THE END OF OUR TIGER HUNT. *(From a sketch by the Author.)*

TWO YEARS IN THE JUNGLE

THE EXPERIENCES OF A HUNTER AND NATURALIST

IN INDIA, CEYLON, THE MALAY PENINSULA AND BORNEO

BY

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WITH MAPS AND ILLUSTRATIONS

"There is a pleasure in the pathless woods,
There is a rapture in the lonely shore."—*Byron*

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In the belief that the average reader is more interested in facts of a general nature than in minutiæ, I have avoided going into natural history details, but have endeavored instead to indicate the most striking features of the countries visited, and the more noteworthy animals and men encountered in their homes.

As the pages which follow will presently reveal, this is in every sense a personal—I might even say a first-personal—narrative, in which the reader is taken as a friend into the author's confidence while they make the trip together. The writer addresses, not the public, in general, but The Reader, individually. To him I would say, confidentially of course, that as a duty to him, in the preparation of these pages I have labored earnestly to avoid all forms of exaggeration, and to represent everything with photographic accuracy as to facts and figures. It is easy to overestimate and color too highly, and I have fought hard to keep out of my story every elephant and monkey who had no right to a place in it.

I consider it the highest duty of a traveller to avoid carelessness in the statement of facts. A narrative of a journey is not a novel, in which the writer may put down as seen any thing that "might have been seen."

To a great many kind friends in the East Indies my thanks are due for aid, comfort, and advice; but I will not consign their names and the acknowledgment of my gratitude to the obscurity of a preface, and each will be found in its own place in the story. But for the friends I made as I went along, and the kindly interest they manifested in my welfare and happiness, I would have felt like a rogue elephant—solitary, uncared for, and even spurned by the other members of the social herd.

Curiously enough, nearly all my East Indian friends were English, and to my American reader I would say, when you meet an English traveller treat him kindly for my sake.

W. T. H.

WASHINGTON, D. C.

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TWO YEARS IN THE JUNGLE

WITH RIFLE AND KNIFE.

PART I.—INDIA.

CHAPTER I.

THE JOURNEY TO INDIA.

Objects of the Trip.—Boycotted in Ireland.—The Challenger Collections.—The Liverpool Museum.—The British Museum.—From Paris to Rome.—Art versus Nature.—Collecting at Naples.—The Zoological Station.—Alexandria.—The Nile Delta.—Cairo.—A Picnic to the Petrified Forest.—The Author rides a Camel.—Egyptian Fossils.—Through the Suez Canal.—A Day at Jeddah.—Pilgrims and Strangers.—The Tomb of Eve.—The Red Sea.—A Pleasant Voyage.—Bombay.

I SHALL always believe I was born under a lucky star as a compensation for not having been born rich. My greatest piece of good luck came to me in 1876, when I was equipped for field work in natural history and sent to the East Indies on a two years' hunting and collecting tour. True, I had spent two years in Professor Ward's famous establishment at Rochester, hard at work learning the art of taxidermy, and all the methods employed in zoological collecting. I had also made two trial trips as a collector in tropical America, so that taking all together, I had served a regular apprenticeship under skilled instructors.

Of course my trial trips were considered successful, else would I have been elected thereafter to remain at home in quiet comfort. As it was, fortune smiled upon me, very broadly I thought, and in

October, just two months after the plan was first proposed, I started eastward to India.

Was it by some institution of learning or scientific society that I was sent out? No, indeed; there is not one in this country or any other that ever had the enterprise to set on foot such an undertaking and back it up to the bitter end with the necessary hard cash. A private individual then, was it? It was, and who else than Henry A. Ward would have had the pluck to send a collector on a tour around the world, to furnish him ample funds for expenses during nearly three years' work, and pay him a good salary besides?

Yet this lavish expenditure proved a good investment, and yielded more museum materiæ, in a better state of preservation, than could be purchased with three times the amount of money expended on the trip. This novel expedition was rendered necessary by the demands of various scientific museums upon Professor Ward's establishment, for East Indian forms which were not to be obtained without sending a collector to gather them in the field.

Behold me, then, on board the steamship *Bolivia*, steaming swiftly, but not too swiftly, I confess, across the Atlantic, in company with Professor Ward himself, whose companionship I was to enjoy as far as the Red Sea. My outfit of fire-arms and ammunition, knives, tools, preservatives, collecting cases, and camp equipage was both complete and compact, and I considered it very nearly perfect. My instructions were anything but rigid, and I had really a roving commission to visit India, Ceylon, the Malay Peninsula, and Borneo, in quest of mammals in particular, and vertebrates of all kinds in general. It was particularly to my liking that quadrupeds of all species, from the elephant downward, were needed most of all, and that my natural preference for the chase and study of mammals in their haunts was to be indulged almost without limit. I was directed especially to secure skins and skeletons of elephants, Indian bison and elk, orang-utans, gibbons, monkeys of all species, two or three tigers if practicable, and every species of crocodile procurable. The avifauna of that region was then being very thoroughly studied by A. O. Hume, Esq., and his co-laborers, and I could well afford to leave the birds to him and his army of collectors.

In due time we landed at Londonderry, and to me was assigned the pleasant task of visiting the Giant's Causeway, near Port Rush, to procure several of its basalt columns for Professor Ward's cabinet. This great geological wonder is the most interesting feature

of the picturesque north coast of Ireland, and to my mind it really is, as the local guides assure the visitor again and again, "wan uv the foremust sights uv the known wurruld." After securing and shipping five large columns, I went to Belfast, and from thence about twenty miles farther, to the head of Loch Neagh, where I skeletonized four old donkeys, and very nearly had my scalp taken by a mob of wild Irishmen, who came at me with long-handled spades. They objected to the proceedings on the ground that the "pore bastes had been jist murthered fur me, so they had," and in the tenderness of their hearts they were spoiling for an excuse to pound me and my two butcher boys to a jelly. I was boycotted for an entire day in a cabin, by a mob of nearly a hundred men, women, females, and children, who like

"A legion of foul fiends
Environed me, and howl'd in mine ears,"

while I exercised all the arts of diplomacy I knew to keep the crowd on a peace footing until the arrival of British reinforcements from a police station. I wish I could narrate the whole episode, to show what the festive Home Ruler is capable of on his native bog; but it is too long a story, and a rehearsal of what I endured from those howling bog-trotters would make me lose my temper entirely. I am happy to say I came off with whole bones—mine, I mean, not the donkeys'—for they were a complete wreck—after an adventure ten times more dangerous than any I experienced with the head-hunters of Borneo, or any other East Indian natives.

After joining Professor Ward at Glasgow we went to Edinburgh, where we visited the collections of the *Challenger* expedition, or as much of them as were stored at No. 1 Park Place. Aside from the marine invertebrates, the amount collected seems small almost to insignificance, in comparison with the cost, the equipment and personnel of the expedition, and the distance it traversed. The higher forms of animal life received but scant attention, and the results obtained are interesting to a few scientific specialists only. Aside from the deep-sea sounding and dredging, I, for one, am puzzled to know how such an expedition could go so far and accomplish so little. The collections of vertebrates would be no great credit, even if shown as the work of a private individual, to say nothing of such an expedition sent out by a great nation.

At Manchester we visited the Owens College Museum, whence I went on to Sheffield and had made to order, after my own patterns,

two dozen skinning knives of various sizes. They were made of the best shear steel by E. Blaydes & Co., and proved a valuable investment.

At Liverpool we visited the Derby Museum, which is my ideal of what a public museum ought to be. It is readily seen that no effort has been spared to make it perfect in quality of both specimens and fixtures, and one only regrets that Dr. Moore has not unlimited funds at his disposal for the indefinite increase of the quantity. The methods of installation happily combine attractiveness of display with economy of space.

After that came London and its museums of all kinds. The city is but a vast, inhospitable wilderness of brick, gloomy but not grand, ancient but not attractive, redeemed from utter loneliness only by its wonderful museums and galleries of art, and its gardens of zoology and botany. Not even in the jungles of India, with only half a dozen native followers, did I feel so utterly lonely as in the heart of London's immensity, surrounded by nearly four million human beings speaking my own language.

The British Museum is undoubtedly the most complete of any of its kind in existence, and always will be. It outranks all other museums just as the *Great Eastern* surpasses in size and carrying capacity all other ships. There is not now, and there never will be, even in boastful, progressive America, another museum which can even be compared with it as to size and scientific completeness. Englishmen have a pride in this institution which reaches to the bottom of their pockets, and this, with the dispersal of Englishmen all over the world, has made it what it is. British consuls are paid good salaries, from which they can and do afford to gather valuable collections in foreign lands for the British Museum. So long as our consuls are limited to the paltry salaries they now receive, for a year at a time, by the grace of Congress, they would be very foolish to spend a dollar for the benefit of any American museum; though they might, at a trifling expense, send collections to the Smithsonian Institution which would make a magnificent museum in a year. More than this, the British Museum is allowed to buy what it wants and cannot get by presentation, but the wisdom of our Congress fails to provide for the purchase of a single specimen by the National Museum. What a glorious scheme for building up a national institution!

To a stranger, the extent and completeness of the British Museum's scientific collections are truly astonishing. Unless he is a

scientific sharp, the chances are he cannot name a living species of any except the lowest forms of animal life which cannot be found represented there in some form. It may be a skin, a mounted specimen, a skeleton, a skull, a preparation in alcohol, or perhaps only a pair of horns; anyhow, it will be there, somewhere, although it may not be on exhibition by any means. Of many species there are dozens of specimens of various ages, from various localities, all valuable as showing the variations in size, color, and texture of covering. The best of it all is, that this wonderful storehouse of science is open on equal terms to all, and, be you ever so humble a student, an assistant is always at your service to hunt up and show you at once the specimens you desire to examine. Even before I had intimated a desire for a closer examination of the tortoises on exhibition, a vigilant attendant noticed my interest in the group and immediately came forward, with an offer to unlock the cases and take out any specimens I wished to examine closely. When I protested that I did not wish to give him so much trouble, he replied that he was there for that very purpose. No introduction, no unwinding of red tape was necessary; that I had been found studying those specimens as well as I could through the glass was enough. Again, when I wished to see a particular crocodile skull described by Gray as *Molinia Americana*, Dr. Gunther immediately sent an assistant with me, who went into the basement with a lantern and found it directly. When I wished to see Seba's figure and description of "the American crocodile," published so many years ago, the distinguished keeper of zoology sent another assistant to the library, who found the volume and the plate for me at once. This, and much more, was done to assist the inquiries of a mere nobody.

It is in this great institution that the naturalist will find the type specimens of so many thousand species, and the array of objects from which those extremely valuable but far too costly contributions to science, known as the British Museum Catalogues, have been made up. Each catalogue is in reality a handbook of classification, but the trouble is, the volumes are so expensive as to be beyond the reach of the average impecunious student who would gladly inform himself from them. What a boon to poor naturalists it would be if these catalogues and monographs were published and issued upon the same generous plan as that pursued by the Government of the United States in the issue of similar works. We have not as yet a British Museum, but we have a Government

which bountifully provides for the publication and free distribution of complete and systematic information bearing upon all branches of American natural history. The reports of the Geological Survey, the Bureau of Ethnology, the Miscellaneous Publications, the reports of the Commissioner of Fish and Fisheries, the Bulletins of the National Museum, and nearly all the publications of the Smithsonian Institution are all sent free as air and postage paid to deserving applicants. This liberality on the part of the Government, unparalleled in the history of nations, has given to science in America such an impetus as could not have been acquired in less than a century by any other means.

After six weeks of London, Paris came and went like a beautiful dream, leaving confused memories of clean buildings, pretty parks and gardens full of nude marble figures, monumental columns and arches; acres of fine paintings by masters old and new; gorgeously gilded and frescoed ceilings; rooms full of artistically mounted bones, "stuffed animals," and beautiful birds; long rows of human skeletons; naked Hottentots in wax; and museums of everything under the sun.

On Christmas day we crossed the Alps into "sunny Italy," and landed in the lap of winter at Turin. "Sunny Italy" indeed, with a foot of snow on the ground! Together, Professor Ward and I did the natural history museums of Turin, Milan, Florence, Pisa, and Rome, and, surreptitiously, I did the art galleries alone.

Rome is a paradise for art, but a desert for natural history. The Eternal City turns out paintings by the square mile, and regiments of women and men in marble, but she cannot stuff an animal so that it is fit to be seen. She has the Vatican and St. Peter's, but she has not the least idea about cleaning and mounting skeletons properly. There is one scientific man in Rome, the professor of natural history who has charge of the University Museum; but I am sure he must feel very lonesome there. The naturalist is too heavily handicapped in Rome. It requires the untrammelled genius of the western world to produce a real mermaid, a Cardiff giant, gorillas eight feet high, made of buffalo skins, and a forty-foot whale made of bull hides sewn together. Rome ought certainly to produce the most artistic taxidermists in the world, considering how much artistic talent there is running to seed all over Italy; but Rome does not care a whit for nature unless it is reproduced in paint or marble.

At Naples we spent eight delightful days, in spite of beggars

and bad smells, in the course of which we made two excursions to Vesuvius and collected a ton of lava specimens, and also visited Pompeii to see the place, and scoop up a bagful of the fine pumice-stone which still covers a large portion of the city. Men are just as great fools as other animals. There are half a dozen populous villages nearer to the treacherous old volcano than this which was buried out of sight, and human memory too, in a few hours' time; and the vineyards reach as far up the mountain as the lava will allow. Familiarity has bred contempt, and the people take it for granted that the great ash-pile will never again get up such high jinks with pumice-stone, sand, ashes, and hot water, as broke up the circus that fine day in Pompeii, in the year 79.

While in Naples we spent several days among the oyster-stalls on the quay, buying quantities of shells, star-fishes, and echinoderms of many species from the Mediterranean. It really seems as if the Italians eat every living animal they can catch in the sea excepting the corals and sponges. In addition to the common edible fishes, the poor people devour sharks, rays, octopods, echinoderms, squids, crustaceans, and shell-fish of all sorts. By way of experiment, we tried a few of the *outré* dishes which are daily cooked and served up in the oyster-stalls. Fried shark was very good, and so was shell-fish soup, but the festive echinoderm was rather tasteless and delusive. We tried to eat some stewed octopus, but it was tough as india-rubber and salt as the ocean, and after five minutes' steady chewing we gave it back to the caterer to be sold again for the benefit of the poor.

Naples has no public market, but there is a certain wide street in which, as in Albany, fish, flesh, and fowl are gathered together every morning, and every man with aught to sell stands up and howls at the top of his voice until whatever he has is sold. The infernal din, the dirt and bad smells, were enough to appall sensitive nerves; but every morning we used to go in and take our chances amid the motley rabble of buyers and beggars. In this way we secured many fine specimens of *Octopus vulgaris*, and various cuttle-fishes, murænas, lobsters, crabs, shell-fish, etc., which we preserved in spirits.

Of course we visited the famous zoological station, founded and conducted by Dr. Dohrn, for the systematic study of marine invertebrate life under the best possible advantages. The basement story of the pretty building, which stands at one end of a grassy esplanade, close to the shore, is devoted to an aquarium for the

benefit of the general public, and is bountifully filled with interesting marine animals of many kinds, such as cephalopods, medusæ in all their delicate and filmy beauty, live corals, sponges, sharks, rays, crabs, lobsters, fishes, and turtles in great variety and profusion. A walk through the aquarium is like taking a stroll under the sea and becoming personally acquainted with its inhabitants. The water supply comes directly from the bay, and the denizens of the commodious tanks seem quite at home in the pretty bits of sea-bottom that have been transferred hither for them.

The upper story of the station is, to the gaping crowd, a sealed book, and "shall fools rush in where angels fear to tread?" By no means; hence I did not attempt to penetrate the inner temple where Dr. Dohrn and his investigators have their "tables," and prosecute their divings after the unfathomable, and graspings for the unknowable.

But all too soon the time came for us to move on; and, in obedience to the summons, we shipped home sixteen cases of specimens and sailed for Egypt.

At sunrise of the fifth day out, a long, low stretch of barren sand all along the south betokened our approach to the land of deserts. At eight o'clock Pompey's pillar loomed up from its hill-top behind the city, graceful, prominent, and sharply outlined against the clear eastern sky, and we steamed around the end of the breakwater into the harbor of Alexandria. This city is the gateway to all Egypt, and we found its harbor filled with the ships of many nations, among which we counted nineteen large steamers.

To my mind, there is absolutely nothing attractive about Alexandria, and but for the European quarter, the Place des Consuls, the city would be intolerable, even for a day. The only good things that can be said about it are, that the city is of great commercial importance to Egypt, and is the starting-point for Cairo. We visited Pompey's pillar and the Khedive's gardens, but to reach them we had to drive through such filthy streets, and past so many dens of wretchedness, that the charm of sight-seeing was utterly lost. We saw sights we had in no wise bargained for. It seems to me that Alexandria is the dirtiest city I ever saw, and it certainly smells worse than Naples. No wonder that fevers are prevalent, or that the plague always breaks out here prior to its appearance in any other part of Egypt.

The ride from Alexandria to Cairo, one hundred and thirty-one miles by rail, is full of interest. Leaving behind us the slums of

the city, we sped quietly along the eastern shore of Lake Mareotis for several miles, then turned off to cross the flat and fertile delta of the Nile. Although it was mid-winter, the fields were green with young crops of wheat, save those which had been newly ploughed; and for a great part of the journey, the landscapes reminded me strongly of the level green prairies of Northern Illinois near the southern shore of Lake Michigan.

For a number of miles the railway runs along the bank of an irrigation canal, the space between the two being used as a public highway. As the railway traveller flies along, he is treated to an endless moving panorama of turbaned men, women, and children, riding donkeys or plodding along on foot; groups of laborers, idlers, beggars, and strings of laden camels. And so we rattled on, past the green fields; across muddy canals; across the iron viaduct over the Rosetta branch of the Nile; past mud villages, with their miserable peasant inhabitants squatting on the sunny side of their huts, fighting the flies; past ruined villages—mere round hillocks of mud—across the splendid iron tubular bridge at Benha, over the Damietta branch of the Nile; across bits of desert, wider or narrower; in sight of the Pyramids; in sight of Cairo; through clouds of sand and dust, and at last into the grand old city itself.

