jungle is alive. Each leaf, each blade of grass, carries its quota—pushing, out-stretching, falling. But they never lose direction. As if under one command they advance. It is the army of death. You flee before them. Terror gives wings to your feet. Madly—half-insane with fear of the awful fate that may overtake you if your strength should fail—you dash up the valley. Boughs lash you as you pass. Tripped by a long tendril of vine you measure your length in the ooze and undergrowth. Up again, and on, panting, sweating, you run. A race like the hare and the tortoise. You can outdistance them for a time . . . but, unless you get out of the valley in time, they will overtake you again. . . . If they do, then God help you!"

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Does the jackal act as the tiger's mate?

It is an old, old story that lions and tigers are often accompanied by an attendant jackal, that takes the place of the fag to the prefect at school and even assists the giant carnivores in obtaining their prey. This story, I believe, dates from Homer, who,

in a vivid simile, describes the pulling down of a wounded stag by a pack of jackals, which are scared from their anticipated feast by a lion. Such episodes possibly do occur, and have given rise to the impression that lions and tigers habitually depend upon the jackal for easily-won food. If such were really the case, I can only say that many of the great carnivora would die of starvation, for it often happens that lions and tigers are to be found living where there are no jackals. The question, however, has always interested me, and as in natural history nothing is so obvious as it seems to be on the surface, I have always been on the look-out for evidence that may bear on the subject. So far I am afraid that I have found none. True it is that jackals may often be seen or heard in tiger-haunted jungles, and even quite close to the tigers themselves, but their presence is easily explained. Tigers kill many animals and eat heavily during the night. In the middle of the day they are generally lazy and sleepy, and jackals, cunning and knowledgeable beasts that they are, must be fully aware of this fact. Hence, by remaining as near to tigers as they dare, they often get a chance to sneak in during the daytime, and make hurried meals from the tigers' kills while the rightful owners are having their daily siesta. They are, indeed, the beggars at the rich man's table, with the difference that they find it easier to steal than to beg! They are heard near tigers because every now and then they dare too much, and are caught in the very act of stealing the food of the king of the jungle. Perhaps the latter growls fiercely, or makes a sudden rush at the insolent jungle thieves. On these occasions the craven-hearted jackals flee in terror, thankful to escape with their lives. Once they have reached what they consider a safe distance, they stop, and almost at once the whole neighbourhood resounds with their

weird alarm cries of "pheaou, pheaou"—cries which are full of meaning to those who understand the signs of the jungle.

I think that most people who have studied tigers and jackals in the wild will agree with me that the above is the correct explanation of why jackals are so often seen and heard in the neighbourhood of tigers. It is an explanation which shows the jackal to occupy the unenviable position of a parasite on the tiger—a position which is very far removed from the status of mate, or even of fag. If it is true that the jackal really occupies such a lowly position in relation to the tiger, and personally I am convinced that it is, is it likely that he could or would assist the jungle king in hunting his prey; and even if he were willing to assist, how could he do so, or would the lordly tiger accept such assistance, even if he needed it? So far I have been unable to obtain any reliable evidence whatever of assistance rendered to a hunting tiger by a jackal, although I have heard various stories which have been interpreted—in my opinion quite incorrectly—to that effect.

Such a story was recently published in a letter sent to the *Field*, and was regarded by the writer of the letter as being a clear instance of a jackal and a panther working in co-operation. The story in brief was this. The writer of the letter one evening heard a jackal making his usual alarm cry, which denoted that a tiger or a leopard was in the neighbourhood. Shortly afterwards shouts and screams from a village near by suggested that the panther had made a kill, and at the same time the jackal ceased to make its eerie alarm cry. One of the servants then remarked that he had known of several similar cases when a jackal had roamed around screaming its head off, *thereby distracting the villagers' attention and enabling a panther to make a kill!* The writer of

this letter apparently believed the statement of the villagers and servants to the effect that the jackal had a previous arrangement with the panther that he would make a noise and so distract the villagers' attention in order to give the panther a free field for his nefarious work; and he assumed that the jackal's reward for his share in the proceedings was a good meal from the panther's leavings. He concluded his letter by stating that the whole episode showed a remarkable degree of intelligence and co-operation on the part of the jackal and the leopard!

I would, however, venture to suggest that the writer of the letter misunderstood the whole episode. Panthers sometimes prey on jackals and the "pheaou" alarm cry—a cry of terror—is made when a jackal has seen or scented a panther prowling about. This cry warns all who understand the ways of the wild animals of India that there is probably a panther (or a tiger) in the neighbourhood. It therefore should have, and indeed in most cases would have, warned the Indian villagers that their cattle were in danger. The first thing that they would have done then, as normal intelligent villagers, would have been to bring their loose cattle into safety. To my mind, it is quite incorrect to suggest that the jackal's alarm cry—he couldn't help making it, he was so frightened!—was deliberately made in order to distract the attention of the villagers and thereby to help the panther make a kill. Indeed if anything, it was the reverse. This cry warns all, man and beast alike, that a great feline is approaching; it therefore must tend positively to hamper the tiger and the leopard in their efforts to secure their prey, for the success of a stalk depends very largely upon its unexpectedness. There is certainly no love lost between panthers and jackals, and although the latter sometimes make hurried meals from the leavings of kills made by panthers,

they take very good care to keep well out of the panther's way, for fear lest they themselves provide the next meal! When a jackal fears and distrusts a panther to the extent that he undoubtedly does, it is hardly likely that he is going to work in co-operation with him. Indeed, if he were to do so, it is more than likely that the partnership would end by the jackal finding his last resting-place in the "tummy" of the leopard!

Another example is given in the writings of "Hawk-eye", and was regarded by him as being clear proof that the jackal acts as a provider for the tiger. The story is as follows:—

"A sportsman was watching the carcass of a buffalo that had been killed by a tiger; it was at eventide, and, just as twilight set in, a jackal made his appearance from a *sholah* close by, trotting gently towards the dead buffalo and at the same time keenly looking round to see that all was clear. On being satisfied on this point, he lifted up his voice, giving vent to that peculiar long-drawn harsh cry (the 'pheaou'), quite distinct from the ordinary howl and always supposed to denote the presence of a tiger. This instance is a standing proof of the fact, for, in a few seconds, from out of the same *sholah*, stalked in all his majesty, a magnificent tiger."

Now I have the greatest respect for the writings of "Hawk-eye", but he appears to me to have been sadly wrong in his deductions in this case, which, to my mind, affords no proof whatever that the jackal acts as the tiger's mate or provider. My reading of his story is this. A buffalo killed by a tiger was lying on the ground, and its presence was discovered by a jackal. He had probably had various snacks during the day and in the evening decided to risk another meal, even though he knew that the tiger might turn up at any moment. He therefore walked up to the

kill and was just about to feed when his keen nose caught the scent of the approaching tiger, whereupon he gave the usual alarm cry—and bolted before he got into trouble for stealing the food of the king of the jungle. I can see no proof whatever of co-operation between the tiger and the jackal.

I have—to my own satisfaction if to no one else's!—proved that these cases do not really show the jackal as being the panther's (or the tiger's) mate. Other stories that I have heard have been explicable in much the same way, so I am still looking for satisfactory evidence that the jackal and the tiger really are mates. Perhaps someone who reads this book may be able to supply such evidence, and, if so, I only hope that he will pass it on to me.

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How do tigers kill their prey?

I do not propose to say very much in this chapter on the subject of how tigers kill their prey, as I have already discussed the matter at considerable length in my previous book *With a Camera in Tiger-Land*. Hardly two sportsmen agree as to the exact manner in which the deed is done, one of the chief reasons being that tigers generally kill after dark, when it is very difficult to follow the extremely rapid actions of this highly expert killer, even if one is sufficiently fortunate as to be an eye-witness. Again, supposing that one does have the extreme good luck to get a chance to watch the actual deed and can follow the astoundingly rapid movements, one is still by no means enabled to state that tigers kill in such and such a way, for there is no doubt whatever but that there is no uniform method of killing employed, a large experienced old animal dealing with the matter in quite a different way from that employed by a young tiger which has still to

become expert. Further, the size of the prey makes a very great difference, and most important of all, the method of killing a tied-up bait must necessarily be quite different from that employed when striking down a free and active wild animal, possibly moving at high speed. So-and-so may say, "Oh yes; I know how tigers kill their prey. They seize the animals by the throat from beneath and drag them down to the ground, thereby throttling them, for I actually saw this done only last week." Quite possibly he did see this, but he is very rashly making a general statement of the habits of all tigers based on one observation made under the unnatural conditions of a tied-up bait. It is not quite so easy for a tiger to get under the throat of a deer moving at high speed, nor has a tiger the strength to pull down by the throat a partly grown elephant. Indeed reports from Burma state that immature elephants sometimes become the prey of tigers, which bite through the tendons of the hind-legs, thereby hamstringing them, and then don't even always kill the unfortunate animals, but actually make meals off the backs of the wretched, crippled but still living, beasts. Incidentally, this is a case where the tiger does exhibit cruelty, although not cruelty in the worst form. He does not inflict such pain for the sake of pleasure, but he is forced to attack in this horrible manner because he is hungry and is unable to prey upon an elephant in any other way. When driven by extreme hunger or thirst, even man, who considers himself so far above the "brute" creation, has been known to do the most revolting things.

I don't intend to go into this subject any further, but I think enough has been said to show that several methods of killing are employed by tigers according to the varying conditions of the individuality and age of the actual tiger, the size and kind of prey, and the circumstances in which the tiger gets an opportunity

to seize it. I have now obtained some new electrical apparatus, which I hope, in due course, will enable me to obtain a series of high-speed photographs of tigers actually killing tied-up baits. I am convinced that this series of pictures, should it ever materialise, will show a great deal of variation in method of killing, and even then it will not have solved the real problem, which concerns the killing of wild and free animals under natural conditions. This problem, therefore, must remain a problem to naturalists and sportsmen for many a long day, and it is unlikely that the last word will ever be said on the subject.

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Other problems connected with tigers

As this subject of the various questions connected with the life history of tigers has already run to three long chapters, I feel that it is about time to call a halt, particularly as so much has been written about these animals by recent authors, good, bad and indifferent, that the ordinary reader must be getting rather tired of the subject. I will, therefore, very briefly touch upon a few of the remaining problems as a conclusion. It is generally agreed among modern sportsmen that the eleven-foot or twelve-foot tiger so common in old-time shikar books does not exist to-day, except possibly as a rare freak, in the same way that a seven-foot or even an eight-foot man has been known to occur. Old-time measurements were generally taken round the curves or from stretched skins, and there is another aspect of the case that must be borne in mind. Indian potentates are, and always have been, extremely hospitable and strain every nerve to give their guests the greatest pleasure. The bigger the tigers that are shot the greater will be the pleasure of the guests, so

that it is only natural that the longest measurements possible should be recorded. In the same way, Indian shikaris tend to think—possibly with reason—that the size of their reward depends directly upon the size of the tiger bagged. It is not beyond the bounds of possibility that tapes, even of steel, have been specially manufactured in which each inch has been marked at a fraction under its true length, the cumulative effect above ten feet being very large, and adding considerably to the apparent measurements of some fine tigers that have been bagged at one time or another.

Another disputed point is as to whether tigers and leopards suck the blood of animals directly they have killed them. It is a little difficult to say definitely whether this is usually done or not, for a tiger may continue to hold an animal's throat after he has killed it and thereby give the impression that he is drinking the blood. Personally, I am not prepared to offer an opinion on the subject because it seems to me that there is no rule one way or another; but many well-known shikaris, Dunbar-Brander in particular, emphatically state that sucking of blood is not usually done.

The question of the sense of smell possessed by tigers has already been discussed in chapter 20. As regards man-eaters it is generally agreed that, although they are often old or disabled animals, there is no certainty on the subject. Some man-eaters are strong healthy animals, and, in these cases, they have usually been taught the habit by a man-eating mother or are inhabitants of a country, such as the Sunderbans, where man-eating is a constant trait of the species.

The meaning of some of the cries and sounds made by tigers is still open to discussion, but like many other points not even touched upon, the subject is too large to embark upon in a chapter which is already too long, and which I must now close.

Chapter 25

JUNGLE RIDDLES—AND SOME ATTEMPTED SOLUTIONS—IV

"*Nature is the only book that teems with meaning on every page.*"
GOETHE.

Do wild-dogs drive away all other game and ruin sport?

ONE of the most generally accepted theories of Indian shikar is that the presence of wild-dogs in a jungle means the ruination of sport, and a good many sportsmen will undoubtedly say that this is so obvious that there is no riddle about it whatever. I can only retort that it is not so obvious to me as it appears to be to many others, and I will try to explain why I venture to hold a somewhat different opinion from the majority, even though I am fully aware that I shall not succeed in convincing many of my readers, and shall possibly definitely antagonise others. Anyhow, at least I can claim that my ideas concerning the relationship between wild-dogs and deer are positively mild when compared with the startling theory recently advanced by Mr. Douglas Gordon in his book *Field Philosophy*. According to a reviewer, the author of this book states as a fact that "No hound has ever yet followed a fox or any other animal by means of the sense of smell", but that scent is "a matter of sympathy—a form of magnetism". I hold a good many unorthodox ideas myself, but I must admit that this theory is a little too advanced even for me.

To return to my subject, I believe that wild-dogs are to be found in greater or lesser numbers in most of the jungles of the plains of India, and, as they are very destructive and require large numbers of deer for food, they obviously tend to frequent those jungles that hold the greatest number of deer. Now most deer occur where the conditions and food supply are most suitable for their requirements, and deer that have happened upon a really good locality are not easily driven away from it to unknown places where water and food may be scarce. Where there are deer there are almost always leopards and often tigers, and deer that are not frightened away by these great carnivores are probably prepared to face a few wild-dogs as well. In any case, it quite possibly would not help the deer much even if they did leave the locality, for wild-dogs cannot live on air, and the chances are that the dogs would follow them wherever they went.

My point, therefore, is this. A few wild-dogs are generally to be found living permanently inside jungles holding deer, and the deer and other animals are more or less accustomed to their presence, although they normally give such dangerous creatures a very wide berth. If the shikari, then, should happen to come across wild-dogs in his shooting block, he need not at once decide that his shooting is ruined—and leave in disgust the next day, as I have known to happen more than once. Wild-dogs are nearly always present in his shooting block although he often doesn't know it! It is only when their numbers become excessive that sport is ruined.