We took up quarters at the Grand New Hotel, and immediately began to gather in specimens. But it wouldn't do, and we might have known it before going there. The high-toned guests of the hotel wondered too much and looked too much scandalized when we began to buy ibex skulls, stuffed mastigures, polypterus, and other queer animals, and carry them upstairs to our rooms. A naturalist who intends to accomplish anything has no business to stop at a grand hotel, where he must stand upon ceremony and do nothing remarkable. He must put up at the small hotels, where, being a guest who pays cash for everything, the landlord will be his warmest friend and abettor in whatever he undertakes, will give him every accommodation the house affords, and allow him to turn its best room into a taxidermist's shop if necessary. Being compelled to realize this, we moved to the Hôtel de l'Europe, where the landlord gave us all the rooms on the lower floor, and in those we bargained with natives, sorted and packed specimens, sawed and hammered at our boxes, and were happy.

In this day of modern improvements and European innovations upon the ways and means of the oriental races, there are two Cairos, the old and the new. The latter is the foreign—or, more properly,

European—quarter, and is characterized by broad streets, fine, airy buildings, parks and gardens, grand hotels and a theatre, stylish carriages and gas-lamps, in all of which it is eminently Parisian. All this is agreeable, but uninteresting, and we turn back to the wonders and delights of the old city. Here, at least, the nineteenth century has wrought no change, and we take pleasure in thinking that the city is to-day very like what it was when the Pyramids were new, when England was inhabited by savages, and America was unknown. It may not be so, but still we like to believe that these are the same cramped and crooked streets, the same latticed windows and overhanging upper stories, the same bazaars and work-shops and wells that were here when the brethren of Joseph came down, as envoys extraordinary, to practise the arts of diplomacy in the court of Pharaoh.

Of course we saw the sights as we went along, the beautiful mosque of Mehemet Ali, built of oriental alabaster—the prettiest building material in the world; the mosque of Sultan Hassan; the citadel, and the place where the Mamaluke leaped his horse over the wall; Joseph's well, cut 260 feet deep through solid rock—which is much better for the posterity of "Joseph" (the Sultan Saladin!) than a bronze equestrian statue or a monument could possibly be. The Turkish bazaar is very like a church fair, inasmuch as you get less there for your money than anywhere else, but it is worth a visit all the same. The Museum of Egyptian Antiquities at Boulac was full of interest and mummies, but I fear the Egyptian collection in the British Museum surpasses it. The Khedive has lately put a stop to the exportation of antiquities from Egypt, and now not a single article can be shipped without an order from him.

Our pleasantest excursion from Cairo was to the Petrified Forest, south of the city, for specimens of petrified wood and other fossils. Cook does not take his tourists out that way, and for once we were not harassed by crowds of beggars for "backsheesh," or sellers of Brummagem antiquities.

Having made all preparations the previous day, we mounted our donkeys very early one morning and set out. Our cavalcade consisted of Professor Ward, Mr. Farman, the U. S. Consul General, myself, our dragoman, Mr. Farman's chuprassie, all upon donkeys, and three brown-skinned, barefooted little Arabs, clad in long blue drilling shifts, to whip up. The sun was just rising as we rode out at the famous Bab-el-Nasr gate, and there, near the

tents of the Bedouins, was an old Arab with a camel waiting to join us. We had engaged them the day before, but were nevertheless surprised at finding them both there and ready to start. The plan was for me to ride the camel out to the Forest, where we would load it with specimens of petrified wood to be brought back; so I dismounted from my donkey and prepared to embark upon the ship of the desert.

The Bedouin made him kneel, which he did under protest, with much guttural swearing, not loud but deep; but when I prepared to mount, he bawled aloud in remonstrance against a "Christian infidel dog" getting upon his back, which was sacred to the followers of the Prophet. But his objections were overruled by the court; the stirrup-straps were adjusted over the front horn of the sawbuck I was to ride upon, and I mounted.

"Now look out," said Mr. Farman.

Immediately the camel began to heave up behind and sink earthward in front, just like an Arab when he prostrates himself and touches the ground with his forehead while saying his prayers. It seemed as though my camel was going to stand on his head, and but for the timely warning I should have pitched gracefully over his bows into the sand. But I clung to the rack, and presently the ship began to right itself. The next thing I knew, the affair was high in the air, with its leg-joints partially straightened out; the Bedouin took hold of the halter and we were off.

How strange and romantic the scene. How soft and pure and balmy the fresh morning air. How pleasing the landscape; and yet how barren. Not a single green thing in sight, yet somehow it seems more like a freshly ploughed field than a desert. Here and there are the same umbrella-like Bedouin tents that we have seen pictured in the geography on the page opposite the map of Africa, ever since we began to remember, and close to each tent is the very same camel. The wandering Arabs pitch their tents just outside the gates of the city, and feel quite at home, for the desert comes quite up to the walls.

Over to the left there stand a number of low, dome-like structures, and we do not need to be told that they are the tombs of the caliphs who have——mercy! A trotting camel is enough to stampede the reflections of a mirror. The donkeys walk faster than our camel, so we have fallen behind, and must trot to catch up. While we walked, camel-riding went well enough, for the old fellow went very easily and softly forward, and it is not

so very disagreeable to be heaved forward with a jerk, stopped suddenly, and thus bent nearly double at every step. One's stomach soon learns to accommodate itself to the circumstances, and after half an hour or so one's lumbar vertebræ get into pretty good working order. But when we fall far behind, which we do quite often, then the Arab begins to run, the camel starts to trot, and I drop all side issues to devote all my energies to the task of holding myself together.

We passed the limestone cliffs and quarries of the Mokattem Hills, wound along up a little valley for several miles, and finally turned off eastward into the desert. The surface was very uneven, and thickly strewn with black and porous fragmentary limestone, which very closely resembled the pieces of lava we collected upon the sides of Vesuvius. About ten o'clock we reached the Petrified Forest—a hilly, sandy desert, strewn with petrified tree-trunks and countless fragments of wood. In many places we found trunks twenty, thirty, and even forty feet in length, and often a foot and a half in diameter. The large trunks were always broken in a number of places, squarely, as if they had been sawn. A few stood perpendicularly in the sand, with only their upper ends visible. Fragments of all sizes lay scattered thickly all about, showing petrified knots, bark, decayed places, small branches, and roots.

What a grand picnic that was! We gathered up petrified wood, found a great number of fossil oyster-shells, similar to *Ostrea deltoidea*, wandered about, and enjoyed ourselves generally. It was a glorious day, and for once in Egypt we enjoyed peace, balmy peace. It was free and roomy and quiet out there, for we had a whole desert all to ourselves. At noon we sat down upon a little sand hill, just at the edge of a great sandy basin that was once a lake, to rest and enjoy our luncheon. A cloth was spread upon the clean brown sand, and from the lunch-basket Mahomet produced two bottles of claret and one of water, oranges, dates, sandwiches, and other substantials.

Why do not more artists paint such glorious pictures as the one that lay before us then, instead of the tame and hackneyed scenes of lakelet, meadow, hill and dale so universally depicted? On either hand the view was bounded by lofty sand ridges, or limestone cliffs, but before us stretched the warm brown desert in gently rolling hills of sand, sloping gradually down toward the Nile. Cairo lay half hidden behind the Mokattem Hills, its grace-

ful minarets and mosque-domes shining brightly in the morning sun. Above the city, where there were no hills to hide it from our view, we could see the sluggish Nile, and trace its winding course through the narrow, level valley of fertile fields that stretched like a ribbon of green velvet between the two great deserts. Beyond Cairo, at the edge of the green valley, the Pyramids loomed up far above the horizon, mysterious and majestic mountains of stone, while far beyond them stretched a vast but lifeless ocean—a sea of desolate sand, reaching from the Nile to the far-off shore of the Atlantic.

On our way home from the Petrified Forest with a camel-load of specimens, we stopped at the limestone quarry a mile from the city, to look for fossils in the piles of rock that had recently been quarried from the cliff. In a couple of hours' vigorous scrambling and hammering, we secured a fine assortment of fossils, including about thirty good specimens of a pretty little fossil crab, bearing, as none but a stone crab could, the appalling name of *Lobocarcinus Paulo-Wurtemburgensis*, a number of large *Nautili*, and several species of *Voluta*, *Turritella* and *Cerithium*. The most interesting find was a rib of a Sirenian.

Egypt is one of the grandest countries in the world for an antiquarian, but one of the poorest for a naturalist. The *Polypterus* (a ganoid fish valuable to science because of its close resemblance to *Osteolepis*, a fossil fish of the Devonian) is found in the Nile, but it is exceedingly rare. Crocodiles (*C. vulgaris*) are also found in the Nile, but so far above Cairo that we decided not to hunt them. A trip up the Nile by rail, four hundred and fifty-seven miles to the mummy pits at Manfalout, revealed the fact that the pits had been fairly gleaned of the mummied crocodiles, ibises, cats, and human beings they once contained. The result of this tedious three days' trip was but two mummied crocodiles, a skull, and an armful of mummied arms, legs, and heads of ancient Egyptians.

An Arab brought us an earthen jar, said to contain a mummied ibis, for which he asked the modest sum of £1. The mouth of the jar was tightly closed with cement, and the Arab would not allow us to open it, so Professor Ward, who had seen Arabs before, declined it with thanks. We met an old Bedouin who had just come across the desert from the peninsula of Sinai, and had carried on one of his camels, all that weary distance, seven heads of Egyptian ibex (*Capra Nubiana*), all of which were quickly added to our collection

at a price highly satisfactory to both parties. The skin remained upon each skull, dry and hard, and had perfectly protected all parts of the bony structure from injury. Not a bad idea for the preparation of small skulls that are destined to be banged about on camel-back.

We procured specimens of the polypterus (*P. bichir*), the spiny-tailed mastigure of the desert (*Uromastix spinipes*), one specimen of the Egyptian wild-cat (*Felis chaus*), and about three camel-loads of petrified wood, fossils of many kinds, blocks of Egyptian granite and oriental alabaster to be sawed up into cabinet specimens. Near the beautiful mosque of Mehemet Ali lay a number of blocks of alabaster like those of which the mosque has been built, "stones which the builders rejected." After the exercise of considerable diplomacy, General Stone, the Khedive's Chief-of-Staff, to whom Prof. Ward had letters, obtained the vice-regal permission for us to cart through the gates of the citadel one slab of alabaster for ourselves, and another which he consigned to the care of Prof. Ward for the Smithsonian Institution. General Stone also obtained the Khedive's permission for our two mummy coffins and their contents to be exported from the country without let or hindrance.

Even at the Pyramids, last of all suitable places for a naturalist, we found specimens valuable to science. The Pyramids are built entirely of nummulitic limestone blocks, and the passages are lined with limestone brought from the Mokattem Hills east of Cairo, eight miles away. This limestone is full of nummulites, little flat echinoderms, which, as the blocks upon the surface slowly disintegrate through exposure, are set free and roll down to the base of the Pyramids, where they are picked up by the Arabs and sold to travellers.

Another interesting fossil which we also obtained at the Pyramids was a larger echinoderm, *Clypeaster Ghizaensis*, from the limestone (a lower strata than the nummulitic), which is the foundation upon which the Pyramids rest. The Arabs dig these fossils out of deep holes in the sand.

As a sort of penance for two delightful weeks in Cairo and vicinity, I was exiled to Port Said for a few days to look after our heavy luggage, which had been shipped there, and to watch for an outward steamer.

Port Said (pronounced Side), named after Said Pasha, under whose patronage the Suez Canal was commenced in 1859, is the

port at the Mediterranean entrance of the canal, a very important, but very dreary, dirty, and uninviting modern town, built upon the sand and infested by Arabs and fleas. But deliverance came at last. I embarked one night upon the Austrian-Lloyd steamer *Memfi*, and when I awoke at sunrise the next morning, Port Said lay far behind us and we were steaming slowly through the great canal. Some one had told me that this passage was an "uninteresting and monotonous voyage through a big ditch," but I do not believe he ever saw the canal. After leaving Port Said, the channel is cut through Lake Menzaleh, a vast but shallow lagoon, swarming with wild fowl. From that, a cutting through a low, sandy plain leads into another lagoon, called Ballah Lake, which is also traversed by the canal. From Ballah Lake to Lake Timsah the canal is cut through the plateau of El Guisr, the highest ground on the route. The banks grow higher and higher, and the channel narrower, until we suddenly emerge upon Lake Timsah (Crocodile Lake), nearly midway between the two seas. On the western bank of the lake stands Ismailia, a pretty little town, a garden in the desert, with substantial houses, fine streets, shady avenues, green gardens, and all the institutions of business and religion pertaining to a modern town.

Crossing the lake, we entered another cutting several miles in length, full of curves and *gares*, or sidings where ships can meet and pass each other. After steaming slowly all the afternoon through the desert, we anchored just before sunset in the deepest part of the Great Bitter Lake. What an odd sensation it is to cross a desert in a steamship! Never have I seen water look so smiling and delicious as do these clear blue lakes in the midst of a scorching and lifeless expanse of brown sand. As the sun set, the full moon rose, lighting up a broad, golden track across the glassy surface of the lake, the stars came out until we had one shining firmament above and another in the lake below, the evening air was balmy and pure, and, as if to crown all these delights, the bell rang for supper.

The Suez Canal is 86 miles in entire length, 21 of which are through the three larger lakes. It is 26 feet deep in mid-channel, and the bed is 72 feet wide. At the surface, the width varies from 350 to 196 feet, according to the books, but in the narrowest cuttings, the surface width looked more like 96 than 196 feet. Vessels are not to steam faster than five and one-third miles per hour in the canal. The toll charged by the company is thirteen francs per foot

of draught for laden vessels, ten francs per foot when in ballast. The total cost of the canal was eighteen and a quarter million pounds sterling, to say nothing of the millions of pounds worth of "forced labor"—or, in plain English, slave labor of the most deadly sort—supplied by Ismail Pasha.

The next morning we ran the gauntlet of buoys and beacons which mark the channel across the Bitter Lakes, and continued our winding course through the desert. The canal makes a great many very sharp curves, and it is a delicate task to take a large steamer through without a mistake. About noon, we saw, across the desert, a number of ships; the desert gradually sank away into the sea, and at one o'clock P.M., just thirty-one hours from Port Said, we anchored in the harbor of Suez. Professor Ward came on board directly, with nearly a bushel of fresh echinoderms, and after a stay of two hours, we weighed anchor and started down the Gulf of Suez.

Half way down the Red Sea, on the Arabian shore, lies Jeddah, the nearest port to Mecca, and therefore the landing place for the throng of Mohammedan pilgrims constantly coming from all parts of Northern Africa and Southern Asia to visit the tomb of the Prophet. We were to call there for a deck-load of returning pilgrims bound to Bombay, and just forty-eight hours from Suez, the town lay before us, compact, angular and gray, bounded on three sides by the desolate barrenness characteristic of the Arabian peninsula. Taking a position with as much precision as a man going to leap over a bar, we slowly and cautiously threaded our way through a break in the coral barrier reef which forms the harbor.

It was close nipping sometimes, and once or twice we had to stop and go astern before we could pass the end of a reef; but the swarthy Arab pilot we had brought from Suez took our ship through without accident. How large sailing ships manage to get through is more than a landsman can see, but they do it somehow, for we saw several riding at anchor inside the reefs, which is the only harbor there is at Jeddah. There were in port a dozen or more large steamers like our own, and a whole fleet of sailing vessels, most of which had come laden with pilgrims, and were waiting to bear back their living freight.

We had a day to spend on shore, and made the most of it. Upon landing we found that the substantial portion of the town is built of fossil coral and coralline limestone. Great masses of brain coral, *Meandrinæ* and *Astreoporæ*, have been quarried from the

raised beaches, trimmed up as ordinary building stone, and used in the construction of houses. Blocks of limestone full of very perfect *Madreporæ* were common, and sometimes we found four or five species of coral in a single wall. Owing to the purely coralline nature of the building material, the houses of Jeddah are of dazzling whiteness when fairly viewed. In the suburbs, the houses are mere huts of reeds and brushwood.

Taken altogether, Jeddah is a fine little city. The houses are built quite solidly, in a peculiar style of architecture, half Moorish, half Saracenic, which is both unique and beautiful. Each upper window is a square latticed casement of brown wood, projecting from one to two feet beyond the wall. The city is entirely surrounded, on the landward side, by a high wall, and, owing to its close proximity to Mecca, and the presence of so many pilgrims, it is a perfect little hot-bed of fanaticism, ready for a religious (!) disturbance upon very short notice. One occurred in 1858, during which the meek and lowly followers of the Prophet massacred all the white Christians in the place, including the British and French consuls. In return for this, the British Government, with its usual promptness, taught them the gospel of peace by bombarding the place. That lesson has had its effect, and until it is forgotten, every white man in Jeddah will be safe. And yet I fancy it must be very much like living in a powder magazine to hold a consulship there.

In the cemetery, a quarter of a mile northeast of the city, is the celebrated tomb of Eve. Whether the dust of the great mother of mankind really reposes there or not, no man can say: but all true Mohammedans believe that such is the case, and reverence the spot accordingly. In fact, they hold it as very sacred indeed, but the guardian angels of the tomb are not proof against the seductive power of backsheesh, and for about fifteen piastres each, we were cheerfully admitted to all the rights and privileges of the place.

If Eve was, when living, as long as this tomb, then she was indeed a woman fit to start a world with. Her tomb is about two hundred and twenty feet long, but very narrow, enclosed by a whitewashed stone wall. Across the centre stands a small building, in which is a shrine, and under this is supposed to lie the dust of Adam's wife, the first woman, who came direct from the hand of the Creator. It gives one's head a turn to think of it.

There is one thing about the tomb, which is both strange and pitiful. At the southern end of the enclosure is a sort of tower,

low and square, in each side of which is a large window. To the iron bars of these windows were tied hundreds, perhaps even thousands, of small strips of cotton cloth, one upon another, so that not an atom of iron was visible in either of the three windows.

Each of those little ragged strips,—none of them large enough to tie up a cut finger,—had been tied there by some barren Mohammedan woman who had made a pilgrimage to the shrine, and performed this act of faith, praying and believing that the great first Mother would have pity for her distress, and render her fruitful. Think of the years of wretched longing for maternity that were represented by those fluttering bits of cloth.

Jeddah has only three gates, except those facing the sea, and having gone out at the northern gate to reach the cemetery, we concluded to keep on around the wall, and so make a complete circuit of the city.