The photograph of four wild-dogs on the hunt accompanying this chapter was taken in the N. Kheri forest division. These dogs form part of a pack varying between a dozen to a score that have been living permanently in the same tract for several years,

and yet this very same area always holds tigers and leopards and is the best part of the division for sambar, cheetal, gond and wild-pigs. The deer and pigs could easily go to another part of the same forest where there are at present very few dogs—but they don't do so because they prefer their own chosen locality, and even if they did the dogs would probably follow them wherever they went. I would mention that, in this area, I have actually watched a party of wild-dogs moving along a fire-line, with a number of wild-pigs feeding within a very short distance in full view in one direction, and three sambar hinds in the other. And yet neither the sambar nor the pigs were paying any attention to these creatures, that are supposed to strike terror into the hearts of almost every animal in the jungle. Hence my opinion, based on other evidence as well as the above, is this. Wild-dogs in reasonable numbers occur in most forests, and being very wasteful feeders, require a continuous and large supply of deer to keep them fit. They therefore frequent the places where there are most deer, and their presence is an indication that game is present—not that it is scarce, as is so generally believed! Of course, it may and does occasionally happen that wild-dogs collect in such large packs that they do literally scatter the game in all directions; but this is not what usually occurs, for such a wholesale exodus means that the dogs cannot get any food, and without food they also do not and cannot remain.

I can well imagine the reader saying: "Well, what you have written may be perfectly sound and true—yet when I go into a jungle with wild-dogs about, it is a fact, and not a theory, that other game is scarce." But is it really a fact? Is it not possible that the average shikari's mind is so imbued with the accepted idea that wild-dogs drive away other game that he makes his facts

fit his theory? When he finds that game is scarce in any particular tract he at once looks round for wild-dogs and if he finds any trace of them—as he could do in most jungles if only he looked hard enough—he immediately assumes that wild-dogs are the cause of his poor sport, whereas, in actual fact, there might easily be a dozen other reasons which would just as well explain the absence of game. I hold no brief for wild-dogs, interesting creatures though they are, but I do think that they are sometimes blamed for the sins of others, and I should hate to see them entirely exterminated.

In connection with this subject, I would mention a letter from Mr. T. A. Baldry, which appeared in the *Journal of the Darjeeling Natural History Society* in 1932. The writer of this letter one morning came across a small herd of sambar hinds quietly feeding in close company with a party of wild-dogs, whose presence did not seem to disturb the deer in the least. He suggests that possibly the dogs were gradually driving the deer towards some neighbouring water where they intended to make a kill; or that the deer were exhausted after a long chase and were resigned to their fate—like the Mohammedan who calmly faces death with the remark, "It is the will of Allah!"—knowing instinctively that escape from these fiends was impossible. I would suggest that possibly neither explanation is the correct one. I doubt the old stories of wild-dogs driving their quarry to a convenient spot, such as water or the neighbourhood of their dens, before making their kill; nor do I believe that deer, whose first instinct is self-preservation, are quite such fatalists. If they had been exhausted after a long chase they would have been panting heavily and would hardly have been feeding. Is it not possible that the deer, accustomed to the presence of wild-dogs from their earliest youth as fellow-inhabitants of their own jungles, knew, in some way that we

have not yet discovered, that the dogs were not in a hunting mood and had no intention of making a kill? Is this a case where the deer showed that they were possessed of the sixth sense discussed elsewhere in this book, which enabled them to realise that the wild-dogs, at the moment, had no hostile intentions towards them? If so, why is it that the common brown monkeys of India will " swear " violently when they see the *skin* of a leopard? It is difficult to imagine where the hostile intent can come in with the skin of an animal whose body has already been eaten by vultures! Truly the more we probe into the secrets of Nature, the more confused we become; yet we know that the solution of almost every problem is there if only we can find it. For this reason the study of natural history always seems to me to be like prospecting for gold in a country rich with the yellow metal. The gold-digger delves and delves and delves, and every now and then he is rewarded by finding a nugget: the naturalist observes and observes and observes, and likewise, at intervals, he lights upon the solution of one of the riddles of the jungle; just occasionally he chances upon the golden key to the problem which he has been studying for so long.

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What happens to dead wild elephants?

This is a subject which I discussed at considerable length in my previous book, where I examined the various theories that have been put forward at one time or another to account for the acknowledged fact that the bodies of wild elephants that can be shown to have died of old age are very rarely found. I quoted details of various wild elephants that have been found dead within recent years in the United Provinces, and I gave a full description and a photograph of a dead female elephant that appeared to me

to be a clear case of a wild elephant dying of old age in the same jungle that it had inhabited for some years before its death. I have obtained three or four more records of wild elephants being found dead since I wrote my last book, but none of these appeared to be an old animal, and I have never heard of anyone else, either in India or Africa, who has ever seen the carcass of a wild elephant that had almost certainly died of old age. The bodies of such wild elephants are therefore obviously very rarely found, and I expressed my opinion in my last book as follows:—

"I would suggest that the tradition of wild elephants collecting in some secret place to die has little foundation in fact, and that the hidden treasure troves of ivory exist only in imagination. Elephants live in very sparsely-populated districts in tropical forests and their life span is very long. Deaths are therefore not common and may occur anywhere within immense tracts of forest. In tropical countries, carcasses are attacked by numerous scavenging creatures, such as vultures, crows, hyænas, jackals, pigs and porcupines, whereas their work is soon supplemented by that of ants, termites and fungi. Following upon these agents comes the annual monsoon, which produces grass and other rank vegetative growth, twenty or more feet high, in a few months, so that a single season may easily remove the entire body and much of the skeleton of an animal even as large as an elephant. The tusks tend to become covered with vegetation and they are certainly largely gnawed by porcupines; they must also be old, worn and broken by the time an elephant dies of old age, so that they also might easily disappear after a few years' exposure to a tropical climate and its attendant decomposing influences."

Since I expressed that opinion various new suggestions have been made, and I will now examine these more recent ideas so

far as they apply to India. The most plausible of the latest theories is that advanced by Sir William Gowers, when Governor of Uganda, and published in *The Times* among other correspondence on the same subject. Sir William suggests that elephants, like men, are in the habit of doing the same things in old age as they have done throughout life, until one day they break down and are unable to carry on. Thus the elephant goes to his favourite stream or river every day for the dip he loves and plunges into the water. In old age he perhaps totters down the bank, has his bath, and then, on trying to emerge from the muddy bed, finds his strength has failed him. So he collapses in the water and dies. Cases are not unknown of bones being recovered from river-beds, so Sir William Gowers suggests that the elusive elephant cemeteries may be in swamps or streams, which would explain why they are so rarely found.

Now I would like to apply this theory to the wild elephants living in the foot-hill forests of the United Provinces, with which I am intimately acquainted. Firstly, let me explain that these forests cover a long and comparatively narrow belt at the foot of the Himalayas, and that they are bounded on the northern side by the cultivation in the hills and on the southern side by the densely populated Gangetic plain. To the west, across the Jumna, are the foot-hill forests of the Punjab, where wild elephants are unknown, and to the east only is there any connection with forests—the dense jungles of Nepal. The United Provinces foot-hill forests are all under the intensive management of the Forest Department, and being fully surveyed, are so intimately known that it is quite certain that they contain no land cemetery. Should, then, the land cemetery theory be true, it would be necessary for any dying elephants of the United Provinces to make the long journey

of possibly hundreds of miles over very rough mountainous country to reach the nearest land cemetery, which is assumed to exist somewhere in the unknown forests of Nepal. Such a journey would be quite impossible for a sick elephant, so undoubtedly the wild elephants must die somewhere within the United Provinces.