At the eastern side of the town we came to the famous Mecca gate, through which one hundred and twenty thousand pilgrims pass every year on their way to Mecca, the Mohammedan Jerusalem, sixty-two miles inland. It used to be death for a Christian to pass through this gate, just as it would even now be death for a Christian to attempt to enter Mecca. Only two Englishmen have ever been inside the walls of that city. Captain Burton was the first, and he went with a large party of pilgrims, so thoroughly disguised in feature, speech and habit, that his true character was not suspected. The other was Hadji Brown, of Bombay, who professed full conversion to the Mohammedan faith, and made the pilgrimage in 1876. In my opinion, getting into Mecca and safely out again is a mere question of backsheesh. The man who bids high enough will be granted the freedom of the city, and it is a wonder that Cook is not even now paying an annual subsidy to the Pasha, and taking his tourists there. The Mecca gate (at Jeddah), is open to all comers now, and we passed inside just for the sake of enjoying what used to be a forbidden privilege.

Professor Ward had arranged to stop at Jeddah, and did so, having in early life formed the habit of doing what he sets out to do. He spent a few days there, then took the Egyptian steamer to Suakin and Massowah, busily collecting at every opportunity, and shortly returned to Europe and home to America with a goodly lot of Red Sea invertebrates and fishes. And so I was left to go on alone to the East Indies, and work out my own salvation with fear and trembling. The *Memfi* took aboard one hundred and

eleven pilgrims—Hadjis—as deck passengers for Bombay, and the next morning we continued our course down the Red Sea.

There were only three saloon passengers besides myself, an officer of the Indian army with his wife and child, returning from furlough to their station at Kohat, in the Punjab, close to the Khyber Pass. In Colonel—then Captain—Ross of the 1st Sikh Infantry, I met a man whose mind was a store-house, full of valuable information, who patiently endured a tedious amount of questioning, and whose friendship and advice afterward proved of great service to me. He entered heartily into the details of my plans for India, and even condescended to teach me enough Hindostanee to enable me to inquire whether there were "any large gavials near here?"—"how far away?"—"who can take me in a boat?"—and so on. My meeting with Colonel Ross was indeed most fortunate, as events proved, and as I look back upon it, I do not see how I could possibly have accomplished what I did, without his assistance.

In the course of many delightful conversations with Mrs. Ross, each of which was to me a mental treat, she rendered me an important and lasting service. She diagnosed so cleverly a malady which had often attacked me—"the blues"—and prescribed a remedy so skilfully that I never have suffered from it since that day. For the benefit of fellow-sufferers I will state both. Diagnosis:—"The blues" are caused by envy and selfishness. Remedy:—When attacked, go to work vigorously to promote the happiness of those around you, and thereby forget yourself.

The third day after leaving Jeddah we passed through the strait of Bab-el-Mandeb, which is the Arabic for "gate of tears," a name applied to these straits on account of the many wrecks that have occurred here of vessels trying to get in or out of the Red Sea. At the point where the strait is narrowest the island of Perim stands mid-way between Arabia and Africa, a sentry-box with a British soldier in it. Of course England occupies Perim and holds the key to the Red Sea, just as she holds the keys to all the important points between Downing Street and Canton. This little bit of barrenness was made, like Gibraltar, Aden, and Hong Kong, especially for England. At the narrowest point, the strait of Bab-el-Mandeb is but fifteen miles wide, and the navigable channel on either side of Perim is near the island and very narrow. The Arabian coast, which is in sight all day, is mountainous, rocky, and entirely barren, save for an occasional palm-tree along the shore.

After getting through the strait, we called at Aden. The

Mohammedans believe that this burnt-up place was once the Garden of Eden, but we know that it is about sixty degrees F. from that now. It has been very truly spoken of as a cinder, for it is composed of rugged black mountains of lava, piled high up, without a single tree, bush, or blade of grass visible to the naked eye. It was once a cluster of volcanoes that poured lava down their steep sides into the sea, but now they are extinct, and the town of Aden is located in the crater of the largest. It is surrounded by high walls and ridges of lava, and has but two outlets, the road to the west, and a tunnel, a mile and a quarter long, to the north. Aden is said to be the hottest place in the world, and yet it boasts 21,500 inhabitants.

The first Parsee (fire-worshipper) I ever saw was a wealthy and apparently respectable merchant, but when the chance offered he could not resist the temptation to tell me a lie and cheat me out of a rupee, just as a hackman would do. At Steamer Point I stepped into the store of Messrs. Swindlejee & Co., and after making a little purchase, handed a sovereign in payment. I asked how much a sovereign was worth in rupees, and he assured me only ten. Trusting to his honor as a respectable merchant I made no further inquiry, and he gave me my change on the basis of ten rupees. As soon as I left the place I was fairly beset by a mob of ragged little Arab money changers who had got wind of the transaction and wanted to give me ten and a half rupees for all the sovereigns I had. During the day I had occasion to change several, for each of which I received eleven rupees without any trouble. I shall never forget my introduction to the Parsees.

I obtained a fine lot of ostrich eggs, and a few fine feathers also which had been brought across the Gulf of Aden from the African coast, but, finding nothing else there worth taking, the *Memfi* weighed anchor and proceeded on her course across the Arabian Sea.

Taken altogether, I think that voyage from Port Said to Bombay was the most agreeable I ever made. It was the poetry of life at sea, a sort of lotus-eaters' voyage. The sea was smooth, the weather was clear and balmy, the officers were as kind and courteous as officers could possibly be, and my fellow-passengers in the cabin seemed to have been selected especially for me. The ship was clean, roomy, and comfortable, and the devotions of the deck-load of Hadjis afforded a pleasing diversion. But it had to end at last.

We sighted the Bombay light just before midnight of January 16th, and three hours after were at anchor in the harbor.

CHAPTER II.

BOMBAY.

Duty on Outfit.—A Model (!) Consul.—The Servant Question.—The Grand Market.—Flowers.—Fruit.—Fish.—Live Birds.—The First Specimen.—Street Cars.—An Interesting Crowd.—Vehicles.—The Bullock Hackery.—The Homeliest Animal Alive.—The Victoria and Albert Museum.—Soft-hearted Hindoos.—The Hospital for Animals.—A Strange Sight.—A Good Servant.—Departure for Allahabad.

And now we have come to India, the land of princes and paupers, of creeds and castes, of savage men and still more savage beasts. The sun rose upon what was, to me, a new world, full of strange sights, and sounds, and people. We were at anchor in the middle of a bay several miles long, on one side of which lay the flat city, stretching far along the shore; in the distant east the sun was just rising above the high brown hills of the Western Ghauts, while to the south lay a perfect archipelago of mountainous islands, large and small. A single look over the ship's side into the murky water, told me that I need not expect to find any shells, corals, or star-fishes at Bombay, for they do not live upon a muddy bottom.

The bay was fairly alive with small native boats, in one of which I immediately went ashore to look for suitable lodgings. Almost in the shadow of Watson's Hotel, a splendid iron structure of five stories, the finest hotel between Cairo and San Francisco, I found Doughtey's Hotel, a little nest of a place that would hardly have made a kitchen for Watson's; but I found in it what no one can in a big, stylish hotel—freedom, the privilege of taking "mine ease in mine inn."

When I went to the steamer to bring away my baggage, I found that the custom-house officers had swooped down upon us and that ten per cent. duty was demanded on most of my outfit. Feeling that I was, in every sense, a traveller, merely passing through India with all my personal effects, and that my belongings were designed for scientific work, I thought that a proper representa-

tion to the collector of customs would secure the passage of my outfit free of duty. A naturalist, unless he is a millionaire or has one at his back, cannot afford to look lightly upon a matter involving forty to fifty rupees. So I went to the United States Consul, and asked that he make a statement of the facts in the case to the collector of customs. Mr. Farnham may be of more use to the United States than a wooden man would be, but he certainly wasn't to me. He simply declined to trouble himself about the matter in the least and, with not more than a dozen words, went back to his "long-sleeved" chair and his newspaper. I was so completely snubbed that I determined to give our consuls a wide berth thereafter, and meekly paid the duty demanded.*

In the yard of the custom-house I saw about three hundred elephant tusks lying in a pile, awaiting shipment to England. I was greatly surprised at the shortness of them all.

Knowing that I could remain but a comparatively short time in India, I realized that I could not afford to spend time in learning the languages of the different Presidencies. I resolved therefore to depend entirely upon interpreters; and my first care was to find a servant who could speak a little English. I wanted some one who would act as my shadow every time I went out, and who could also assist me at whatever work I should undertake. The Hindoo servant is a nuisance, for he can only eat in a certain way, at a certain time, and do but one kind of work; and the Mohammedan is not easily induced to travel. I wanted a man who would be willing to do any kind of work that I myself would do, and I found a little fellow from Goa who proved to be the very man. He was a native Christian, and therefore not hampered by caste prejudice; he dressed neatly in European style, wore a nobby, high black hat, a moustache and side whiskers, and was as black as night. He did not know more than fifty words of English, but he was quick to understand and prompt to execute my wishes. I took him at first on trial, with the understanding that if we suited each other, I would take him to Northern India with me.

With my new servant, Carlo, at my heels, I started out to visit the market, which is always good collecting ground in a new locality. Bombay is the only city in the East Indies blessed with street cars, and being well managed and liberally patronized by all classes, they

* In justice to the service I should add that I soon reconsidered this determination, for I found our consuls at Calcutta, Columbo, and Singapore, extremely obliging and serviceable.

are a complete success. The distances would seem very great without them. Taking a car at Watson's Hotel, we rolled smoothly along a broad, shady street at the side of a spacious esplanade, at the farther end of which stand the splendid new buildings of the University, High Court, Secretariat, and Post Office. A ride of about a mile and a half brought us to the Grand Market, which was to me the most interesting sight of the city. Standing so as to form a triangle, are three buildings, long and wide, with roofs of corrugated iron supported upon iron pillars, and in the centre of the triangle is a fine fountain with flowering shrubs and trees. The best American housewife cannot show a pantry cleaner or more perfectly arranged than this vast market. Fifty-six thousand square feet of space are divided into sections for the sale of flowers, fruits, vegetables, grains, spices, fish, and meats, and these are subdivided into hundreds of stalls where native men and women squat upon the sloping platform and serve the passers-by.

In the flower market was a scene that would have made the reputation of any artist who could fairly depict it. Seated upon the raised platform, and surrounded by great heaps of fresh-blown roses, marigolds, jessamines, and brilliant tropical flowers of many kinds, was a group of dark-skinned Hindoo men and women tying the blossoms up into bouquets and long garlands while they laughed and chatted. The huge, snow-white turbans and loose jackets of the men, the raven-black hair of the women, the massive silver ornaments around their arms, ankles, and toes, and their gaudily colored robes in the midst of such brilliant flowers, made up a picture which, if seen once, could never be forgotten. The air was heavy with sweet perfume.

The vast space occupied by the fruits and vegetables seemed more like the display at an agricultural fair than a simple market for the sale of daily food. There were piles of oranges, bananas, grapes—both purple and white—pomegranates, pummeloes, and many other kinds entirely new to me.

But what interested me most was the fish market. Besides a fine assortment of common edible species, such as are most abundant in the Arabian Sea, there were a number of sharks, shark-rays (*Rhinobati*), and skates, which were of special interest. My first visit occurred so late in the morning that the kinds I wanted had all been chopped up, and I found that, in order to catch large rays or rhynobates before they were cut up, I would have to be on hand before daybreak.

To a Hindoo, beef is an abomination, and the ever-patient authorities have located the beef market in a building off at one side, the doors of which are shut by screens, so that good Brahmins may not be offended by even the sight of holy heifers which have been sacrificed to the wants of Englishmen and Mohammedans. In the garden adjoining the market are men who have live birds for sale—cranes, quails, pheasants, mainahs, jays, doves, etc.

Eager to secure at least one valuable specimen the first day, "for luck," I found that the crane-seller had a dead saras (*Grus antigone*) in his possession, and upon finding it to be a specimen both large and old, I bought it of him, after a good deal of haggling, for two rupees. Its plumage was soiled and ragged, but it made a fine skeleton.

How strange it seems to ride upon a modern street-car as it rolls on its way through the narrow, crooked, and crowded streets of the native bazaar. It seems like the true car of Progress, pushing its way through the throng of caste prejudices, ancient customs, and silly traditions, inviting all to meet upon a common level. This nineteenth century street-car looks as strangely out of place here in the narrow streets of the native town as would a train of camels plodding along Broadway. The driver whistles and shouts and the crowd quickly opens a passage for us.

And what a strange, fantastic crowd it is, to be sure! Most noticeable of all are the Parsees (from Persia), tall, lank, and intellectual in appearance, clad in long black satin ulsters and oil-skin hats that always remind one of the cone and crater of Vesuvius. I am sure I never saw a Parsee on the street who did not carry from one to half a dozen books. There were Portuguese half-castes neatly dressed in white; long-bearded Jews in red fezzes and long robes; Catholic priests; Arabs; tall Mohammedans under huge turbans of white or green; fierce-looking Mahrattas in turbans of red; and Hindoos of a hundred types and castes with shaven heads and caste-marks on their foreheads. The low-caste Hindoo women are gorgeously attired in short jackets and mysterious winding-sheets of red, white, black, green, and yellow; while nearly every shining black arm and ankle boasts from one to half a dozen silver bangles or bracelets. There are rings and rivets of gold, brass, or silver through their noses and ears, huge silver rings upon their toes, and betel-nut in every mouth. There are children in the crowd, too, mostly Parsee boys, cunningly bedecked in little jackets, trowsers, and caps of silk and satin of the most gorgeous

colors, and glistening with gold and silver embroidery. Each gaudy little chap carries himself with the air of a peacock or a prince, and were we small boys once more, we should turn green with envy of their splendid clothes.

In the broader streets, vehicles of various kinds go rattling by us, carrying passengers usually, for the coolies carry most of the freight. Here we meet for the first time the gharry, which prevails throughout all the large cities of the East Indies. This necessary evil consists of a small, closed carriage with shutters in the sides, a double roof, four wheels—no two of which are of the same diameter, a miserable pony, and a most rascally driver. There must be something pernicious in the society of a horse and a four-wheeled carriage. Either gharry-driving will corrupt the morals of the best native, or else none but the most rascally take to it, for they are all as grasping and unscrupulous as the hackmen of New York City, or Niagara Falls. There seems to be a sort of free-masonry of meanness among all the hack-drivers in the world, for, as a class, I do not know of any other public servants who are such extortionate liars and professional bullies. If the gharry-wallah of India only had the pluck to be a bully, he would be ten times worse than he is, and life would indeed be a burden to a stranger in India.

But the oddest vehicle is the bullock-hackery. This is a light cart, or rather a high platform, enclosed at the back and sides, with a roof so low that it can only accommodate a man sitting cross-legged, like a Turk. Four big, fat, and sleek Hindoo merchants will crowd into this go-cart, the semi-naked driver doubles himself up on the tongue in front, the little bullocks strike into a sharp trot or gallop which they can keep up comfortably for a mile or two, and away they go. The way they get over the ground is surprising, not in the least resembling the slow, creeping gait of our ponderous American oxen, one of which could easily drag off hackery, bullocks and all. These bullocks, which are used throughout India and Ceylon instead of draught-horses, are the sacred cattle of India, the zebus (*Bos Indicus*), with straight horns, humped shoulders, and almost invariably either wholly white or black. They are light, fleet, and hardy, and easily perform work which in this Indian climate would quickly kill the best horses in the world.

The Indian buffalo (*Bos bubalus*) is also used in Northern India for heavy work, and in my opinion it is the homeliest quadruped that ever breathed. It is simply a huge skeleton covered with a

bluish-black, and almost hairless india-rubber-like skin; the hip-bones stand up high and sharp like obelisks, and the feet are huge, clumsy, and wide-spreading. The buffalo loves mud and moist ground, and nature has provided these broad splay feet to prevent the animal from sinking too deeply in the mire. He carries his head precisely like a camel, low down, with nose thrust far forward; and his horns, which join his skull exactly on a level with his eye, sweep downward and backward as they diverge, until they reach back to the shoulders and beyond. The horns are broad, flat, wrinkled, and jet black, and to look at the whole head one would say that the beast was created with especial reference to running rapidly through very thick brush. This animal so interested me that I went to the market at four o'clock in the morning, just when the butcher-train came in from Bandora, bought five large heads, and after breakfast, Carlo and I cleaned them with our knives in the back-yard of the hotel. Two of them afterward went to English museums—like coals carried to Newcastle.

I visited the Victoria and Albert Museum, in the Victoria Gardens, expecting to find there a collection illustrating the fauna of the Bombay Presidency, from which I could learn where to go or send for certain animals which I desired to obtain. The Museum consists of a very fine building containing an admirable statue of the Prince Consort and another of the Queen, two stuffed animals, half a dozen skulls, some minerals and seeds, and that is about all. The Museum seems to have been built for the statues, rather than the statues for the Museum. I had been joyfully anticipating the sight of the splendid tigers I would find there in various shapes, but I was not prepared for the sight which really awaited me. It was a huge tiger made of papier-mâché and gorgeously painted, in the act of rending a native to death. The man lay under the tiger holding a long knife in the brute's stomach, perfectly unconcerned, while his eyes were fixed upon the visitor with a really jolly "what do-you-think-of-that?" expression.

Why Bombay, the largest city in India, should take so much less interest in scientific matters than cities in the other Presidencies, I do not know, unless it is that she is wholly absorbed in cotton. It is certainly a poor place for a naturalist, and all the time I felt lonesome and out of place.

At the hotel I met one day an educated native who spoke English perfectly, and whom I immediately proceeded to question about the localities where I might find certain animals, particularly

crocodiles, since he was acquainted with Kurrachee and the sacred crocodiles of Mugger Peer. He was talking at a great rate, and I was busily jotting down notes, when he suddenly stopped and asked, "Sir, why do you require to know about these animals?" "Why, I wish to find them." "Why do you require to find them? Do you wish to shoot them, to *kill* them?" "Exactly, for their skins and skeletons." "Ah," said he, dropping my map, "then I cannot inform you where any animals are; I do not wish any thing to be killed, and if I tell you where you can find any animals I shall do a great wrong."

"Did you never kill an animal?" said I.

"Never sir, never; not purposely, it would be a great sin for me."

He then went on to tell me of a certain caste of Hindoos, the members of which are so conscientious about taking the life of any living thing that they always eat before sunset to avoid making a light which might be the death of some moth or gnat. They do not kill even mosquitoes, fleas, or lice, and if a man finds a louse upon himself, he either allows it to feed comfortably, or else he puts it carefully upon his next neighbor. What a paradise for insects their homes must be!

This morbid Hindoo prejudice against taking life has developed in the Jain sect into an institution which is perhaps the only one of its kind in existence. I refer to the hospital for animals, not far from the Mombadevi Temple. In a spacious enclosure, divided into yards, sheds, stables, kennels, cages, etc., are gathered together hundreds of diseased, worn out or starving horses, bullocks, cows, sheep, cats, and monkeys; cranes, crows, chickens, ducks, and parrots—in short, a perfect zoological garden of the most woebegone description. Domestic animals that have been turned out by heartless owners to perish miserably of starvation and disease; wild birds whose wings or legs have been broken by sportsmen; kittens, "left in the road," to die of starvation, just as tender-hearted Christian people serve them in America, are all gathered up by the agents of this Jain institution, and cared for in every possible way. Many animals, whose festering sores, broken legs, and incurable diseases make life a burden to them, need far more to have their miseries ended by a speedy, painless death, than to have their sufferings prolonged a single day, even with the best intentions. As I looked at some of those miserable animals which were slowly dying by inches and suffering intensely, I thought of

the railway engineer I once saw, who, caught and crushed beneath his wrecked locomotive, with the scalding water pouring in a stream over his wretched body, screamed in agony and implored his friends to shoot him through the head. But no; spades were procured, he was dug out, lingered for hours, and the papers calmly stated that he died in great agony! Alas! humanity has not yet been educated up to the point which teaches that it is as great an act of duty and kindness to end the miseries of a hopelessly burned, boiled, or mangled man by a speedy and painless death, as it is to mercifully put an end to the sufferings of a dumb brute. Were my best friend to implore me to end his hopeless sufferings, I would do it and take the consequences. And I believe the time will come when mankind, as a class, will be as merciful to man as the more humane of us are to lower animals.

There are few marine animals to be found in the vicinity of Bombay, except the fishes in the Grand Market, and thither I made a pilgrimage every morning. The most interesting specimen I procured there was a large blue ray (*Trygon sephen*), weighing 80 pounds, with a body measuring 2 feet 8 inches in length, by 4 feet 2 inches in width, of which I prepared the skeleton. *Rhinobati* are common, but it is a difficult matter to secure one entire, for the moment one of these, or a shark, is landed in a market-stall, its fins and tail are cut off to be dried and shipped to China, where the Chinese eat them in soups and consider them a great delicacy. By dint of perseverance I secured one fine specimen (*R. djeddensis*), 5 feet 6 inches in length, the skin of which I preserved dry with salt.

By the end of a week I had proved to my satisfaction that Bombay was no place for me, and determined to go to Allahabad for gavials and other things. My new servant was in doubt about the advisability of going so far away, until one day he caught sight of my guns, ammunition, and camp-outfit, when he suddenly announced, "I no care, sir, I go Allahabad. I like see new country, I like go shoot. I no care how I come back Bombay." I had told him that I could not pay his way back to Bombay after only two months on the Jumna, but that I would take him to Calcutta with me if he would go. He suddenly became possessed of a desire for travel and adventure (it overcomes the best of men sometimes), and we quickly concluded a bargain. I agreed to pay his expenses and give him 15 rupees per month, for which he was to interpret, cook, skin crocodiles, and do anything that might need to be done. I had found in the bazaars that he was as shrewd as

any native at a bargain, and had not the least modesty to hamper him when dealing with a tricky or exorbitant huckster. Natives usually make it a rule to charge a white man from fifty to a hundred per cent. more than any one else, and but for vigorous bullying on the part of Carlo, I could seldom have got an article at its proper price. Luckily for me, Carlo, being a native Christian, felt no sympathy whatever with Hindoos or Mohammedans, and I very often had hard work to repress my laughter when he would start in to brow-beat a bazaar man and bring down his prices to what they ought to be.

I trusted Carlo with an advance of 9 rupees for his outfit, in spite of advice to the contrary from the very man who recommended him to me, who feared he would "jump the bounty;" but the little fellow was honest, and very grateful to me for trusting him against advice. He afterward repaid me for it in many ways.

Before I left Bombay, Colonel Ross very kindly gave me two letters of introduction, one to a brother, a barrister, in Allahabad, and the other to another brother, Major* J. C. Ross, of the Royal Engineers, quartered at Etawah, in an excellent hunting district. These letters proved to be of the greatest service to me, although I have since wondered how Colonel Ross dared give them to a stranger. Excepting those two letters, I landed in India without a single scrap of introductory paper to anybody, save a letter of credit, and I prided myself upon my independence. I said I had money, and would not need any letters of introduction. Before long I found that every such letter is worth a thousand times its weight in gold.

After a week in Bombay we shipped a large case of specimens to Calcutta, and bought our tickets for Allahabad. By going third class I did what an independent white man rarely does in India, and astonished both Europeans and natives. I am not sure that I would do it again, but for once the experience was worth the discomfort. The charges upon excess baggage are very high, and mine cost 44 rupees. Two Englishmen, travelling by the same train toward Lahore, paid 128 rupees for excess luggage. But think of riding from Bombay to Allahabad, 845 miles, for 16 rupees 13 annas, or about $7.50!

* Then Captain.

CHAPTER III.

FROM BOMBAY TO ETAWAH.

Physical Aspect of the Country.—Scarcity of Animal Life.—A Barren Region.—Major Ross.—A Boat Trip up the Jumna.—A Mile of Bathers.—Dead Hindoo.—Plenty of Birds, but no Gavials.—Return and go to Etawah.—The Dak Bungalow.—Two Specimens the First Day.—My Boat and Crew.—A Day in the Bazaar.—An Instance of Caste.

THE sun was just setting as our long train crossed the bridge from Bombay island to the mainland, and began toiling up the Western Ghauts. These are the Andes of India, and extend close along the coast from Cape Comorin to Bombay and vanish in the Central Desert. We crossed that chain during the night, the next day we crept over the Satpura Range at a snail's pace, and were then fairly upon the great Indian plateau which extends north to the Rajpootana desert and east to Calcutta. But where are the luxuriant tropical forests, the waving palms, and the crowds of people one naturally expects to see? Not here, certainly. Where the country is not cut up by ravines, it stretches out on every side, level as a billiard-table, dry, parched, and thirsty-looking, and, except in the vicinity of Kundwah, utterly destitute of any thing like forests or jungle. There the dry, hot plains are covered with a scattering growth of scrubby trees, and it was quite a surprise to learn that this brushy tract is dignified by the title of forest and duly officered by the Government. North of this are the famous tiger districts of Indore, Bhopal, and Gwalior.

There are no fences, no houses, nor villages worth mentioning, no swamps, lagoons, nor ponds in this region, and the only living objects are a few herds of buffalo and zebu. Except for the scattered fields of young wheat and a few straggling trees, the landscape is gray and monotonous in the extreme. But it is the dry season now, there are no rains, and we see the country at its worst. With the burst of the southwest monsoon in May, these parched and barren plains will blossom like a garden, and the intense dry

heat will be replaced by the Turkish-bath atmosphere of the wet season.

During the first day's ride we saw not a single wild animal, nor even a bird of any size, but in one district we saw many "machans" —platforms of poles erected in the fields, upon which the owners sit to scare away the deer and wild pigs which come to feed upon the growing crops.

In the same compartment of the railway carriage as myself were three old Hindoo merchants, gray-bearded, dignified, and respectable, who evidently were natives of the better sort. Breakfast time came, we were still many hot and dusty miles from a refreshment station, and from the depths of some of their bundles, the old gentlemen, who had evidently travelled before, evolved a supply of cooked food. It consisted simply of a large bowl of "dal," like stiff pea-soup, and a pile of "chapatties," small, leathery, unleavened pancakes, made of flour. With my usual indifference as to the wants of my inner man, I had neglected to provide myself with a luncheon to fall back upon, and while I was busily thinking of the nice warm breakfast I should have in two or three hours more, one of the old native gentlemen suddenly thrust his fingers into the bowl of cooked "dal" (they had no spoons, forks, or knives), scooped up a good, generous handful, plastered it over a little pile of "chapatties," and, with a benevolent beam over his spectacles, handed it to me. I was completely taken aback for an instant, for the old gentleman's hands were as grimy as my own, but I accepted the food with my politest bow and ate it down with every appearance of gratitude. I would have eaten it had it been ten times as dirty as it undoubtedly was. It was an act as friendly as any man could perform, and I was pleased to find such a feeling of pure charity and benevolence in a native.

About noon we stopped at Khundwa for breakfast. There was a clean and commodious wash-room, a table well filled with choice eatables, ice-water in abundance, and plenty of time. What a comfort a sharp appetite is upon such an occasion!

Nearly every station upon the line of the G. I. P. Railway has its beds of flowers, and vines running up its walls, and occasionally a switch-tender has trained flowering vines over his little house until it has become a perfect bower, fit for a fairy queen.

As we approach the Ganges the plain becomes green and fertile and dotted over with trees and villages. There are ponds and pools of water along the railway, in which herons, storks, and ibises are

cautiously wading, and the earth no longer has that dry and parched appearance observed from Bombay to near Jubbulpore. After riding through two cold nights and one hot and dusty day, the morning of the second day finds us crossing the great iron viaduct over the Jumna into Allahabad. This is a grand structure, 2,870 feet long, with the bottoms of its piers sixty feet below the bottom of the river. English, every inch of it, or, in other words, built to stand forever.

Allahabad, the "city of God," also called by the irreverent, "Fakirabad," or "city of beggars," stands at the confluence of the Ganges and the Jumna, both of which rivers rise in the Himalayas in the same latitude and flow southeastward, almost parallel to each other, to their point of meeting here. The gavial, or Gangetic crocodile (*Gavialis Gangeticus*), inhabits both these rivers and their tributaries, and my task was to find where they were most plentiful and grew to the largest size. Professor Ward had tried in vain to buy skins and skeletons of this crocodile, had made most tempting offers to Indian naturalists without success, and at last decided that I should go to the Ganges, spend about six weeks time, and get about twenty-five specimens. At last, after a journey of 10,500 miles, nearly half-way round the world, I found myself in the gavial region, and ready to begin collecting in earnest. Sight-seeing was at an end, and what remained was hard work.

Upon presenting my letter to Mr. Ross, I was fortunate enough to meet Major Ross also, who had come down from Etawah for a few days, both of whom received me with the utmost cordiality, and we three sat down directly to a council of war in reference to my movements. It was decided that the Jumna was a better river for gavials than the Ganges, and that I should try in the former above the city. If that venture failed me, *i.e.*, if I found no large gavials, which was all I asked, then I should pack up and go on to Etawah, a civil and military station 206 miles up the Jumna, near which Major Ross had for some time been engaged in surveying upon the Ganges Canal and its branches.

When a naturalist goes hunting for any particular and important animal, he is quite in the hands of those who undertake to give him reliable information. A long series of disappointments growing out of exaggerated information, has taught me how to gauge the value of a friend's advice as accurately as a hydrometer marks the strength of alcohol. The universal tendency of people in the game districts of both North and South America is to exaggerate

fearfully. One man told me, "If you go to New River, you will get any quantity of birds, a whole boat-load of birds' heggs, and 'gators (alligators) by the million!" I went, and found a great many alligators, that was all. In Trinidad, a wealthy and respectable English merchant soberly informed me that "at Punta Piedra, twenty miles above Bolivar, in the Orinoco, you will find manatee in millions, sir; get all you want in one day!" "Lord, how this world is given to lying" about wild animals. As a rule, game grows plentiful directly as the distance from it increases, and *vice versa*. A collector in search of a certain animal must be guided by the information that is given him, and it was a blessed relief to find a man who gave as careful estimates and opinions as Major Ross. I felt from the first that he never exaggerated or overestimated in the least, that his information was always strictly accurate, and there was an abundance of it. He informed me that large gavials were numerous immediately below Etawah, that ravine deer were plentiful in the ravines, and black buck upon the uplands, and that, if I shot reasonably well, I could probably kill every day one or two specimens of either species I chose to follow up.

Keeping this fine prospect in reserve, I engaged a small boat and three boatmen, laid in a stock of provisions, and the next morning we were off. Starting from the railway bridge, the boatmen poled our little craft along the shore, which was crowded with natives, in the water and out, busily bathing or washing their clothes—a whole mile of bathers. Cleanliness, or rather, bathing, is the only feature of a Hindoo's religion which is not objectionable. It makes an excellent plank in any religious platform, especially in a hot climate, and I have often wished that the negroes of the West Indies, who have enough of religion and to spare, had made the bathing obligation an article in their creed. Just think what a grand thing it would be for white folks if a Barbadoes or Demerara negro's religion could beguile him into washing himself once a day.

We passed a number of clumsy river boats moored to the shore, and one man in the water, who was neither washing himself nor his clothes. He was dead. He floated there upon the water, naked, bloated, and hideous, with only a few patches of his brown Hindoo epidermis remaining upon his body, which was otherwise perfectly white. Men and women were bathing within ten yards of this disgusting object, perfectly indifferent, and one man was actually fishing within two yards of it. I asked one of the boatmen:

"Is this water good to drink?"

He replied:

"Yes, sir; see, the people drink it," and he pointed to a woman who was filling an earthen jar. Perched upon the edge of the high bank was a huge vulture (*Otogyps calvus*), with his eyes fixed upon the corpse in the water, but the bathers were so near it he did not venture farther just then. When I first saw the bird from below, I decided to have him for a specimen, but when I found what he had been feeding upon, and was waiting to feed upon again, I concluded my collection would be complete without him.

After getting clear of the bathers and the boats, two long and light grass lines were made fast to the top of our stumpy little mast, and two of the boatmen went ahead along the bank, towing us canal-boat fashion, while the third man steered. The boat was short, but broad, heavy, and clumsy, and could not be rowed against a strong current. It had a roomy deck, with a thatch roof over it, and was altogether a very comfortable little craft. As the men slowly towed the boat along, we cooked, ate, skinned birds, and loaded cartridges under the awning, while the boatmen kept a sharp lookout ahead for any thing which needed to be shot.

This little trip was full of interest and enjoyment, but so far as gavials were concerned it was a failure. We went five days' journey up the river, found no gavials at all, save very small ones, not worth the trouble of shooting, and when the natives told us there were no gavials "two miles farther up," we knew the case was hopeless. We collected a number of large birds, however, among which were specimens of the black vulture (*Otogyps calvus*), brown vulture (*Gyps Bengalensis*), the sea eagle (*Haliætus albicilla*), the black-backed goose (*Sarkidiornis melanonotus*), bar-headed goose (*Anser Indicus*), the *Casarca rutila*, and several fine specimens of the curious Indian skimmer (*Rhynchops albicollis*). At our farthest point, where the river is full of huge boulders, I shot an otter that was resting upon the top of a large rock out in the stream. The animal rolled off the rock into the water, was quickly borne away by the swift current, and before we could get near it had sunk out of sight. By digging rifle-pits in the sand, and lying in them until I was almost roasted, I managed to kill two small gavials; but it was unprofitable work, and after having given the place a fair trial, we returned to Allahabad.

Leaving all our specimens and a portion of our heavy luggage at the hotel, we lost no time in starting for Etawah. It is the rule

in India to make all railway journeys in the night, if possible, to avoid the oppressive heat of the day. Leaving Allahabad at 11 P.M., we rolled up in our double blanket and slept comfortably until we reached Cawnpore, at 5 A.M.

As we neared our destination, we watched the landscape with greedy interest, and the prospect was perfectly satisfactory. The country was a dead level, dry and baked hard, covered with fields of wheat, barley, and dal, with here and there thorny acacias, and little mud villages nestling in clumps of green and shady mango or banyan trees. We saw eight pairs of saras cranes stalking majestically over the open fields, large numbers of ibises, small cranes, herons, and plovers wading in the pools of water along the railway, and a small fox (*Vulpes Bengalensis*), standing a hundred yards away, looking at the rushing train with a stare of curiosity.

At half-past eight we reached Etawah, an insignificant civil station, with a population of twenty-seven thousand natives (a town of that size is nothing in India), and eight Europeans, the headquarters of the Lower Ganges Canal Department, containing, besides a dak bungalow, a church, school, jail, and a court presided over by a single assistant magistrate, who is the sole representative of English power that is allotted to this host of natives. Major Ross and his wife were then twenty miles east of Etawah, tenting and surveying the line of a new irrigation canal, so I took up quarters at the dak bungalow, until I could get a boat ready upon the river.

The dak bungalow is a government institution, common throughout India and Ceylon, which is simply indispensable to the very existence of European travellers. In Southern India it is called a traveller's bungalow, and in Ceylon it becomes a rest house, but its plans and purposes are just the same. A traveller in India cannot start out boldly across the country as we do in America, travel until nightfall, and then demand shelter, food, and fire for a consideration at any farm-house or settler's cabin he may happen upon. Ninety-nine out of a hundred Indian natives would see a white man perish by the roadside before they would take him into any of their houses, even for a night, simply because he has no caste, and therefore is not quite so good as a dog. The traveller across country, in India, must reach a dak bungalow or camp in the open fields, for only the largest cities have hotels.

The dak bungalow is a house built and kept in repair by the Government, usually containing two suites of rooms—dining, bed,

and bath-room—furnished with floor matting, plain but substantial chairs and tables, and a bedstead upon which the traveller spreads his bed, for every one in India carries with him his thick cotton rizai, or comforter, blankets, and pillow. Attached to every dak bungalow upon the important lines of travel, is a cook-house, a complete set of table furniture, and an old gray-bearded Mohammedan, who has charge of the whole establishment, and who will supply the traveller with meals, if required. Each traveller pays one rupee per day for occupying the bungalow, and "the old man" will supply the provender by private contract at from two to three rupees per day. The rule is that any European traveller is entitled to shelter in the dak bungalow for at least twenty-four hours, and if no other traveller demands his place, he is at liberty to remain three days. The Etawah bungalow is clean, airy, and cool, standing in a thick grove of mangos, a perfect haven of rest for a dusty, heated, and hungry wayfarer.