Sir William Gowers' theory assumes that there is no definite land cemetery, but that each elephant, when its time comes, dies in its favourite river. This theory, however, cannot explain what happens to the bodies of the elephants that die in the United Provinces. The large rivers of the Provinces are the Jumna, the Ganges, the Ramganga and the Sarda, and it is to be noted that these rivers are fast-flowing with stony bottoms when they emerge from the Himalayan range. Hence the carcasses of any elephants dying in them would float rapidly down stream for a few miles, where they would, in most cases, be stopped by the great dams that have been erected in order to supply a sufficient head of water to meet the needs of the irrigation canals of Northern India. Yet so far as I can ascertain, except for one elephant drowned in the abnormal floods of 1924, no case is on record of the carcass of a wild elephant having been found held up by the dam at Hardwar on the Ganges, which is the river most frequented by wild elephants. Nor, to the best of my knowledge, has any other wild elephant's carcass been found anywhere in any of these rivers, and such a carcass would certainly float in such fast-flowing water. Apart from the large rivers, however, Sir William Gowers' theory is that the elephant goes to his favourite stream or river as usual on the day of his death, and yet, in many cases, this favourite stream is merely an isolated rocky pool or a mountain burn only a few feet wide and two or three feet deep, in which the carcass could never be hidden. If the carcass were carried down by spates or floods,

it would often be left stranded high and dry a few miles below, since many mountain streams beloved by elephants entirely disappear underground as soon as they enter the dry *bhabar* tract. No: there is no doubt but that Sir William's theory, whether correct or not for African elephants, fails so far as the United Provinces' elephants—and probably most other Indian elephants—are concerned.

Cases have been known of elephants getting trapped in quicksands and bogs, and a photograph taken by Mr. Fliegner of one actually caught in such a predicament was published in *East Africa* of April 10th, 1930. Mammoths in an excellent state of preservation have also been found in frozen bogs, and it is quite certain that some elephants meet their end in this way; but it is hard to believe that feeble old elephants nearing their end venture into bogs or quicksands which they are normally so careful to avoid when in the prime of life. Indeed there may be no such places in the habitats of many elephants. It is much more likely that such cases are pure accidents, which occasionally happen to elephants of any age.

A letter was printed in the *Field* of July 6th, 1929, giving an account of what appeared to be an elephant cemetery, which the writer had discovered in Nigeria. The place was a hollow among hills and very secluded, without any surrounding vegetation, although there were hill villages two or three miles away, and it contained about one hundred skulls within a radius of about three hundred yards. All the bones and skulls were very much bleached and weather-worn, and appeared to have been there for at least ten years. The finder's Hausa orderly, an intelligent man, suggested that the elephants had died of rinderpest, which was known to have been prevalent in that area some time previously. Un-

fortunately the neighbouring villagers were turbulent and unfriendly and could not be questioned on the subject. A prehistoric elephant cemetery, said to be 30,000 years old, has recently been found in Palermo in Sicily, from which at least a dozen skeletons have been unearthed. Yet in neither of these two cases of so-called elephant cemeteries is there any proof that the animals died of old age. Indeed, it is much more likely that they died of disease or from some other cause. Hence, until further light has been thrown on the subject, I must hold to my original opinion already quoted at the beginning of the discussion on this subject, although I admit that the skull would last longer than the remainder of the skeleton.

There is, however, one other suggestion which I have not referred to, and that is that elephants bury their own defunct comrades. I have never heard of any case of African elephants attempting to move the bodies of their dead, but Kalman Kittenberger in his book *Big Game Hunting and Collecting in East Africa* states that he several times saw elephants attempting to help wounded comrades—a pathetic sight which must surely stir the sympathy of even the most callous hunter. In India, however, several cases have been recorded in which wild elephants have been known to move their dead relatives or friends up to a distance of about twenty yards. It is this accepted fact that wild elephants do sometimes attempt to remove dead companions—because, in my opinion, like other wild animals they do not realise that the companions are dead or know what death means—that has given rise to the idea that burial by their own species is the solution of the old old elephant cemetery problem. Attractive though the idea may be, it is difficult to accept it, for a number of reasons. A dead elephants weighs several tons, and, strong though such

creatures are, it is inconceivable that they could move a carcass more than a few yards without the assistance of ropes and stretchers; they have no tools for digging a grave except their own tusks, which are unsuited to the purpose; the place of death may be, and in India probably is, rocky or stony, where nothing short of dynamite could make a sufficiently large hole; and lastly the disturbance of the ground would be such that, at some time or another, some observer would almost certainly have happened upon the spot at the time of or shortly after the burial. Further, I believe that tuskers are very rare in Ceylon, so that the numerous elephants in that island would have more than a little difficulty in preparing the graves they required.

No: fine theme though it may be for a romantic novelist, it seems that this idea of burial must be added to the long list of unproved theories that have been advanced as an explanation of this most intriguing problem. And yet is it quite the problem that we tend to think? After all, we very rarely find the body of any beast or even bird that has died of old age, for it is the natural instinct of every wild creature to seek solitude and seclusion when the end is near. Is it only because the elephant is so large that we marvel at his apparent disappearance at death, when the same thing really occurs with every living creature?

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Are langoors good indicators of the presence of tigers and leopards?

There appears to be a certain amount of difference of opinion among sportsmen as to the value of the various "signs" of the jungle, which are so useful to the experienced hunter and which are of such great interest to all who can find pleasure in wood-craft—pleasure in trying to visualise what is happening beyond

one's immediate vicinity, or what has happened the day or the week before. The highest form of woodcraft is of course tracking, in which the expert can read the sex, the size and the species of the animal that has passed, the speed at which it was going, more or less what it was doing on the way, and even the period of time that has elapsed since the track was made. The Indian expert tracker can see marks and draw conclusions, which are often more or less correct, in places where to the inexperienced onlooker there literally appear to be no marks; but the average European very rarely attains to the wonderful degree of efficiency of the aborigines of the jungle, who have been trained from their earliest youth in this difficult and fascinating art.

The ordinary sportsman can indeed train himself to a certain degree of proficiency in tracking by studying the footprints of the various animals of the jungle, which will teach him the species and often the sex; by learning the differences between the types of tracks made by each creature according to the pace at which it was moving he can form an idea of how fast each animal was going, and this may also give an indication of the state of mind of the maker; by observing which track was made last he can tell the order in which the various animals have passed; and by studying the rate of drying and ageing of foot-prints in the varying conditions of wind and stillness, heat and cold, clay or sand or snow, he can arrive at a fair guess at the period of time that has passed since the track was made—and yet, by comparison with the aborigine of the jungle, he will still be a veritable tyro, just struggling with his A B C!

Yet there is another form of woodcraft which is easier to grasp and in which it is really possible to become fairly expert, and that is a study of the reactions to danger exhibited by the various

feathered and furred inhabitants of the jungle. Some creatures will stand perfectly motionless when frightened, others will rush away without a sound, birds will frequently hurl themselves into the air with a scream, and many animals have special cries that denote anger or terror. The tiger and the leopard are the two animals above all others that cause alarm among other creatures of the wilds, and on sighting or scenting either of these great felines the many and varied inhabitants of the jungle will behave in a number of different ways. The elephant will probably stand perfectly motionless and watch, possibly occasionally striking the ground with his trunk; the sloth-bear, who is in the jungle but not of it, fearing nobody, will pay not the slightest attention; the wild-pig will bolt as fast as he can go; the deer will generally stand and stamp their fore-legs, frequently uttering their calls of alarm; the jackal will fill the jungle with his cries of "pheaou"; the peacock will fly rapidly away with raucous shrieks of fear; and the monkeys, comparatively safe in the branches of the trees, will hurl abuse at these great disturbers of the peace of the jungle.