I had barely finished bathing and breakfasting, when Mr. Fraser, the assistant magistrate, dropped in to help me get acquainted with the place and to offer whatever assistance I might require. In the afternoon I went over to his bungalow, where we sat on the verandah and shot small birds in the trees near by, until the midday heat was over, when we took a rifle and started down to the Jumna prospecting. The river is two miles from the European cantonment, but a fine metalled road winds down from the level plateau into the ravines, and through them to the bridge of boats. Near the river I had a snap shot at a jackal, but missed him. Just opposite the point where we first reached the river bank were two saras cranes, stalking along the river margin, at the farther side of a sand-bar one hundred and fifty yards in width. Mr. Fraser knelt down in the wheat and knocked one of them over very neatly, with a bullet through its breast. It proved to be the male bird and a very fine specimen. Farther up we saw three large gavials lying on a sand-bar in the middle of the river, but could not succeed in getting a shot at them. Above the bridge of boats we found a five-foot gavial lying upon another sand-bar, which Mr. Fraser shot through the shoulders and killed instantly. This made two valuable specimens for the first day, which was enough to bring good luck. A party of native boys carried the crane and the gavial up to the dak bungalow, and I skinned them both the next morning.

I saw that I had found good collecting ground at last, and lost

not a moment in getting ready for a long cruise on the river. Boats were exceedingly scarce, and but for my friends I should have had serious trouble in hiring a suitable craft. Major Ross very kindly relieved me of all trouble on that score by obtaining for my use, as long as I should want it, and free of charge, a large boat belonging to a wealthy old native gentleman, Mumtaz Ali Khan, who had the government contract for the bridges of boats in that district. It was a very large and unwieldly craft, flat-bottomed and square-ended, sloping far up from the water, 35 feet long, 12 wide, and 2 deep, a perfect model of the old-fashioned ferry-boats to be seen upon many of our Western rivers. We built a deck across amidships, and erected an awning of grass thatch over a portion of this to protect us from the rays of the sun, for there was not a drop of rain to fear. Our craft was provided with a mast, a sail, lines to tow it, poles to push it, oars to row it, and five able-bodied men to work all these appliances. We tried hard to hire a small and light row-boat to take along, but without success, for there was not one available on the river. Should I go there again to collect, I would take with me a small boat of some kind.

Two days after we reached Etawah (March 13th), our boat was ready. We loaded our traps into a buffalo cart and drove through the bazaar to lay in a stock of provisions sufficient for three weeks. We bought rice, bread, flour, sugar, onions, butter, and ghee, in the purchase of which last an amusing incident occurred.

The sun was pouring down upon us at high noon and I became very thirsty. Carlo bought a clean new chattie, an earthen pot, worth about one cent, and when we came to a well where people were drawing water he had it filled for me. I took a long draught and handed the chattie back to Carlo, who threw the water out, wiped it dry, and, going to a ghee-seller close by, asked to have it filled with that immortal stuff. Ghee is clarified butter, and is used in India instead of lard, ordinary butter, and other animal fats. To our amazement the ghee-seller flatly refused to sell us any, for the reason, as Carlo explained, that the gentle Hindoo had seen me put the chattie to my mouth, which defiled it to such an extent that he could not take it into his hands. I was strongly tempted to knock his ghee-pots about his ears, take thirty rupees worth of satisfaction out of his royal highness, and then go up to court and pay my fine. But Carlo was equal to the occasion; he raised his voice to its regular commanding pitch, bullied the man of caste, and threatened him with arrest, until he gave in and pro-

ceeded to sell us the ghee. But he would not touch that chattie with his hands! Not he. He handled it with two sticks as though it were the dead carcass of some foul animal; and all because I drank water from it once.

After three hours' work in the crowded, hot, and dusty bazaar, we drove down to where the boat lay at the bathing ghaut, the boatmen quickly carried our cargo aboard, and with a feeling of profound relief we let go our moorings and drifted down the stream.

CHAPTER IV.

GAVIAL SHOOTING ON THE JUMNA.

Afloat on the Jumna.—Character of the River.—Difficulties of Crocodile Shooting.—The Fatal Spot.—Prospects.—The Fun Begins.—Defeat through Poor Shooting and Native Timidity.—An Harangue.—Swimming after a Wounded Gavial.—Death of "Number One."—Another still Larger.—How to Skeletonize a Gavial.—Mode of Skinning Described.—Birds of Prey.—Crowds of Spectators.—Gavial Eggs.—A Model Crew.—Plucky Encounter with a Wounded Gavial.—A Struggle at Close Quarters.—Our Plan of Operations.—A Good Rifle.—Killing Gavials at Long Range.

As we floated down the river, I began to realize that the task which lay before me, to be accomplished regardless of circumstances, was no light one. The Jumna is a very crooked, muddy, swift, and deep river, full of treacherous eddies and under-currents, but fortunately only about two hundred yards in average width at that season. Usually the banks are low and covered with fields of wheat and grain, to which every foot of fertile land is devoted, but in many places the stream is hemmed in by perpendicular cliffs of hard clay, behind which are barren and rugged ravines. At each bend in the river there was a wide sand-bar, often many acres in extent.

Previous experience had taught me the uselessness of shooting crocodiles in the water, for a dead crocodile or alligator sinks to the bottom like a stone, and is lost in a moment. If the water is still, your victim will be found floating belly up at the end of two days, but the skin will be a total loss, for the scales will slip off in spite of all that can be done. In rivers that are swift, deep, and very muddy, like the Jumna at that season, it is simply impossible to shoot crocodiles and get them unless they are lying out upon the banks. Even then they must be hit hard in a vital spot, and either killed stone-dead upon the instant, or stunned so effectually that they will not be able to recover and crawl into the water before the hunter or an attendant has time to rush forward and

seize them by the tail. When a crocodile leaves the water to take his daily sun-bath upon the bank, he does not go rambling about over the country, to be suddenly set upon and killed by almost any one before he has time to reach the water. Far from it. He cautiously lays himself down to sleep within a yard of the water's edge, head toward the stream, ready to plunge forward out of sight at the slightest alarm. He usually sleeps with one eye open, too, and however fast asleep he may appear to be, you have only to show yourself within easy rifle shot, and adios! he is off to the bottom of the river.

I have found by a long series of experiments, that the only sure way to stop a large crocodile or alligator is to shoot him in the neck or at the shoulders, so as to strike the vertebral column. It is easy enough to kill small specimens by shooting them in the head, but a crocodile with the top of its head blown off is useless either for its skin or skeleton, while one shot through the heart or lungs will get into the water much faster than one not shot at all. The brain of a twelve-foot gavial is so small that it would hardly fill an egg-cup, and it is surrounded by such a huge mass of solid bone that it offers no mark at all to fire at. The sides of the neck and the shoulders, however, are wholly unprotected by bony plates, and when a bullet strikes the vertebral column, the whole nervous system receives such a terrible shock that the animal is instantly paralyzed, at least for a time, and rendered powerless to move a single yard. When the spinal column is struck by a bullet, the crocodile's jaws fly wide open, as if the bullet had touched a spring, the legs draw up and quiver convulsively, and the reptile lies still for further treatment.

I soon found that if we captured any gavials, I should have to shoot them at long range and do much better shooting than I had ever done before. At first I feared that my little rifle and I had undertaken more than we could accomplish under so many disadvantages. The river was very swift owing to the recent freshets in the lower Himalayas, and our boat was so much like an old clumsy raft that shooting from it was simply out of the question. The cover along the banks was so pitifully thin, and the sand-banks were so wide I saw I should often have to shoot across the river, or else just as far across the sand-banks, in order to kill a gavial at all.

Just below Etawah we stopped at a wide sand-bar and I spent some time in firing at targets from one hundred to three hundred yards, until I got the peep-sight of my Maynard rifle graduated

very carefully. I also spent some time in learning to estimate distances accurately, which now became a matter of the first importance.

The next day the fun began. As we rounded a bend in the river, we saw far down the stream seven gavials, large and small, lying at the lower end of a long, narrow sand-bar, which joined the shore by a narrow strip at the upper end. We brought the boat to the shore and moored it, then made a detour into the wheat field to avoid being seen by our game. Just at the upper end of the sand-bar I posted Carlo and three of the boatmen, telling them that when I fired they were to run down the peninsula, seize by the tail the 'ghariyal' I would shoot, and prevent it from getting into the water. I told them that if they could catch the tail and hang on, the reptile could not bite them and I would soon come up and finish it. They promised to obey, but I saw they were nervous, and I had my doubts as to the result. I went down through the wheat field, keeping well out of sight until I arrived opposite the largest gavial, and then crept softly up to the top of the bank. The largest gavial was about ten feet in length, lying at the water's edge broadside on, a beautiful specimen. Aiming to hit the vertebral column I fired at the neck, but the gavial plunged into the river and I gave it up for lost. I signalled the men to stay where they were, and waited for the gavials to come out again. And then happened the strangest thing I ever saw in crocodile hunting. The large gavial I fired at suddenly appeared at the top of the water and actually rushed out upon the bank. He clanked his bony jaws together and flung his head from side to side as if in great agony. When he reached the bank I fired a second time, and again he took to the water, but soon appeared with his head held high up, snapping and struggling as though in the agonies of death. He pushed up into the shallow water and groaned three or four times, like a strong man in distress. It was the first time I ever heard such a pure vocal tone from a crocodile. I fired a third shot, which seemed to strike the right spot, for the gavial's jaws flew open and it lay quite still. The men now came running down, but before they reached the scene of action the crocodile began to slowly drag itself into the shallow water. They arrived in ample time to stop it, but they stood in a shrinking group within three feet of the huge reptile's tail, cowering back and afraid to touch it. As the gavial slowly crept away I shouted to the men to encourage them, offering a reward of two rupees if they would stop it, and I fairly stormed

at them as the animal reached the water. Twice they plucked up the courage to take hold of the long, scaly tail, but as it gave a slight twitch they dropped it. I fired another shot, but my rifle seemed quite bewitched, and that splendid reptile crawled slowly away before my eyes, in spite of all I could do or say. One man could easily have stopped it, but I did not care to swim across the strip of water that lay between the end of the sand-bar and the bank. As the gavial reached deeper water it turned belly up, kicked its legs feebly in the air, and slowly drifted down to where no one dared follow. The water was so murky we could not see an object three inches below the surface.

And so we lost that fine ten-foot gavial. I was disgusted with myself for my miserably poor shooting, and vexed with the men for their timidity, which lost the game. In a few words I shamed them for their cowardice, and pointed out how the reptile was too nearly dead to bite any one. I told them that if any one of them should ever be bitten by a gavial, I would send him to the hospital and pay him double wages until he should get well, and that if any one should be drowned while trying to catch one for me, I would give his widow a hundred rupees. This harangue had a wonderful effect upon them.

The next morning we all began to do better work. We found a large gavial lying upon an isolated sand-bar out almost in the middle of the river, and from the top of the bank I put a bullet into its back-bone just at the shoulders. Its jaws flew wide open and its legs drew up, but otherwise it lay perfectly still. To my great surprise three of the boatmen immediately sprang into the water and started to swim across to the sand-bar. There was no telling how many gavials lay right under them, but I quickly made up my mind I could risk it as well as they, and taking only my hunting knife in my belt, swam after them.

The gavial was powerless to move, but as we approached, it snapped viciously from side to side in a manner which warned us to be careful. We immediately seized it by the tail, and reaching from behind I stabbed it to the heart with my hunting-knife, which soon ended its struggles. This specimen measured exactly eleven feet. The boat was brought down, and we hauled aboard the carcass of "Number One."

We had still better luck that day. A mile below our first capture we found seven fine gavials lying at the edge of a broad sand-bank, which extended along the shore. I posted the men

as near as it was prudent to go, then crept along the bank through a field of dal, until I arrived opposite the group. The distance was only about ninety yards, for a wonder, and my first shot stopped the largest reptile. In a moment the men rushed across the sand and seized him. He kicked and struggled and snapped vigorously, but the men held him fast until I ran down and broke his neck with another bullet, which killed him instantly. This one measured eleven feet eight inches, and having two large specimens, we decided to stop and dissect them without delay. The boat was brought down to where our last victim lay, moored to the bank, and dragging our specimens out upon the level sand-bar, Carlo and I rolled up our sleeves, sharpened our knives and began work.

We prepared the skeleton of the first gavial, an operation which was accomplished as follows: After having measured the animal, the skin was slit open along the under side, from the throat to the tip of the tail, and removed from the body in the most expeditious manner. The forelegs were detached from the body at the shoulders, the hind legs at the hips, and the flesh carefully cut off the bones of each leg and foot. The head was detached from the body at the first cervical vertebra and the tail cut off close up to the pelvis. Thus the animal was divided into seven parts. From each of these all the flesh was cut away piece by piece until only the bones remained, which were always left united by their ligaments. The vital organs were removed from the trunk, the flesh carefully cut from between the ribs, from the pelvis, from the vertebræ of the tail, and from the head. After the flesh had been carefully cut away so that only small fragments remained, each part of the entire skeleton was rubbed thoroughly with strong arsenical soap* to preserve all the remaining flesh and the ligaments from decay, and protect the bones from being attacked by rats and *Dermestes*. When the bones were thoroughly anointed, the skull, the tail, and the legs were carefully packed into the cavity of the thorax and the bundle tightly bound up with strong twine. In a few days the skeleton becomes perfectly dry and hard, is free from all bad odors, and can be packed without loss of space. Such is the character of a "rough skeleton." It is about five hours' work for one man who understands the process to prepare the skeleton of a ten-foot gavial in this manner.

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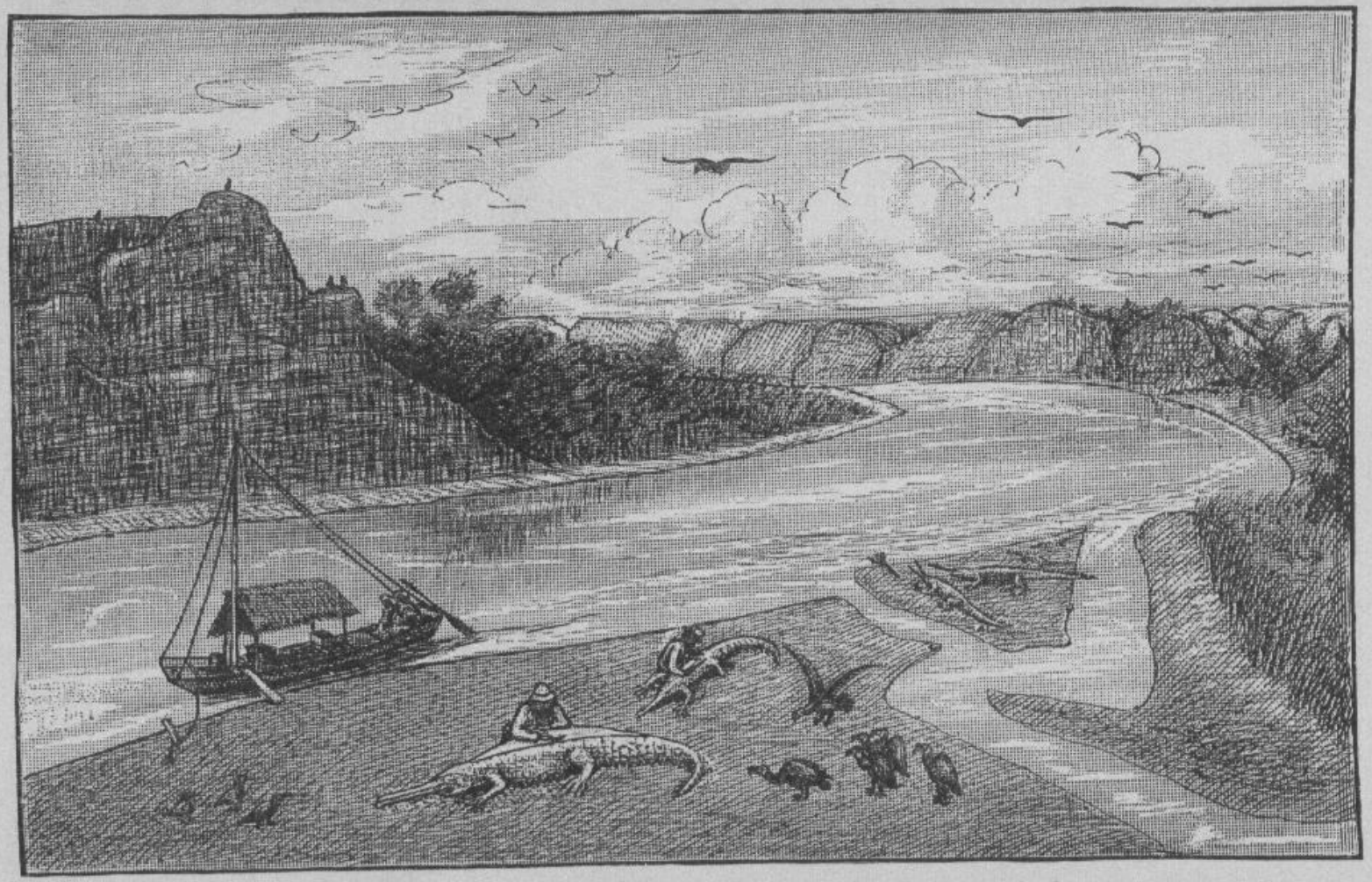
*See Appendix.

It is quite a task to skin a ten-foot saurian properly, and to preserve the skin so successfully that none of the scales will slip off when the time comes for the skin to be softened and stuffed. My method, which I have practised successfully with the skins of eleven species of crocodiles and alligators, is as follows: For the sake of science in general and the taxidermist in particular, measure the crocodile carefully and record the dimensions. Divide the skin along the under side, following the median line from the throat to the tip of the tail, in one long straight cut. Beginning at the end of each middle toe, divide the skin along the bottom of the foot and the under side of the leg up to the point where the leg joins the body, but no farther. Then begin at the edges of the first cut, and skin as far down the sides of the body as possible. When the legs are reached, detach them from the body at hip and shoulder without cutting the skin, and continue on around the body until the back-bone is reached and the skin entirely detached. Sever the head from the neck at the first cervical vertebra without cutting the skin. Skin out the tongue and remove the flesh from the palatal apertures and various cavities of the head. Skin each leg by turning the skin wrong side out until the toes are reached. Leave all the bones of each leg attached to each other and to the skin itself at the toes, but cut away the flesh carefully, the same as in skeletonizing. Remove from the skin as much as possible of the flesh which will be found adhering to it. When the skin is thoroughly clean, immerse it in a strong bath of salt and water and allow it to remain twenty-four to thirty hours. Then take it out, rub the inside and the leg-bones thoroughly with strong arsenical soap, after which apply powdered alum liberally over the inner surface, so that not a single spot is missed. Then hang the skin up by the head (no danger of stretching in this case), and allow it to dry in the wind and *shade*. When almost hard and stiff take it down and fold it up as carefully as if it were a Sunday coat, so that it can be packed in a box of ordinary dimensions.

When Carlo and I began our work upon the dead gavials, the birds of prey began to gather round us from all directions. Dozens of huge, ungainly vultures (*Otogyps calvus*), came and settled down upon the sand within twenty yards of us, looking on with greedy eyes. A little farther away a huge flock of crows kept up an incessant cawing as they watched their opportunity. A pair of white scavenger vultures (*Neophron percnopterus*), stood off some distance, while a score of hawks and kites swooped and circled above us.



AMONG THE GAVIALS

(From a sketch by the Author.)

We had fine sport in feeding the birds. We threw large pieces of meat toward the vultures, upon which eight or ten of the foremost would rush forward, seize it with their beaks, and then such a tumult! Each one would try to swallow the meat before the others, and their huge, horny beaks actually clanked together as they struggled for the coveted flesh. Wings, legs, beaks, and talons were all brought into use, and such flopping, pulling, and hauling I never saw before. Once a large old vulture seized a long piece of meat and started off, swallowing as he ran. Half a dozen others immediately gave chase, overhauled him when the meat was three-fourths swallowed, and, fastening their beaks into the end which was exposed, they pulled and hauled at it until they yanked the precious morsel out of that poor vulture's throat and greedily devoured it themselves. I never saw a more disgusted looking bird, and he seemed utterly discouraged, too, for he gave his feathers a contemptuous shake and walked off by himself.

The crows would caw and peck at the meat thrown to them until a party of greedy vultures would gallop over and gobble up everything. We tossed small pieces of meat high up in the air, and every time a hawk would come swooping down and clutch it with a "spat" in his talons. They never missed their aim nor allowed a piece of meat to descend to the earth again. Once a vulture started to fly away with a piece of meat in his beak, but a hawk was down upon him in an instant. They flew nearly a hundred yards, fighting in mid-air, and at last both fell upon the sand struggling fiercely and losing many feathers. The hawk whipped the vulture, but by the time he had accomplished it the vulture had swallowed the meat, leaving to his conqueror only the empty honor of victory.

While we were at work, dozens of natives came to watch us, and at one time there were about forty brown men and boys, naked except their loin cloths, sitting upon their heels in a close group near us, solemnly looking on. They talked very little and scarcely asked us a question, which was a blessed relief. They did not ask all about my private affairs, nor did they get up afterwards and mob us, as that crowd of Irish yahoos did at the south end of Loch Neagh when we were skeletonizing donkeys.

Both of our gavials were females. From the ovary of one we took forty-one eggs, and forty-four from the other, which were so fully developed that I blew them out successfully. In the stomach of one we found three half-digested fishes of very good size, in the

other two, and four small, flat bits of broken earthen-ware. Even as we worked there, several gavials came out upon a sand-bank not more than a hundred and fifty yards below us.

From that time forward we followed up very systematically the plan of hunting we had inaugurated so successfully on the second day among the gavials. My boatmen proved to be capital fellows every way. They belonged to a hereditary boatman caste, and knew all about navigating the Jumna. They were, without exception, the best watermen I ever had, always willing to do precisely as they were asked, without any questioning or advice, and they never tried to thwart my plans, as most boatmen are prone to do. They were always ready to "go on," "go back," or "go across," without a word, and I believe they would have scuttled the old craft and sent her to the bottom if I had directed them to do so. They soon found that there was no great danger in seizing a wounded gavial by the tail, and by a judicious bestowal of praises and rewards I managed to infuse into them a real *esprit de corps*, which increased up to the last. In hunting gavials they ceased to be "gentle Hindoos," and became active, plucky men, as the following incident will show:

We came one day to an isolated sand-bar out in the middle of the river, near which there was absolutely no cover on either bank, only wide sand-banks. But this isolated bar was frequented by two or three large gavials, and in order to get a shot, I dug a rifle-pit and threw up a little embankment at the nearest point on the shore. The men were posted as near as possible, while I took up my position in the rifle pit and waited. It was about mid-day, just when the sun was hottest. Its rays beat fiercely down upon me as I lay there in the hot sand, and soon heated my rifle barrel so that I could not hold it unless I filled my hand with freshly dug sand. I wore a solar topee given me by Major Ross, of which the pith was a good inch in thickness, and which extended far down my back. Without its protection I would probably have received a sunstroke in less than an hour.

But, fortunately, we are not condemned to endure that baking process more than an hour. At last we see a black line, with an eye at one end of it, lying upon the water out in the middle of the stream. The eye looks about for a moment, and the black line quietly sinks out of sight. Fifteen minutes later the same black line comes up close to the sand-bar, and we see that it is the upper surface of a gavial's head. The old fellow looks about a moment,

gathers confidence, and allows his body to float up to the top of the water. His back and tail are now visible, and we carefully estimate his length to within six inches. While we are thinking about it, he gives a gentle sweep sidewise with his tail, and floats forward till his snout touches the sand. Slowly and deliberately he puts his best foot forward, raises the end of his snout, and lazily slides up the sand until he is fairly out of the water, then he slides slowly round to the left until he lies broadside to us. If he is a little suspicious, he turns until his head is toward the water again and only a yard from it. He does not stand up on his feet and walk; he simply slides along in the laziest possible way. As he settles down, he gives his tail a flirt to one side, draws his feet close up to his body, and is soon sound asleep, though in appearance only, and dreaming of young calves, big fish, and dead Hindoos.

Just as my intended victim cleared the water and showed me his side, my rifle spoke, and his jaws flew open. Instantly four of the boatmen rushed across the sand, jumped into the river, and started to swim to the sand-bar. The gavial saw them coming, mustered up his strength, and began to struggle toward the water. I fired at him again but missed the vital spot, and the gavial redoubled his efforts to reach the water. I shouted to the men and promised them four annas each (twelve cents, or two days' wages), if they stopped that "ghariyal." They struggled through the water faster than ever, but just as they touched bottom the gavial reached the water. As he slid out of sight I yelled to the men that I would give "eight annas!" They rushed across the sand-bar, and reached the further side just as the end of the gavial's tail disappeared, and I gave it up for lost. But they were not to be beaten so easily. Two men jumped into the water above their knees, made a grab for the gavial's tail, caught it and held on, and in a twinkling they dragged the huge reptile out of his native element and to the middle of the sand-bar. The gavial was now fairly recovered and thoroughly roused, and I never saw a crocodile try so viciously to bite his assailants. He was a large one too (measuring 11 feet 6 inches), and the men had a fierce struggle to hold him, and to keep from being bitten. I cheered them lustily, but could do no more, for my last cartridge had been expended. Fortunately, one of the men had carried over with him a rope, and another had taken a stout little bamboo, for just such an emergency. At last the rope was slipped round one of the gavial's hind legs and made fast to the bamboo, which was stuck in the sand, and the

question was settled. As soon as possible the boat was brought down to ferry me across, and a pistol shot in the neck ended the troublesome reptile.

But for the almost perfect accuracy of my little Maynard rifle up to three hundred yards, my gavial hunt would have been almost a total failure, for in only two or three instances did I succeed in getting a shot at a less distance than one hundred yards. I loaded my cartridges with the most scrupulous care, kept my rifle thoroughly clean, and did my shooting as if I were firing at a target for a prize. It often happened that my only chance to kill a gavial was to fire across the river, from the high bank to the opposite sand-bar. Under such circumstances I would leave three men on the same side as the crocodile, and from my post on the opposite side direct them by various signals where to take up a position. Then at the signal they would sit down upon the hot sand and wait patiently, hours if necessary, for further developments. I would then take up my position, and with my field-glass carefully examine the position of the crocodiles, and decide upon the exact spot to fire at. After carefully estimating the distance, the direction of the wind, and the amount of "windage" to allow the bullet, I would adjust my peep-sight, lie flat upon the ground, and rest my rifle upon the leather-case of my field-glass, or the top of my solar topee. It was firing to hit a gray, horizontal line, the actual mark to be struck being smaller than a man's arm. A long, careful aim, a holding of the breath, a firm grip, a steady pull and a sharp "bang," would be the climax of perhaps two or three hours manœuvring in the scorching sun. If all the gavials upon the opposite shore skurried into the river and plunged out of sight in a twinkling, I made no further demonstration; but if the jaws of the largest one flew wide open, I would spring to my feet, wave my solar topee in a circle, and the men would jump up and rush across the sand-bar to our victim. On one occasion I killed a gavial, measuring 11 feet 6 inches, a large specimen, with my peep-sight elevated for 225 yards, and the largest one I secured during my hunt on the Jumna measured just 12 feet, and was killed at 200 yards, across the river. From first to last I killed eight gavials by firing across the river at long range and hitting their spinal column. Once I was so far from my game that when I fired and overshot the mark the gavials did not even take the water. I fired again, and undershot, and still they did not take alarm, but having now got the exact range, a third shot struck one of the gavials and cut its spinal cord

squarely in two. That was the best shooting I have ever done with a rifle, and it was a surprise even to myself. My success was due mainly to the admirable qualities of my Maynard rifle, which was always to be depended upon in time of greatest need.

The air was perfectly clear, for one thing, the light was usually good, and my nerves were reasonably steady.

CHAPTER V.

THE GANGETIC CROCODILE.

A Jolly Life.—Native Tenderness for the Gavial.—Eating the Flesh.—The Jumna swarming with Gavials.—A "Mass Meeting."—Loss of an Enormous Specimen.—Maximum size Attained.—The Gavial's Place in Nature.—Habits and Characters of the Species.—General Observations on the Crocodilians.—Number of Eggs Deposited.—The Gavial not a Man-eater.—A Ticklish Reptile.—Vocal Powers.

As I look back upon it through the rose-tinted vista of memory, it really seems that I never in my life spent another month of such unalloyed happiness as that upon the Jumna. I was steadily gathering in a bountiful harvest of gavials, birds, and mammals; I had glorious sport with both rifle and fowling-piece upon new and interesting animals, and my surroundings were strange, romantic, and agreeable. The weather was perfect. The nights were breezy and cool, so that we needed to wrap up in our blankets as we slept soundly under the awning of our boat, and there was not a single mosquito, gnat, or sand-fly to annoy us. The mornings were soft and balmy, the days were cloudless and hot, and there was not a drop of rain to fear. Although my boat was the clumsiest I ever had, it was also the most comfortable and convenient. Under the awning we had our boxes of provisions, preservatives, and tools, ammunition, clothes, etc., all conveniently arranged, while along one side hung the fire-arms, always loaded, and the indispensable field-glass ready at hand. Under one side of the awning we piled up gavial skeletons and skins, tied into compact bundles, and hung up rough skeletons of birds. Down in the forward part of the boat stood a large barrel of brine in which we soaked gavial skins, and beside it was the little mud fire-place, where Carlo did a very moderate amount of cooking for himself and me. He was fond of shooting, and nearly every day would take one of my shot-guns and wander off along the banks until he succeeded in shooting two

or three doves or partridges for my dinner. I had roast dove or partridge on toast nearly every day, and we had no other meat during the trip than such as we shot. We killed geese, ducks, and peacocks, which made excellent roasts and curries, and once I shot a gazelle ("ravine deer"), upon a brushy sand-flat, the flesh of which was very acceptable to us all.

There was ample room on the deck of the boat for us to work at our specimens, and we skinned and skeletonized many a gavial and large bird as we floated quietly along. We could not hang our crocodile skins under any shade, and so we tried hanging them on the mast. By taking the skins down during the hottest part of the day we managed to dry them very successfully, and as soon as they were dry we folded them up. One day as we went floating down the river with an eleven foot gavial skin suspended by the head from the top of the mast, its legs held straight out by sticks, and the jaws gaping wide open to allow a free circulation of air, we saw some distance ahead of us three large gavials lying upon the bank. Just beyond them were some natives washing at the river-side. We began to lay our plans for making a kill, but suddenly two of the natives caught sight of us, and guessing our purpose from the emblem at the mast-head, they ran toward the gavials and drove them into the water. We shouted angrily at them, and by way of reply they threw stones at the gavials until their heads entirely disappeared under the water, and were thus beyond our reach. This was the only time I ever saw the natives show any sympathy for the crocodiles. In some portions of India, however, crocodiles are held sacred, and it would be safer to shoot a native than one of those scaly reptiles. At Mugger Peer, eight miles from Kurrachee, there is a large tank full of huge and ugly muggers (*Crocodilus bombifrons*), which are regularly fed by priests and held sacred.

Twice while we were on the Jumna, low-caste natives came to us for the flesh of young gavials, which they declared they wanted to eat. I have eaten roast crocodile in South America, where they feed only upon fish, and the flesh was white, tender, free from all disagreeable musky odors, and toothsome as the nicest roast veal.

For about fifteen miles below Etawah the Jumna fairly swarms with gavials, many of which are of monstrous size. Unlike all the other saurians I ever hunted, they come out upon the sand-bars very early in the morning, and are to be found there at all hours

of the day until almost sunset.* Individuals have their favorite haunts, and unless disturbed the same crocodile will return day after day to the same sand-bank, as I have plainly seen by observing those which were peculiarly marked. Several times I have seen gavials swimming leisurely up and down the river over the same course for an hour at a time, apparently enjoying a promenade. Generally we found them upon the shore in groups of four to six, but of course many solitary individuals were seen. As a rule they were very shy, but several times after missing a certain animal of a group, I have seen it take to the water at the sound of the rifle, but almost immediately come out again, if we remained quietly hidden. As an instance of their great numbers, I find it recorded in my note-book that in six hours we once counted twenty-four gavials lying upon the sand-banks. Once, while hidden behind a small bush at the base of a clay cliff, with my rifle and field-glass in my hand, I saw twelve gavials (not one of which was under ten feet in length) crawl slowly out of the water, one after another, upon a little isolated sand-bar which was no larger than a good-sized croquet-ground. Such a mass-meeting of saurians I never saw before nor since. But here let me caution the next hunter, or naturalist, who may visit this locality, that in a few years' time conditions may become so changed that not a dozen gavials will be found in that particular spot, where in March, 1877, they existed in scores. And furthermore, during the wet season when the river is high and wide, it may be almost impossible to find gavials upon the banks in such situations that they can be secured.†

Although the largest of the twenty-six gavials I shot and secured measured only twelve feet, we saw three or four individuals which

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* I attribute this to the coldness of the water, which is due to its snowy sources, and also to its swiftness and strong undercurrents, which combine to render life beneath its surface not entirely agreeable to a lazy, heat loving animal.

† In order to give an idea of the seasons in which gavials may be successfully hunted on the Ganges and Jumna, the following facts concerning the rise and fall of the river may be useful. About May 1st, the snow water begins to swell the river. The volume of this gradually increases until June 15th, when most of the sand-banks are covered. From the latter date until October 1st, the river is frequently in high flood, shooting is practically impossible, and navigation is dangerous. After this the water falls steadily until January 1st, and from this date until May, there is a minimum of water in the river, except during slight freshets caused by light rains in the lower Himalayas. From April 15th to October 1st the heat is dangerous to European constitutions

must have been from fifteen to eighteen feet in length, or even more. To my chagrin and disappointment I found after two or three trials that a single bullet from my little Maynard rifle (calibre .40, larger calibres are made now), had not weight and force enough to shatter the spinal-column of a seventeen-foot crocodile at one hundred and fifty yards. Had I possessed a heavy rifle of the same accuracy as my Maynard, we should have accounted for two or three of them at least.

Once I found an old monster, beside which a ten-foot gavial seemed entirely insignificant, sunning himself upon an isolated bar in the middle of the river. I offered my men a rupee each if we secured him, and fired at his neck. At the first shot his jaws flew open, he lay quite still, and my men instantly plunged into the river. I quickly reloaded and fired two more shots to make matters more sure, but in my eagerness and haste they must have missed the vital spot, for when the old monster saw my boatmen surging madly through the water straight toward him, he put forth all his strength, slid slowly down the sand into the river and disappeared. It was a bitter disappointment to us all, for we knew we should never see him again. Although during that trip we shot a number of gavials which must have died in the water, not one of them ever came to the surface afterward. One small one, however, did deliberately come out upon a bank and die there, the only instance of the kind I ever saw.

Pliny states that if turmeric be fired into a crocodile's body he will come out upon the sand to die, so Major Ross sent me his express rifle, and some turmeric, for me to make the experiment. I filled some explosive bullets with it instead of detonating powder and fired them at gavials, but none of them ever came out of the water after they had once got into it. I have heard of parties of mighty hunters shooting "one hundred and twenty-eight alligators a week in the St. Johns," and even of a hundred "shot" in a day; but be it remembered that these alligators were only shot *at*. There is a world of difference between shooting (at) a crocodile and securing it, and when your mighty hunter boasts of the great number he "shot," ask him how many he *got*.

In the museum at Allahabad is a fine skeleton of a male gavial which measures 17 feet in length as it stands. If we allow for the shortening of the skeleton which has undoubtedly taken place in mounting and drying, I think we may safely say that the animal when alive was 17 feet, 8 inches in length. In the Jardin

des Plantes, Paris, there is a stuffed *Gavialis Gangeticus*, 20 feet, 7 inches long, but that animal when alive was apparently an exceptionally slender one. The largest specimen in the British Museum measures only 14 feet, 9 inches.

My chief disappointment at failing to secure one of the three monster gavials that we saw, was owing to the fact that these individuals were the only ones that possessed the strange bony knob at the end of the snout, which is peculiar to the largest specimens of this species. I particularly desired to examine it upon a living specimen, for the manner of its growth, and its uses, are as yet a puzzle to naturalists. It is the development of the inner edge of the premaxillary bones into a lofty double knob of smooth bone, nearly surrounding the external nostril. For my part, I believe it to be a purely sexual characteristic, possessed only by those males which have attained their full growth, and reached an advanced age. In my collection of twenty-six gavials, there were both males and females of various sizes up to twelve feet, not one of which showed the least sign of any unusual development of the premaxillaries. A skull which was kindly presented me by Mr. Palmer, of Etawah, and which according to my calculations, belonged to an animal thirteen feet in length, also showed no signs of the "boss" upon the snout.