It is the alarm cries made by the two common species of monkeys of India—the langoor and the common *bandar*—that are generally considered to be the most useful sign to the sportsman of the presence of a tiger or a leopard. In my previous book I expressed the opinion that the harsh guttural alarm cry of the black-faced langoor was the most valuable of all jungle signs—an opinion which I still hold—and I was taken to task by one or two reviewers, including among others that famous hunter, Colonel Burton. Perhaps I did not make myself quite clear. I know that langoors are individuals and all do not behave in quite the same manner. In some places langoors are much more jumpy than

others, and occasionally they will call at tame dogs or hyænas or other creatures. Yet one knows when tame dogs are loose in the jungle, and hyænas rarely move about in the day-time. The pitch and violence of the langoor's cries all give additional indications; and one soon learns the nature of the local langoors and whether they are easily alarmed or not. Again, individual langoors vary and all langoors may occasionally be caught napping. As an example I would quote a letter, already referred to in chapter 20, which was published in the *Journal of the Bombay Natural History Society*. In this letter it was stated that, on one particular occasion, a wounded leopard passed under some trees containing a party of langoors, which gave no sign—hence the writer of the letter assumed that langoors cannot always be trusted to give indication of the presence of the larger carnivora. I would suggest that the reason why, in this particular case, the langoors did not give the alarm cry for the wounded leopard was that it crawled slowly and painfully through grass and undergrowth in such a way that, by chance, the langoors did not see it. Perhaps their attention was focused in some other direction or there may have been many thick branches between them and the ground. It is to be remembered that, as far as we know, langoors rely upon eyesight only for detecting enemies, and a whole menagerie might easily pass beneath them without causing a single alarm cry, provided only that the various animals kept out of sight. Also, even assuming that langoors do not cry for tigers or leopards in one case in a hundred, that still does not alter the fact that the cry when it is made is a most useful indication.

My belief, and I am sure that most who have experience of the Indian jungles will agree with me, is this. The continued and agitated alarm cries of langoors in a jungle in most cases is

the most valuable sign available that indicates the presence of a tiger or a leopard. Some langoors in some places will call, although not to the same extent, for other animals and very occasionally langoors will not call when a tiger or a leopard is close to them—because they haven't seen it, or just possibly, because they recognise that it is not in a hunting mood.

Brown monkeys are also very useful indicators in the same way, but, in the jungles with which I am acquainted, they are possibly not so alert or quick-sighted as langoors—or at least so it seems to me. I have several times heard them call for a dead leopard or a leopard-skin and for crocodiles, but I have not yet heard langoors do this. I have no acquaintance with Africa, but I read in Mr. Kittenberger's recent book that some species of African monkeys also give warning of the presence of lions and leopards in the same way.

Other useful signs are the belling of sambar, the cackling of jungle-fowl and the scream of a peacock suddenly flying away; and to a lesser degree the calling of cheetal, gond and kakar.

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What constitutes a species and a sub-species?

This question hardly comes under the heading of a jungle riddle—it is more a riddle connected with the perversity of mankind, and I must apologise for introducing it in this chapter and in a book of this type. My object in writing on such a controversial subject is not to pose as a savant capable of defining and limiting a term which has troubled naturalists from the very earliest days, but to question whether the present-day tendency to produce new genera, sub-genera, species, sub-species and local races *ad infinitum* is not going too far, whether some naturalists

in their enthusiasm for their chosen hobby are not becoming "species-mad".

Aristotle was the first, I believe, to begin a systematic division and sub-division in natural history, and his ideas form the foundation of the genera and species of to-day. At a much later period the famous Swedish naturalist, Linnæus, defined the word "species" by stating that, in his classification, "There are just as many species as there were different forms created in the beginning by the 'Infinite Being'." This definition fixed species as definite and immutable entities which had continued from the days of the Creation. It held the field for a century or more until it was upset by Darwin's exposition of the causes of evolution and natural selection—an exposition that showed varieties as incipient species, and that species are progressively developed by the selection and accumulation of individual varieties from a parent stock, aided in some measure by isolation.

At the present day, in systematic zoology the term species denotes a group of individual animals which is allotted a more or less definite place in the range of classification between the genus and the variety. A species may be divisible into several varieties or sub-species, and a genus may contain one or more species. For instance, the common English starling is termed *Sturnus vulgaris vulgaris* (Linnæus) and a local race found in Shetland is honoured with the name of *Sturnus vulgaris zetlandicus* (Hartert). This means, or should mean, that the starlings of Shetland are a perfectly clear and distinct local race of the common starling.

Now Darwin held that the only criterion by which we can decide whether a doubtful form is to be ranked as a species or a variety is *the opinion of naturalists having sound judgment and wide experience*. But Darwin is not alive to-day, and who is to be the

judge of what constitutes "sound judgment and wide experience," and where is the court of appeal against what may seem to some to be unsound judgment? The present system varies a little, I believe, in different countries, but it would appear that almost anyone who feels like dividing, say, the Indian elephant into twenty or fifty or a hundred species, sub-species and geographical races and giving a high-sounding name to each (including one named after himself!) can do so; and, if he can induce the editor of a scientific journal, in a moment of aberration, to publish his work, then his new classification is supposed to be accepted by other students of the same subject.

I do not wish in the slightest degree to try to belittle the extremely valuable and indeed essential work carried out by the average systematic zoologist; but, when one hears, for example, that one wretched butterfly that used to be satisfied with the respectable name of *Parnassius apollo* has now been sub-divided by an enthusiastic German into more than two hundred sub-species, races, varieties, aberrations and what-nots, one wonders what the next step will be. Why be satisfied with a mere two or three names for every supposed variety when human beings sometimes have as many as half-a-dozen; why not give, say, the cuckoos of each of the counties of England a separate name to encourage county pride, with a few more thrown in to include the places they visit during the periods of time that they spend abroad; why not honour the elephants that live in each of the various great forests of India with separate names such as *garhwalensis*, *assamensis*, *mysorensis*, and so on, with a few additions to cover the size, the shape, the weight and the degree of curvature of the tusks, not to mention makna elephants that have no tusks at all?

But really this enthusiasm for sub-division and yet further

sub-division has gone beyond the joking stage. The animals living in the jungles about which I have written in this book are now undergoing the process of multiplication of their names—not that it matters to them what the systematic zoologist likes to call them; but it does matter to the field-naturalist who is interested in their life-histories. The sub-division is being done in London and elsewhere with the help of often distinctly limited material in the shape of a few faded skins and horns that have been accumulated in museums; and many of us who live in the jungle and are familiar with the living animals in their own habitat are a little sceptical as to the value, or the accuracy, or even the necessity of the new classification and sub-division now in progress.

I have heard it rumoured that skins of most of the new local races of tigers are to be found in the palace of Gwalior and yet they have all been shot in that state; I have heard it whispered that one enthusiast, wishing to test the value of a new geographical sub-division of the common palm-squirrel, went out and shot specimens of every local race in one and the same small palm-grove; and I have heard expert ornithologists admit that they cannot tell, in many cases, without knowing where it came from, to which geographical race a particular bird-skin should be allotted because one race grades imperceptibly into another!

Surely there must be something wrong with some of the recent developments in zoological classification, when it results in so much confusion in the field? Is it not high time that some international board of control was set up, to which all new classifications and sub-divisions must be submitted before they can be imposed upon the unbelievers? Is not the modern tendency to produce new genera, species, sub-species and races, like sausages out of a machine, systematisation run mad, and would it meet

with the approval of the father of modern zoology, Charles Darwin, if he were alive to-day?

I must apologise to the ordinary reader for this outburst. Possibly I would have been wiser to have remained silent—to have left this sort of hornets' nest severely alone. But I do feel, and there are certainly others who agree with me, that it is such a pity to introduce what appear to some to be unnecessary complexities into the fine science of zoology—to frighten away potential recruits by rendering classification so intricate that none but the individual expert, in his more lucid moments, can even hope to be able to understand what it all means.

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Does the photographer interfere with sport and the happiness of wild animals?

This also is hardly a jungle riddle, and I am mentioning it here because I wish to say something on the subject and I can find no other convenient place in this book. There have recently been letters in the *Field*—that invaluable paper which holds a watching brief for matters connected with the well-being and cleanness of all forms of sport—suggesting that eager bird-photographers are driving rare breeding birds away from their nests in England, and that some photographers are harrying the big game of Africa by trying to take photographs from low-flying aeroplanes. A letter written by Mr. R. Morris has appeared in the *Journal of the Bombay Natural History Society* expressing the opinion that the use of flashlight is very disturbing to the wild animals in the Indian jungles. I have also occasionally heard a disgruntled sportsman who, probably as a result of his own bad *bundobast*, failed to bag as much as he thought he ought to do,

try to blame his lack of success on to a photographer who had visited the jungles before him.

As one who has been keen on wild-life photography since his earliest boyhood and who has had wide experience of flash-light photography in India, I feel entitled to express an opinion on this subject. What some photographers possibly tend to forget is that there is just as much true sportsmanship called for in the wild-life photographer as in the sportsman who hunts to kill. There are certain things that may be done and others that, quite definitely, may not. I do not know who the photographer is that Mr. Morris refers to in his letter (mentioned above); but in my opinion, plastering the jungles with a dozen flashlight cameras is not sport, and should not be allowed. It is quite impossible for anyone to control personally a dozen cameras, and it is merely trusting to luck that a vast expenditure of money and flashlight powder will, by a fluke, produce some result. The whole art and interest of flashlight work lies in personally controlling one or two cameras and trying to anticipate what some particular animal will do. To use a dozen cameras at once is about equal, to my mind, to hunting with a machine-gun and firing off many cartridges on the chance of scoring at least one hit.

Further, I am of the opinion that it is quite unfair to use flashlight at all—except possibly in very exceptional cases—over drinking-holes where water is scarce. Nor is it playing the game to drive animals away from dens containing cubs, or birds from their nests. In every case the photographer, if he be a true sports-man, must decide for himself whether any scheme he may evolve for obtaining a photograph is fair on the subject or not; and if his conscience tells him that it is not, the chance must be let pass no matter how tantalising it may be. After all, the true sports-

man with a gun or rifle does not shoot at every animal he sees, or in every way he can contrive, and the photographer must adopt the same standard of fair-play if he is not to bring the fine hobby of wild-life photography a bad name.

I write with ten years' experience of flashlight work in India, and I emphatically state that flashlight photography, employed in moderation and with a sense of fair play on the animals, does not disturb the game anything like so much as ordinary shooting. An occasional flash and bang in the jungle is probably mistaken by the animals for lightning, and it does not cause them any serious worry, for it is not accompanied by wounds or the startling crash of a missed bullet hitting the ground near the animal. I would ask any who may doubt this statement to examine the numerous flashlight photographs included in this book for signs of fear or disturbance; and I would also suggest that they read chapter 3 of my previous book describing how a tiger was photographed by flashlight, which caused him so little worry that he killed a buffalo-bait on the same road shortly afterwards, and finally showed no fear whatever when photographed by daylight on the following day. And I could supply dozens of similar examples. But the man who scatters flashlight traps in large numbers all over the place, and who is presumably taking photographs purely for monetary gain or because he has so much money that he does not know how else to waste it, is a troublesome disturber of the peace and should be refused entry into any sort of game preserve. The same remark applies to certain professional film-makers who, in some cases at any rate, appear to regard wild animals as a means to making money and who are not always above positive cruelty, provided only that they can make their films sufficiently sensational to meet the tastes of a not over-refined public.

Flashlight or any other form of wild-life photography is a magnificent sport which calls for the maximum of skill and woodcraft, and, in some cases, pluck as well. In proper hands it must be infinitely less cruel than any kind of hunting. The callous professional photographer can be refused entry to forests containing wild animals, but I would earnestly appeal to all those amateurs who really love wild creatures to remember that, in their enthusiasm for their hobby, they must always bear in mind that it is not playing the game to cause suffering to animals in order to produce pictures, no matter how fine they may be.

Chapter 26

THE OTHER SIDE OF THE PICTURE

"The Prince Siddartha sighed, 'Is this,' he said,
'That happy earth they brought me forth to see?
How salt with sweat the peasant's bread! how hard
The oxen's service! in the brake how fierce
The war of weak and strong! i' th' air what plots?
No refuge e'en in water. Go aside
A space, and let me muse on what ye show.' "

"The Light of Asia."

IT has occurred to me that some who read this book may think that I look too much on the brighter and more beautiful side of the jungle and pass over the horrors, the loneliness, the dangers about which we hear so much. Perhaps I do, but surely it is better to look on the bright side of things, to find beauty where beauty exists, to ignore the imperfections and blemishes that are to be found in almost everything in this world —blemishes that are often man-made or due to a lack of understanding. There certainly are trials and tribulations to be found in the jungle, as everywhere else, but then the jungle was not made just for the pleasure of man, and, if there is much about the workings of Nature which we in our ignorance cannot understand, much that seems to us to be cruel, who are we, mere puny mortals, to criticise the work of the Almighty.

There are people who might say: "What a false picture you

do give of the jungle! To me it is a horrible place, full of sickness, of danger, of loneliness, where every beast preys on another, and where cruelty reigns supreme. Every time I enter it I fall ill, and long for the companionship of my fellow-men; every time I even think of the jungle I am appalled by the thought of the terrible lives that wild creatures must live, with death always lurking round the corner and no peace morning, noon, or night." Even such a profound student of the jungle as the late Sir Samuel Baker, ruthless slaughterer though he himself was, wrote in one of his books: "Although an ardent admirer of Nature and her mysterious laws, I am not one of those who regard them as perfection: it is an irresistible law of force by which the strong predominate and the weak must suffer. In every direction we see a struggle for existence; the empty stomach must be filled, therefore one species devours the other. It is a system of terrorism from the beginning to the end. The fowl destroys the worm, the hawk destroys the fowl, the cat destroys the hawk, the dog kills the cat, the leopard kills the dog, the lion kills the leopard, and the lion is slain by man. Man appears upon the scene of general destruction as the greatest of all destroyers, for he alone in creation wars against his own species. We *hear* of love and pity and Christian charity; we *see* torpedoes and hellish inventions of incredible power to destroy our fellow-creatures."

I will now try to answer some of these charges that are brought against the jungle—not because I make any claim to be a brilliant advocate, but because I honestly do not believe them to contain more than the merest shadow of truth.

The first charge is that the jungle is lonely and dangerous and unhealthy. Perhaps it is lonely to some who care nothing for the beauty of the inspiring hills, for the shadows in the valleys,

the play of the wind upon the waters of the lakes, the majesty of the forests, the songs of the birds, the marvellous colouring of the sunsets, the hundred-and-one other manifestations of the world of Nature. I have known of forest-officers who have gone mad, or taken to drink or worse because of their lack of sympathy with their surroundings, and their utter boredom with loneliness. Yet these are the exceptions, and there are other people who have never set eyes on a jungle, but who also go mad or die of *delirium tremens*; there are some to whom London is the most lonely place in the whole world. The man who is lonely in the jungle is the man who has no hobby, who cares naught for sport or for any of the pleasures of the open air. For him there is no remedy but to leave at once and rush off to the cities with their germs, their noise, their turmoil. As for the others, sportsmen, naturalists, foresters, and indeed most sane healthy people who love the pure air and freedom of life in the open, the alleged loneliness of the jungle holds no terrors; and if they pine for the fellowship of their own species I can only recommend that they take unto themselves a wife —and may she be as true a companion to them as mine is to me! As for myself, I find that the jungle lacks but two things—music and libraries—but one can carry about a fair selection of books and the efficiency of wireless is increasing at such a pace that we shall soon be able to hear "Big Ben" even in the heart of the Indian jungle.