The gavial, or "ghariyal" of the Hindoos (*Gavialis Gangeticus*, Geoff.), stands at the head of the order Sauria (Crocodilians), which includes the gavials of India and Borneo, the crocodiles of both the old world and the new, the alligators and caimans of America only. Generally speaking, the main points of difference between crocodiles and alligators are as follows: a crocodile (of any species) is distinguished by a triangular head, of which the snout is the apex, a narrow muzzle, and canine teeth in the lower jaw which pass freely upward in the notches in the side of the upper; whereas an alligator (also caiman or jacare) has a broad flat muzzle, and the canine teeth of the lower jaw fit into sockets in the under surface of the upper jaw.

The gavial has very slender and elongated jaws, with an expanded end, quite like the handle of a frying-pan, smooth and compact, set with twenty-seven teeth in each side of the upper jaw and twenty-five in the lower. The lower large front teeth pass upward entirely through two holes at the extremity of the snout, but all the remaining teeth are wholly free upon the sides, slanting well outward, and in young specimens they are so prominent and sharp that it is unpleasant to grasp the muzzle in the naked hand.

From the gavial, which has the narrowest muzzle of all the crocodilians, all the known species of crocodiles, caimans, and jacares, can be arranged in a regular series according to the width of their muzzles, leading by regular gradations down to the alligator, which has the broadest muzzle of all, inasmuch as the sides are nearly parallel from the angle of the jaw to the canine teeth.

The Indian gavial inhabits all the large rivers of Northern India, the Ganges up to Hurdwar, nine hundred and eighty-three feet above the sea, the Jumna, Sárdáh, Indus, Brahmapootra and their tributaries, but does not occur anywhere in Southern India, nor Burmah. Another species of gavial, called by Dr. Gray, *Tomistoma schlegellii*, is found in Borneo, but nowhere else so far as we know at present. The mugger (*Crocodilus bombifrons*), inhabits all India from the foot of the Himalayas where the water is often frozen,* almost to Cape Comorin. I saw only one small specimen of this species in the Jumna, and as it lay upon a sand-bar close beside some gavials, the points of difference between the two were very striking. I observed it long and carefully with a powerful field-glass, and fully satisfied myself as to its identity. The gavial looked smooth and yellow, whereas the little mugger had a very rugose appearance, and in color was of a dirty gray. When he left the water he deliberately walked out upon the sand, and when I finally fired at him he sprang up on his feet, and ran across the bar into the water, in doing which he more nearly resembled a huge iguana than a crocodile. I examined the spot directly afterward, and besides the tracks left by his feet there was only a broken mark where the tip of his tail had touched the sand as he ran. Out of perhaps four hundred and fifty to five hundred gavials, crocodiles, and alligators which I have watched getting from the land into the water, only four have stood up on their legs and run. This mugger was one, and another was a Mississippi alligator, which I afterward killed, and found to be in a very emaciated condition, owing to the fact that nearly half of its upper jaw had been bitten off, and it had apparently experienced great difficulty in capturing its prey.

Gavials are the smoothest of all the large crocodilians it has been my privilege to handle as living specimens, *i.e.*, all the American species save one, and three in the East Indies. They are also the brightest in color. Lying upon the sand at a distance of two hundred yards, their bodies often seem to be of a uniform dull

* Gray.

chrome yellow, but in reality the entire upper surface of the animal, from snout to tail, is of a uniform olive green, mottled with the former color. Of course the older individuals lose the original brightness of their coloring with advancing age. The under surfaces are all pale yellow, the iris is green frosted with black, while the pupil is a very narrow, perpendicular black line.

It would appear probable from the examination of some of our specimens, that the number of eggs deposited by a female gavial depends upon her size. One of our specimens, 9 feet in length, contained 15 eggs almost ready to be deposited, another measuring 10 feet contained 30 eggs, while two measuring between 11 and 12 feet contained 41 and 44 eggs respectively. As nearly as I could estimate, all these eggs would have been ready for the sand by about April 1st. As with the eggs of all saurians, these were subcylindrical, and pure white.

Evidently gavials are not man-eaters, or rather man-catchers, else they would certainly have carried off some of my boatmen. Upon many occasions they swam the river as fearlessly as though not a saurian existed in it, whereas they actually swarmed there. The natives who live along the river also assured me the ghariyals never caught men. The stomachs of all those I dissected contained only the remains of fishes, and I looked in vain for pieces of dead Hindoos. Still, it is not improbable that gavials devour the bodies of defunct natives who are thrown into the river after undergoing a mock cremation, such as I shall describe further on.

Although the skin of a large gavial is very thick, and the entire back is covered with bony plates nearly a quarter of an inch thick, it is still as sensitive to touch as the bottom of a man's foot. Often when watching gavials that lay apparently sound asleep upon the sand, I have seen them suddenly reach a leg backward or forward to kick off a fly that had alighted upon them. A 9-foot female which I captured was exceedingly ticklish upon the back and sides. Although my shot had broken her neck and she lay apparently dead, the lightest scratch with the finger-nail upon her sides or dorsal scales caused her to flinch and squirm violently. Even the tip of a crow's feather drawn lightly along between the rows of dorsal scales, or across the thin skin of the flanks was attended with the same result.

Wounded gavials often bawl aloud like calves, when seized by their captors, a thing I have never known any other crocodiles to do. One of our largest specimens, a female 11 feet 6 inches long,

made the most determined resistance of any, and bawled aloud more than a dozen times while struggling with her assailants. It has been asserted that crocodiles are voiceless, but this is certainly not the case with *Gavialis Gangeticus*. Nor is it true of the Orinoco crocodile (*Crocodilus intermedius*), as I know by a personal encounter with an old male nearly 12 feet in length, who turned upon me with a deep guttural snarl like a dog as I attempted to seize him by the tail.

CHAPTER VII.

RAVINE DEER AND BLACK BUCK HUNTING.

An Invitation.—Aspect of the Country.—Major Ross's Camp.—A Luxurious Establishment.—The Jumna Ravines.—The "Ravine Deer."—A Day's Sport.—Fifteen Gazelles and a Nil-Gai.—The Sasin Antelope or "Black Buck."—Animal Pests —Another Hunt with Major Ross.—Interesting Sport.—A Narrow Escape.—A Stern Chase at Mid-day.—Eight Antelopes Gathered in.—A Holiday at Agra.—The Taj Mehal, of course.—Taj-struck Travellers.—The Trees of the North-West Provinces.

HAVING completed my work on the river, I received a very cordial invitation from Major and Mrs. Ross to visit them at their camp, thirty-five miles below Etawah, and spend a week in hunting the Indian gazelle, which quite abounded in the neighboring ravines. Accordingly, Carlo and I packed up my rifle and ammunition, a bag of powdered alum, a pot of arsenical soap, and a few tools, and went by rail down the line to Paphoond station. Spending the night in the road bungalow, we chartered an ekka (an antediluvian species of passenger cart) to take us to Major Ross's camp, twelve miles south. For two hours and a half we rattled along a splendid "metalled" (*i. e.*, macadamized) road as fine in every way as any in Great Britain, so far as I have seen—another evidence of British rule in India. The milestones are marked in English and Hindustanee, which gives the natives to understand that the English have come to stay. The road is provided with good bridges, road bungalows and police stations, and is a type of the great arterial lines of road communication which have been constructed throughout India since the Mutiny in 1857. The Ganges-Jumna Dooab, *i.e.*, the country lying between these two waters, is also being rapidly traversed by a system of irrigation canals, which will render famine in this district forever impossible.

Mud villages were almost as thick as farm-houses in Iowa, and before long I found that it required good shooting to fire a rifle on the level without hitting a native. And no wonder. Compared

with very many portions of India, Etawah is very thinly settled ; but, upon an area of 1,631 square miles, of which quite twenty per cent. is unculturable ravines or reh-stricken plains, there are 1,591 villages and 668,581 people—nearly one village and quite 408 people to every square mile, fertile or barren. No wonder the fields along the roadside were little garden-plots of one to two acres, or that there was no ground to spare for fences, and nothing to make them of. Each tiny field was bounded by a little ridge of earth, and fences, hedges, and ditches were alike unknown. The landscape was only redeemed from utter barrenness (for the winter crops had just been harvested), by the scattering mangos, acacias, and occasional banyan trees, which dotted the plain at long distances apart.

After two hours and a half of cramped limbs and aching backs, we alighted from our antiquated jaunting-car at Major Ross's camp. If the ride was cramped and shaky, it was also cheap, for the twelve miles cost us only one rupee.

Mrs. Ross led me at once to a mango tree near the tents, and pointed out a strange-looking animal which had taken refuge in it the night before, and been fairly "treed" ever since. A charge of shot soon brought it to the ground, and it proved to be a tree-cat (*Paradoxurus musanga*) ; length, head and body, 23½ inches, tail 20½, color, dark gray washed with black.

I was surprised at the elegance and completeness of my friend's camping establishment, which was simply luxurious as compared with all the camping-out I had ever seen before, and it was managed with military precision. There was a main wall-tent, large and roomy, with a double roof and verandah all around, and divided into an office, dining-room, and bath-room. Major and Mrs. Ross had a sleeping-tent, the khansama (cook) had a kitchen-tent, and there was another for me. Contrary to the ordinary rule of camp-life there was an abundance of furniture, but it was all made to fold up and pack snugly away. There were five gharrys (bullock-carts) to transport the equipage, and three excellent saddle-horses for the "Sahib" and the "Memsahib." Counting cooks, sweepers, gun-bearers, horse-keepers, and gharry-drivers, there were just twenty-four servants of various castes attached to the camp. The morning after my arrival, the camp was struck as soon as we had breakfasted, and moved off to a village nearer the ravines. Major and Mrs. Ross and I went shooting along the way, and when we reached Jeytpore, late in the evening, we found the tents pitched in a green grove of mango trees, the ground cleanly swept, the lamps lighted, and

the table set with snowy linen and glistening silver. Fifteen minutes later we were discussing the various courses of soup, roast mutton, fowls, vegetables, and the finest dish of curry and rice I ate anywhere in the East Indies. The table was set out in the open air, under the stars, and it seemed that such a roving, out-door life as my friends led in the dry and pleasant winter months was simply a continuous picnic, more enjoyable than life in the best town-house that ever was built.

Mrs. Ross was the life of the camp, and her sparkling vivacity imparted to it a charm as refreshing as a mountain breeze. Under her energetic management the camp was always a model of neatness and comfort, and I was surprised to find that a lady in camp could be so great a blessing. Mrs. Ross rode, walked, and played lawn tennis daily with astonishing energy, considering the climate. She often accompanied us in our shorter hunting excursions, and we literally laid the spoils of the chase at her feet, proudly or otherwise, according to our luck.

Major Ross was my Encyclopædia Indica, and like the model British officer that he is, there was scarcely a subject that his information did not cover. A traveller meets a great many persons who are willing to answer his questions, and he soon learns to judge by the ring of the metal whether it is pure or not. The friendship of a man whose facts are always to be depended upon is something to be prized, and in this world of falsehoods and exaggeration it is like a glimpse of heaven to meet a man who never exaggerates. Such a man is Major Ross, and his brothers are like him.

The ravines that border the Jumna for half its entire length are very interesting from a geological point of view. Once these uplands extended in a high and fertile level plain quite down to the river, where they ended abruptly in a long continuous bluff. The water which fell upon this table-land along the river sought the lower level of the stream by pouring over the edge of the bluff, until first little gulleys and then deep ravines were cut down through the plain, and their beds became almost as low as the water in the river. The steep sides of these long ravines were in their turn furrowed and cut through by the little streams which poured down them during the heavy rains of the wet season, and the fertile soil of the plain was washed into the ravines and swept away. Beneath this was a continuous stratum of hard, unweathered clay, which does not readily grow grass, etc., and thus collect vegetable mould, and which has stubbornly resisted the

disintegrating action of moisture ; so that now, instead of the rich alluvial tracts of low "bottom-land," between the river and the uplands, which we would see had this clay been soft and friable, like that along the banks of our western rivers, we see the desolate "ravines." Between the fertile uplands and the river lies a broad belt of rugged and barren clay peaks, divided by ragged hollows, the tops of the highest just on a level with the uplands, and their steep sides sprinkled with a scraggy growth of low bushes which seem to put forth thorns instead of leaves. Here and there are miniature table-mountains forty to sixty feet high, their flat tops marking the level of the former plain. Every rainy season the ravines eat farther and farther into the fertile plain, and one field after another is abandoned as the mould and disintegrated soil is washed into the ravines, leaving only the hard and barren clay. Upon the top of one little table-mountain, half a mile from the present head of the ravines, we saw the ruins of a village that was once surrounded by fertile fields. A bird's-eye view of the Jumna ravines reveals a "gray and melancholy waste," apparently desolate and lifeless; yet these miniature mountains, this labyrinth of hills and hollows affords shelter for the gazelle, nil-gai, jackal, wolf, hare, wild-hog, panther, and even the leopard.

The Indian gazelle (*Gazella Bennetti*) is commonly called by Indian sportsmen the "ravine deer," because it is generally found in the dry and barren ravines along the Jumna, and in similar portions of Bundelkund, Rewah, the Central Provinces, and Gwalior. It is also found in the Punjab and Rajpootana, but does not occur south of the Godavery River.

This graceful little animal is of a pale, reddish-brown color, varying in the females, the entire under parts from chin to tail being white, while the tail itself is black. My largest buck measured 26 inches in height at shoulders, length of head and body, 3 feet 5 inches, tail 8 inches, and horns 13 inches. The horns of the male are almost perfectly straight, except that the points are tipped slightly forward, and are encircled with rings varying in number from eighteen to twenty-three, from the base to within two inches of the point. The horns never exceed 14⅓ inches in length, and only one pair out of a hundred exceeds 14.

Unlike all other antelopes, the female gazelle possesses horns, although they are short, very slender, and seldom systematically curved. They are usually 4 to 5 inches in length, sometimes 6, but during my hunt with Major Ross I was fortunate enough to

shoot an old female whose horns measured 8¼ inches, the longest by two inches yet recorded. They were very slender, tapering gradually from the base to the tip.

Although the gazelle is rather dull in both hearing and smelling, as we proved many times, its sight is keen and restless, and it furnishes very interesting sport, especially if the little creatures are unusually wary and wild from previous acquaintance with firearms. They usually go in droves of five to eight, but we once encountered a splendid herd of thirty-seven gazelles and four sasin antelopes, feeding in a stubble field in the early morning. On that same ground two English sportsmen once made a famous "bag" at Christmas time, the net results of the day's shooting being two gazelles, one gazelle's ear, one horn, and one horse and his keeper peppered with bird-shot.

An account of our busiest day's sport in the ravines, and our best bag of specimens—for from first to last I took either skin or skeleton of every adult animal—will suffice to illustrate one phase of zoological collecting. The following is from my journal:

"*Kiuntra, April* 2*d.*—Major Ross awoke me at half-past three, and after a hasty toilet, two hard-boiled eggs and a cup of coffee, we mounted our horses and were off. Our rifles had gone on an hour before with Wazir and Jungi, the two horse-keepers, and men who went to carry the game home. As we cantered across the fields toward the ravines, daylight appeared in the east, and the cool morning air resounded on every side with the cooing of a hundred doves, blended into one continuous, trembling note rolling close along the earth.

"At the head of the ravines we planned out our respective courses and separated, so as to shoot over as much ground as possible, and also because we had found that a sportsman does better work alone when hunting 'small deer.' Wazir was to keep me company, and two game-carriers followed us at some distance. This was the place where we expected to find nil-gai (*Portax pictus*).

"We caught a glimpse of a fine wild boar crossing a little ridge as he was returning from his nightly raid upon the fields to his lair in the ravines, and tried to follow him up and get a shot, but failed to see him a second time. Walking down the level bed of a ravine we turned a corner suddenly, and came plump upon five gazelles walking leisurely toward us, when—*whish!*—there was a dash of tiny hoofs and the agile little creatures bounded out of sight like a flash. We bestirred ourselves to cut them off, but when we next saw them

call a halt they were fully 300 yards away. I attempted to make a brilliant shot at that distance, aiming at a fine buck, but my bullet struck the bank about three inches above the top of his shoulders. Away they went again, and from a hill-top we marked their course until they disappeared entirely. Then we started for them, keeping well in the bottom of the ravines until we thought we were near them. Getting upon the top of a ridge we went cautiously forward, and very soon saw my identical buck climbing out of a ravine about ninety yards in advance of us. Feeling sure he would pause a moment at the top of the ridge to look for us, I dropped quietly upon one knee, and covered him with my rifle. Sure enough, as he reached the level he saw us and turned to look for a second or two, when my bullet struck him full in the chest and dropped him dead. It is the almost invariable habit of the gazelle, unless startled suddenly at close range, to stare at the hunter for two or three seconds before turning to run away, and that instant of rest is the hunter's time to fire. As soon as the buck fell, Wazir, who was a devout Mohammedan, ran forward with a knife and cut its throat, exclaiming 'Bismillah!' (in the name of God) while the animal was still alive, which rendered the flesh eligible for the cooking-pots of all true Moslems. This operation is called 'hallal karna,' and no Mohammedan can eat the flesh of any animal which has not been properly 'hallaled' before life became extinct, by some true follower of the Prophet. During our first two days' shooting, it somehow happened that not a single animal was 'hallaled,' and so, although the camp-followers had an abundance of fresh meat for which the souls of Mohammedans yearned and their mouths watered, not one of them touched a morsel.

"Shortly after the death of the buck, we saw a fine nil-gai or 'blue bull,' on the top of a little table-land nearly half a mile away, and we took a good look at him through the glass for fear we might never see him again. As he stood upon the summit of that high ground, his dark body sharply outlined against the sky, he seemed as large as our American moose, and he instantly reminded me of that long-legged and ungainly animal. Yet this great lumbering animal, perhaps four and a half feet high at the shoulders, with eight-inch horns and tail nearly two feet long, is an antelope, one of the largest of the antelope family.

"As the nil-gai disappeared in the ravines, I started across the succession of hills and hollows that lay between us, and in an incredibly short time reached the place where we last saw him. But

the animal was not to be seen, and after a long search for him we had to give up beaten. It was utterly impossible to track him over that hard and barren clay. We heard two shots from Major Ross, and on looking in his direction saw two nil-gai climb out of the ravines and go galloping off across the uplands. They went at a heavy, lumbering pace, more like the running of cows than antelopes. The Hindoos, with a total disregard for natural classification, assert that this animal is a 'cow' and not an antelope, and therefore a very sacred animal. They will not touch the nil-gai, but will eat all other antelopes.