Then there is the charge that the jungle is dangerous. So it is in a way, but is it as dangerous as the highroads of Britain, where the annual casualties from motor accidents are far, far greater than those from all the wild beasts in the world put together? I have stood by the graveside in the heart of the jungle of an unfortunate forest-officer who was killed by a falling tree a few months after his arrival in India. I know of another—a

contemporary of mine at Oxford—who was very seriously injured by a charging wild elephant, and of a third who was seized by the nape of his neck by a man-eating tiger—and yet lived to tell the tale, thanks to the pluck of his orderly who belaboured the tiger with the butt of a gun. I have seen people terribly mauled by bears and leopards; I have come across fierce hamadryads and cobras and Russell's vipers and crocodiles, and yet I do not believe that the jungle is a particularly dangerous place. There are man-eating tigers, and unfortunate meetings with surprised bears and accidents with snakes do occur; but still such incidents are very rare, and, as I have tried to show in this book, nearly all wild animals desire only to be left alone and they will leave you alone. If, as a hunter, you deliberately go and seek them out and begin pumping lead into them, then they are dangerous and the jungle takes on a different aspect. Indeed, it is the danger that is the real attraction to the true sportsman, who, once he has tasted of the joys of big-game hunting, cares little or not at all for shooting creatures where no risk to himself is involved.

Another charge is the alleged unhealthiness of the jungle, and here perhaps to a certain degree a stronger case could be made out. Most jungles in India are more or less unhealthy, particularly at certain seasons of the year, and malaria is a constant menace. Food supplies are often difficult and the water is sometimes none too good; there are ticks and leeches and scorpions. Medical aid is often unobtainable and sad tragedies do occur. But yet in some ways the jungle is more healthy than the towns. The open-air life tends to keep one fit, and infectious and contagious diseases, such as plague and cholera, small-pox and consumption, are rare. In any case, one hopes for the best and takes one's chance, spurred on by the belief that, even if one is more

liable to be attacked by some diseases, one is more or less free from the risk of others which are rampant among the abodes of men.

Now we come to the more serious charge that Nature is cruel from beginning to end—that the life of a creature of the jungle is one of constant terror ending only in violent and sudden death. This is a belief that has been fostered by poets, and sometimes by scientists and naturalists as well, and yet, as I have tried to show elsewhere in this book, plausible though such an idea may appear to be when viewed from the surface or from the arm-chair of the scientist, it does not in the least fit in with life in the jungle as it really is to those who understand and love it. Who can listen to the joyous carolling of birds and believe that these very same birds are forever striving for existence the one with the other, or are living in constant terror of being pounced upon by some rapacious and cruel hawk, always seeking whatever he can seize and devour? Who can watch a party of langoors, feeding happily from the bounteous stores of Nature's supply, with the mothers tenderly fondling their babies at their breasts, and the children rushing helter-skelter here and there in their complete abandonment in the joys of play, and yet believe that the lives of these monkeys are ruined because of the ever-present fear that there may be a leopard lurking round the corner waiting to seize his prey? Who can spend an hour or two watching a herd of cheetal, some browsing happily on the luscious grass, others enjoying the warmth of the sun, the fawns frisking around with obvious pleasure and a sense of peace brooding over all, and yet believe that these beautiful deer are the victims of a terrible system of cruelty under which the tiger makes their lives a constant misery? No: the general impression of life in the woods is one of health, of vigour, of vibrating joyfulness.

The tigers, the leopards, the hawks are all there for the purpose of maintaining that wonderfully conceived balance of Nature which has already been discussed in chapter 8. But are these carnivorous creatures really so cruel as some would have us believe, and do their intended victims live in constant terror of being the next to go? I have already discussed the former question in the chapter on the alleged cruelty of tigers, where I hope that I have shown that the tiger is not cruel as we understand cruelty. The tiger kills to eat, and because he must do if he is to live; but he is probably the most efficient killing-machine in the world, and when he is not hungry, he leaves other creatures severely alone. The same applies to other carnivorous animals, with occasional exceptions which we cannot understand, such as some weasels and occasional individual leopards. The cat-and-mouse theory which upsets so many people is not that the cat plays with the mouse for "fun", or for the savage enjoyment of watching the vain efforts of the wretched mouse to escape, or for the sake of being cruel. The cat appears to us to torment the mouse because quickness in seizing their prey is vital to wild cats if they are to obtain any food at all, and the domestic cat still retains the instincts of its wild ancestry which cause it to practise this essential art and to teach its young how to fend for themselves. So far as the cat is concerned there is no deliberate intention of being cruel, any more than there is in the actions of any other carnivorous creature.

Yet the reader might say: "All right: I admit that carnivorous creatures do not intend to be cruel, but how about the unfortunate victim, living a life of terror which ends with a scream of agony when, sooner or later, it feels the inevitable claws of doom seizing its delicate flesh? You can't deny that it is a horribly cruel system

that permits such awful things to happen." I do deny it. I do not believe that wild creatures live lives of terror: indeed, I am convinced that their lives are far happier than our own. Terror is almost entirely a matter of imagination. We put ourselves in the place of the wild creatures and imagine how we should feel if we had to live their lives. It is perfectly true that if we had to live, defenceless, in a jungle full of tigers, it is probable that we should go mad with fright long before our time came to provide some tiger with an indifferent meal. Every sound, every movement, would seem to us to be the tiger coming to take his due, and our highly-strung and imaginative nervous systems could not stand the strain for long, particularly if we had lived a sinful life and were afraid of a quick passage to Hell in the hereafter. But the creatures of the wild have little or no imagination; their thoughts are far too much occupied with the immediate present. They very doubtfully know what death is; they certainly are not worried by the anticipation of just punishment at the Day of Judgment; and they are not tormented by fears of what will happen to their wives and families should the bread-winner be struck down. No: it is quite certain that wild creatures, although they are quick to recognise danger when they see or smell it, forget all about it as soon as the cause has passed out of their immediate vicinity, and are not in the least tormented by nervous apprehension as to when it will next return. These remarks apply, of course, to the higher orders of animals and birds. As regards the lower orders, such as insects, it has been conclusively proved by careful and painstaking investigators, headed by the late Auguste Forel, that they are to all intents and purposes incapable of feeling any sort of pain whatever. It goes with saying, however, that this is no excuse for tormenting insects.

Then there are the screams of agony of the victims which are thought to ring through the jungle at frequent intervals—cries of protest against the evil system that permits of such remorseless and revolting cruelty. In actual fact such screams are very rarely heard. Most animal and bird hunters rely upon a silent stalk culminating in a sudden and unexpected pounce to seize their prey, and the deed is done in the vast majority of cases before the victim even realises what has happened to him. When we hear the alarm cries—very different from screams of agony, be it noted—of such animals as cheetal we tend to think that these unfortunate deer are terrified out of their lives. But are they? Do they really know what death is, or is it only something that they don't understand? When the cheetal come down to drink or are feeding contentedly and a leopard appears on the scene, what happens is this. Either one outlying member of the herd is suddenly and quietly seized and is never seen again by the remainder, who have no idea of what has happened to their missing companion; or one or more of the cheetal see the leopard and call sharply, mainly because instinct tells them that he is something to be feared. In the latter case, the leopard usually goes away disappointed and the cheetal very soon cease their cries and return to their normal happy existence. Poets are very far from always being accurate observers of Nature, but the following lines by Lawrence Hope really do give a true word-picture of the end of many a deer that falls a victim to the tiger or leopard:—

"There was no sound; he gave no cry,
The careless stars looked on serene.
The Jungle's sudden tragedy
Remained unheard, unknown, unseen."

True it is that the victim that is seized sometimes struggles, and occasionally gives a cry or two of agony, but in actual fact a wounded animal or bird seems to pass very quickly into a merciful state of coma in which he no longer feels pain. This can be proved in a number of ways. The feelings of human beings, far more sensitive than wild creatures, that have been seized by beasts of prey and have escaped, are almost invariably the same. They nearly always say that after the first shock their nervous systems appeared to become paralysed, and, although quite conscious, they no longer felt pain. Then why is it the first shot that is so important when big-game hunting? Is it not because, if the first shot be badly placed, the shock-effect of subsequent shots is very small, because the wounded creature seems to become insensitive to further wounds? How is it that if you creep up to a wounded animal without his knowing it, you will find that he lies relaxed and drowsy, giving the impression of being under the influence of a mild opiate? In the case of human beings, is it not a medical fact that men of the least civilised tribes of the world feel pain much less than the more sensitive and imaginative European, that surgical operations are possible among such people that would be quite out of the question with Westerners? If there is so much difference in sensitiveness to pain even among human beings, it is surely a justifiable deduction that wild animals, with presumably hardly any imagination at all, feel pain even less than the lowest type of men. No: there is no doubt whatever but that Nature has a wonderful system by which her wounded creatures are saved from most of the pangs of suffering which we in our sympathy and imagination believe that they have to endure.

Once again the reader might say—that is, if I have succeeded in carrying conviction even so far as this—"Well: at least you

cannot deny that the death of an animal is nearly always tragic and violent." Once again I do deny it. I believe that countless wild creatures, from the elephant to the mouse, from the eagle to the smallest bird, do go away quietly when their time comes and lie down to sleep, knowing neither pain, nor care, nor fear, untroubled by doubts about heaven or hell, and thinking probably to awaken as usual when the birds are singing in the morning. Some fall by the wayside, as the victims of carnivorous creatures, but even their exit is often more or less painless, and the vast majority pass away far more peacefully than we human beings can ever hope to do. We do not often find the bodies of the multitudes of birds and beasts that die in this peaceful way because we do not know where to look, and because the instinct of the wounded or dying creature of the wild is to seek absolute seclusion in the most secret spot that he can find.

The quotation, given earlier in this chapter, from the pen of Sir Samuel Baker lamenting upon the fact that wild creatures prey on each other in an upward scale from the worm to the lion, calls to mind another aspect of the marvellously balanced scheme of Nature. Death inevitably follows life and death demands sepulture, which Nature provides by means of one animal eating another's body—with no burial fees, no cumbering of the ground when interment so often takes place in another creature's body, no waste when the passing of one means food and hence life to another. Truly it is an impertinence or worse for any of us to try to find fault with a system that is so infinitely better, so infinitely finer, than the most wonderful works produced by the hand of man.

Conscious as I am of my indifferent advocacy of a belief that I hold so strongly, I will close this chapter and this book by quoting

the conclusions of one or two others much more qualified to speak than I am.

Alfred Russel Wallace, one of the greatest naturalists who ever lived, writes in his book *Darwinism*:—

"There is good reason to believe that the supposed 'torments' and 'miseries' of animals have little real existence, but are the reflection of the imagined sensations of cultivated men and women in similar circumstances; and that the amount of actual suffering caused by the struggle for existence among animals is altogether insignificant. . . . On the whole, then, we conclude that the popular idea of the struggle for existence entailing misery and pain on the animal world is the very reverse of truth. What it really brings about is the maximum of life and the enjoyment of life with the minimum of suffering and pain. Given the necessity of death and reproduction—and without these there could have been no progressive development of the organic world—it is difficult to imagine a system by which a greater balance of happiness could have been secured. And this view was evidently that of Darwin himself, who thus concludes his chapter on the struggle for existence: 'When we reflect on this struggle, we may console ourselves with the full belief that the war of nature is not incessant, that no fear is felt, that death is generally prompt, and that the vigorous, the healthy, and the happy survive and multiply.' "

Then there is the summary at the end of that fine book, *Mother Nature*, written by the American, William J. Long—an author who has studied wild creatures in an extremely thoughtful, sympathetic and profound manner. This summary reads as follows:—

"So far as human eyes aided by reason and imagination can

discern any clear purpose in the maze of the animal world, that purpose appears to be benignant. Instead of being cruel or pitiless or merely thoughtless, Nature seems to have provided most carefully that birds and beasts should be joyously abundant, and, lest they increase too greatly and overrun the earth, that death, the 'dark mother', should approach them mercifully. Into their dumb lives come two great blessings, besides the common mercies of food and play and rest; they are spared all regret for yesterday, and all anxiety for the morrow. They live gladly; they have no conception of death; they lie down for their last sleep with the familiar expectation that they will awake once more in the morning."

I would humbly venture the opinion that eminent naturalists like Sir Samuel Baker and Professor Huxley have been appalled by the apparent cruelty underlying the law of "the struggle for existence" because they have looked upon wild creatures too much as "species", and have tended to endow them with the vivid imagination that is part of the mental equipment of mankind. There certainly must be a struggle for existence in one meaning of the expression, because far more creatures are born into the world than can live in it; and the fittest do tend to survive. But a species is a group of *individuals*. Each individual animal knows nothing about the naturalist or his man-made theories and laws. All he desires is happiness for himself, which, thanks to the marvellous organisation of Nature, he normally does receive in full measure. He, the individual, knows nothing about the others of his kind that may fall in "the struggle for existence", nor does he anticipate in fear and trembling the time when his own turn may come. In his natural state he spends his life in greater happiness than falls to the lot of the average human

being, and therefore, in many ways, he is more to be envied than pitied.

"*So ye learn within my arbours,*
Where the sleeping wild things lie,
A reverence for Nature
Which the city's streets deny.
Ye learn the real value
Of the man made from the loam;
And ye kneel and thank your Maker,
As ye wend your footsteps home."

W. J. K. S.

THE END

Glossary of Vernacular Terms

Bhabar	Dry country, with a subsoil of boulders, at the foot of the Himalayas
Bundobast	Arrangements
Chowki (chauki)	Hut
Dak	Letter post
Doon (dun)	A plateau in a valley
Jamun	*Eugenia jambolana*
Machan	Platform in a tree
Mahawat (mahout)	Elephant driver
Makna (mukna)	Tuskless variety of Indian elephant (male only)
Mugger (magar)	Indian crocodile (*Crocodilus palustris*)
Musth (masth)	Temporary functional derangement in elephants
Monsoon	Annual rainy season
Parao	Camping ground
Punkah	Fan
Sal	Valuable timber tree (*Shorea robusta*)
Shisham (sissoo)	Valuable tree (*Dalbergia sissoo*)
Simal	Cotton tree (*Bomax malabaricum*)
Sot	Mountain stream or burn, generally rocky
Tal	Lake
Talukdar	Landowner of Oudh
Terai	Moist country a few miles from the base of the Himalayas, at the edge of the bhabar

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Extracts from Reviews of

WITH A CAMERA IN TIGER-LAND

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