"It had been our rule to return to camp about ten o'clock every morning, and rest quietly during the midday heat, which in the ravines was intense; but in the hope of finding nil-gai we pushed on and on in a wide circuit far into the ravines. While walking quietly down the bed of a ravine we espied two gazelles browsing upon the scanty leaves of an acacia. Both were does, and I fired at the nearest one. They wheeled and bounded out of sight, and upon running forward we found the grass bespattered with arterial blood which had gushed out from a mortal wound. We started at once on the bloody trail and soon found the doe lying gasping under a bush. (This was the female which possessed unusually long horns, mentioned in a former paragraph.) Within twenty minutes from the time we saw her browsing quietly under the acacia, her skin was hanging across Wazir's rifle and the vultures were tearing at her flesh. Then I turned my face toward camp. Passing through a village we rested, drank quantities of water and ate some roasted gram, which is about as good as parched corn. Within a mile of camp we met a horse coming for me, and a lively gallop soon brought me to the tents. Major Ross had shot a fine buck gazelle and a cow nil-gai, which were soon brought in upon a cart. The intense heat of the sun had quite roasted the skin on the side that was uppermost, so that its elasticity was gone forever. This animal was of an iron-gray color, without horns, and about the size of the female wapiti (*Cervus Canadensis*). After coming in from a hunt, we always took a bath the first thing and drained all the jars of drinking-water. 'Give us this day our daily bath,' is the universal cry in India.

"'Tiffin' over (two o'clock dinner), Carlo and I fell to work on our specimens, and before night the 'bag' received an addition of one saras crane, three spoonbills (*Platalea leucorodia*), and three black-backed geese (*Sarcidiornis melanonotus*), shot by my friends."

The next day, in the evening, we rode to a bit of lowland between the ravines and the river. On the way we surprised a large wolf (*Canis pallipes*), making for the ravines with a black kid in his mouth. As bad luck would have it, we were both without our rifles, having sent them ahead with the bearers. We gave chase at once, but the wolf entered the ravines where we could not follow on horseback. These brutes are very destructive to small animals of all kinds, killing goats, sheep, and calves, and running down gazelle and antelope. The Indian Government pays a reward for the killing of wolves, and in 1876, five thousand nine hundred and seventy-six of these miserable brutes were destroyed.

On reaching our destination, we found several gazelles feeding out in the open plain with a scattered herd of cattle, and I brought down a buck at one hundred and thirty yards. Major Ross shot a hare (*Lepus ruficaudatus*) for me. It jumped out of a bush almost at our feet and went bounding off, when the Major made a brilliant shot with his rifle, striking the hare with an explosive express bullet which blew it all to pieces. The head lay in one place, the legs were scattered about in various directions, and the tail hung up in the top of a little bush like a signal of distress.

At the end of seven days' shooting we had accounted for fifteen gazelle and one nil-gai, not counting smaller specimens; and, sending my lot of skins and skeletons across country by bullock-cart, I returned to Etawah by rail.

The sasin antelope, or "black buck" of sportsmen (*Antelope bezoartica*), is another animal which is found in great numbers in the Ganges-Jumna Dooab, as well as many other portions of India from the Punjab to Tutucorin, very nearly to Cape Comorin. In some districts they are found in immense herds of several thousand individuals, and, wherever they are, they do great damage to crops. It is the universal custom, or rather the necessity, of the natives who live in the game-infested districts, to build small elevated platforms of poles out in their fields, on which they patiently sit all night, beating tom-toms and shouting to keep away the deer and wild pigs. As a rule, the common people of India are not allowed to possess fire-arms of any description, or rather no one is allowed to supply them, and hence the country, notwithstanding the density of its population and the perpetual hunger of its people, is quite overrun with game, some kinds of which devour the crops of the agriculturists, while others prey upon domestic animals and the people themselves. The British

Government does not, however, object to the employment of professional native hunters, or "shikarees," for thinning out the game, and all such persons are duly licensed by the magistrates.

The sasin antelope stands from 32 to 34 inches in shoulder height, length of body and head about 46 to 48 inches, and tail 6½ inches. The does and all the young bucks are of the same color, a pale yellowish fawn color above, with all the under parts white. As the bucks grow older they begin to acquire a dark streak from the knees straight up to the shoulder, which gradually extends backward along the sides and deepens in color with increasing age, until at last, when the animal has come to full majority, the vertical shoulder stripe is almost black and the sides of the body, neck, and head are of a rich dark brown. The female has no horns, and those of the young light-colored bucks are of course short and comparatively insignificant, but the old black buck is crowned by a royal pair, twenty to twenty-five inches long. They are black, spirally twisted in four or five turns, strongly ringed from the base up to the last curve, and diverge into a perfect V. The old male is, in every respect, a very handsome animal.

A few days after our gazelle hunt, my friends completed the survey of their canal and came to Etawah. Wishing now to obtain a specimen of the sasin antelope, Major Ross and I collected our forces once more and went to Shekoabad, a railway station thirty-four miles above Etawah. Here antelopes were very numerous within easy reach of the station, and, putting up at the dak bungalow, we sallied out morning and evening. An account of our first morning's work will serve to illustrate the character of black-buck shooting and the habits of the animal.

Starting out at daybreak, we found a small herd within half a mile of the station, but it contained no good buck, and on firing at two hundred yards we each missed a doe and went on. The level plain is so thickly dotted with villages that we saw we could only fire with extreme caution. Fortunately the crops had been gathered and the people were threshing, else we would scarcely have dared to shoot at all. The crops here are watered by irrigation, and every four or five acres has its well and a sloping embankment of earth beside it, thrown up so as to form an inclined plane, down which the bullocks are driven as they haul up the skins full of water. These wells are never covered or enclosed, and before the day was out I nearly came to grief in one of them.

We found a herd of about forty antelopes, including one fine old

buck, feeding quietly near one of these wells, and we easily stalked it under cover of the embankment. As usual, Major Ross gave me the first shot, and scrambling up to the top of the embankment I made a brilliant miss at the old buck, distance one hundred and fifty yards. Major Ross fired and brought down a young buck, and the herd bolted. Instead of running directly from us, they swung round for nearly a quarter of a circle, in a straggling line, the old buck bringing up the rear as a sort of whipper-in; we paid our respects to him as he came by but missed, and the herd, now thoroughly alarmed, sprang away at race-horse speed. As they passed us, several old does bounded high in the air as though they were leaping over four-foot hurdles, and as they dashed off down the plain, we saw first one and then another spring high in the air, clear above the backs of the others, come down with stiffened legs, and be lost to view in the flying herd. It was an astonishing sight. This strange demonstration in the face of danger is peculiar to the antelope, and whenever observed it betokens thorough alarm, and is a sort of defiant adieu to the sportsman, with the information that he need not trouble himself to follow.

In watching the herd as it disappeared, I walked backward a few paces, reloading my rifle at the same time, until, happening to look down I saw that I was standing upon the brink of the open well. In the excitement of the moment I had forgotten its existence, and had I taken just *one* more backward step, I would have gone down head first about sixty feet. What an aggravating, ignominious, and disgusting death it would have been. Hindoo women often commit suicide by jumping into the village well.

About ten o'clock we found another herd of antelope, many of which were lying down for their midday siesta. There was no cover near them, so we had to trust to their unwariness. With our guns in readiness we walked slowly forward, apparently without noticing the animals, and made as though we would saunter past them at a distance of one hundred and forty yards. There was a beautiful buck in the herd, quietly lying down chewing his cud. He rose as we approached but stood quite still, and just as we reached the nearest point I slowly raised my rifle and fired at him. My solid bullet passed through the muscles of his fore-arm and he fell to his knees, but recovered himself as I ran forward, and staggered away. Major Ross fired at him without effect, and the herd dashed away, leaving the wounded buck to his fate. We followed him as fast as possible, but the farther he went, the farther he seemed able to go. He

passed within fifty yards of some natives tramping out wheat with bullocks, and stopped in an adjoining field. Stealing up behind the nearest cover I fired at him again, when he started up and slowly trotted off. Major Ross halted under a banyan tree, for the sun was now beginning to tell upon us, but I kept on. Disgusted with my unusually poor shooting, I determined to follow that buck and bring him down by main strength if necessary. He trotted slowly along and I hurried after him to keep him in sight. The hot winds were blowing from the northwest, the heat was intense, and it was risking a sun-stroke to go on, for the buck kept leading directly from the station, now five miles away. At intervals he would stop, but he watched me constantly, and whenever I came within two hundred yards of him he would start on again. The perspiration poured off me like rain, and such exertion was beginning to tell upon my nerves.

After a time I stalked him successfully a third time and got a shot, but perspiration half blinded me, and my arms were so unsteady that I could scarcely hope to hit. However, I heard the bullet strike with a dull thud upon his hide, and on we went as before. I was determined to measure that buck's horns before turning back. About noon he halted again in an open field, evidently much distressed, and getting him in line with an acacia I made a very creditable stalk, wiped the perspiration out of my eyes, and fired again. This time the buck failed to run away. He stood still, began to gasp violently, staggered, fell over, and the chase was ended. One bullet had gone through his fore-arm, another through his sternum, a third through his withers, breaking one of the vertebral processes, and the last went through his liver. I had shot all around the vital parts. His horns measured twenty inches and he was in every way a beauty; but the manner of his death left me nothing to be proud of.

Jungi arrived in search of me while I was cutting out the entrails of the buck to lessen his weight, and two natives who came up to see the quarry, were easily persuaded to sling it under a pole and carry it to the station for a consideration. We were six miles from home, and it was noon; but the buck was dead, and what cared we if the plain was like the floor of an oven and the air like the breath of a furnace?

During my chase, Major Ross killed another buck almost as black as mine. Two hours later, a cold bath, dry clothes, and a good tiffin had set us completely to rights. During the two days we

spent at Shekoabad, eight antelopes, four bucks, and four does were called upon to yield up their skins and skeletons. There is really very little sport in hunting the sasin antelope, because of the unwariness of the animal and the ease with which they are approached. Any one who is a moderately accurate rifle-shot at one hundred and fifty yards can usually kill from two to five in a day, and if the hunter is really bloodthirsty he may bring down a good many more than that, but as far as real sport is concerned, it is tame. There is no excellent sport without great labor on the part of some one.

Upon returning to Etawah, I packed up my collection and shipped it to Calcutta, then took a little holiday trip up to Agra to see the famous Taj Mehal. Ever since the days of Heber, travellers have lavished adjectives and similes upon this pretty tomb, some because they were sincere, and all the rest because it is the fashion to do so. In my opinion, no other structure in the world has been so greatly over-praised. I can only account for it by the infrequency of really fine and well-finished specimens of architecture in India. The abundance of mud-huts and characteristic Hindoo temples make this really beautiful structure seem to be the most ravishingly beautiful one on the face of the earth. Hence the incoherent ravings, and the constant strain upon the English language on account of the Taj. I do not believe half the travellers who have written about it were really sincere in such a superlative degree of admiration and rapture as they have expressed. It is like the ravings over the expression of the Sphinx—a face with the eyes, nose, and lips hammered into one unsightly blur, which looks as if some wild animal had been tearing it. Look at the photographs of it, if you cannot get the object itself.

What are the elements which make up this "dream in marble," this "psalm in stone," this "essence of architectural beauty," this Taj in fact? It has not size certainly, for its width covers only one hundred and fifty feet each way. Its dome is a huge marble "chattie" turned bottom uppermost, with bulging sides and contracted base, an exact model of the useful vessel the gentle Hindoo boils his rice in. The building is square, except that the corners are cut off, and the upper half of the walls are set with huge, empty niches, as though they were prepared for statues that were never put in place.

The minarets on the corners of the terrace are low, dumpy, and plain, and in shape and size are as much like some of the light-houses on our Atlantic sea-board as one billiard ball is like another. But the Taj (as well as the minarets) is built of white marble, which

has never been discolored by smoke and soot; and I suspect its very cleanliness, purity, and lack of Hindoo paint is what renders it so all-powerful that ninety-nine travellers out of a hundred fall down before it, Taj-struck, and the hundredth who survives is set down as a dull, soulless, and ignorant fault-finder, destitute of taste and appreciation. Would the Taj be esteemed so exquisitely beautiful and so perfect in plan if it were built of brick or limestone, instead of white marble? The inside of the structure is wonderfully pretty, with its lotuses and lilies of precious stones. The cost of the Taj is entirely satisfactory, and as a monument to Love it is immense; but to my mind there are many buildings more grand, graceful, and imposing than this, and hundreds which seem more sacred.

The North-West Provinces offer but a barren field for the botanist or entomologist, at least in the dry season. I did not see a single serpent or lizard, nor any insects worth mentioning during my stay there. As for the flora of the country I could tell practically nothing, for, owing to the total lack of rain during the winter and spring months, vegetation is only conspicuous by its scantiness.

The tree which figures most conspicuously on the plains of the Dooab is the mango (Hindoo, "aam," *Mangifera Indica*), whose thick and ample green top affords most grateful shade. These trees are grown from cuttings planted by the Hindoos, who never think of cutting down a tree of any kind, or even cutting off long branches, and refuse to learn pruning and forestry. They encourage the planting of these excellent shade-trees, and the land occupied by the mango-groves is exempt from taxation.

The thorny acacia, or "bubool" (*Acacia Arabica*), is the commonest tree in the North-West Provinces, but owing to the fact that the natives feed their goats on its leaves and seed-pods, and the natural scantiness of its foliage, this tree, which is a very small one, always has a stunted, bare, and scraggy appearance. This is the tree which furnishes the gum arabic of commerce. It grows in the driest districts, apparently in defiance of drought, and is common in the "jungles" of Northern India along with *Butea frondosa*, which possesses a gorgeous, though odorless, scarlet flower. We found it in bloom at Auraiya, on April 1st, its branches loaded with flowers.

The "neem" (*Azadirachta Indica*), is found here and there, a small tree of which every part seems to possess some valuable medicinal property. The bruised leaves are used in healing sores,

swellings, and rheumatism, and also some diseases of the skin; the bark is sometimes used as a substitute for quinine, and also as a tonic; a dye is manufactured from the fruit, and the seeds are used as an insect poison; the root is used as a vermifuge, and a gum exudes from the bark. Its wood is very bitter and is never attacked by white ants.

Here and there are seen solitary trees of large size, most of which have been planted by past generations in certain sacred spots or near villages, so that the inhabitants can sit in their grateful shade and discuss parish matters. There are four large trees belonging to this class, which figure conspicuously in the landscapes of Northern India. They are the sacred fig-tree, or "peepul" (*Ficus religiosa*), the banyan, Hindoo "burgud" (*Ficus Indica*), the tamarind, "imli" (*Tamarindus Indica*), and the "goolur," which latter is used to bottom wells that have walls of masonry.

From Agra I started for Calcutta, and the Neilgherry Hills in Southern India, having spent eight very busy and profitable weeks in the North-West Provinces.

CHAPTER X.

THE WAINAAD FOREST.

A Hunting Trip to Mudumallay.—Monkey Shooting.—The Karkhana.—The Meanest Natives in India.—Obstacles.—An Old Hypocrite.—Record of One Day's Hunting.—Expert Trackers.—Bison.—A Long Chase.—Death of a Sambur Stag.—A Herd of Wild Elephants.—An Attack by an Amateur, on Foot and Alone —Close Quarters.—Failure.—Lost in the Jungle.—A Sambur Killed by a Tiger.—A Bad Predicament.—Deliverance by a Lucky Guess.—The Author's Status as a Shikaree.—Death of a Bull Bison.—Skinning Under Difficulties.—Instinct of Self-preservation in Monkeys.—Jungle Fever.—Native Cussedness again.—Return to Ooty.—A Good Samaritan.—A Model (!) Physician.—Mr. and Mrs. Dawson.—Departure.

Upon the Neilgherries, wild animals of all kinds are now so scarce that they cannot be hunted with any degree of certainty, and the best that either sportsman or naturalist can do is to make Ootacamund his headquarters and hunt in the forests about the base of the hills. Occasionally (three to five times a year), a tiger is met and killed upon the hills, and an enthusiastic sportsman who is a good shot may kill a wild goat or a stag sambur every week he is out; but to a collector who shoots for skins and skeletons this is ruinously slow work.

A few miles to the northwest of the Neilgherry plateau, and 4,000 feet lower, lies the great Wainaad Forest, like a vast preserve, teeming with large game of many kinds and famous as a hunting ground. My sporting friend had visited a certain portion of it known as the Mudumallay Reserved Forest, and he gave me such glowing accounts of the Indian bison and deer to be found there, that, after taking his report at a discount of fifty per cent., I decided to go there for a fortnight's shooting under his advice and guidance.

We hired four pack-ponies, loaded them with our outfit and provisions, and at two o' clock in the afternoon we were all ready to start. All except my friend's chief servant and right hand man. He had been given an advance of four rupees wherewith to buy his

provisions for the trip, and had been gradually getting drunk ever since early morning. At the last moment he gave us the slip altogether, and hid away in the bazaar. My friend spent an hour in searching for him, with a native policeman and a stout cane, but he was not to be found, and we started without him.

We took the road leading north from Ooty to the Segor ghaut and Mysore, and as soon as we were well out of the town it began to rain. For nearly two hours we plodded along through a steady down-pour that completely drenched everything save my two packs, which I had covered with my waterproof blankets. Just at dark we reached the Kulhutty bungalow, wet, cold, tired, and hungry, and only eight miles from Ootacamund. But we soon had a good fire blazing on the hearth, a steaming pot of chocolate on the table, and dry clothes on ourselves.

As if to atone for our miserable drenching, the next morning broke clear and sunny, and we lost no time in starting on our way down the pass. Four miles from the Kulhutty bungalow we reached the Segor bungalow, a mere hovel at the foot of the ghaut, elevation twenty-seven hundred and ninety feet. From thence the road lay through a generally level country, thinly covered with low bushes and short, scrubby trees. Quartz rocks were quite abundant along the road, and in one ledge I found a bed of Muscovite mica, which furnished several fine specimens. Six miles from Segor we reached the village of Musnigoorie, which stands on a smooth bed of reddish porphyrite, through which run long, narrow, vertical veins of quartz, several of which extend lengthwise along the middle of the street.

After leaving Musnigoorie the jungle grows denser and higher, until it soon becomes a genuine forest, and the road is both hilly and rocky. Late in the evening we crossed the Moyar River and halted for the night at the Tippecadu traveller's bungalow, twenty-two miles from Ooty. The next morning the ponies, which had been turned out to graze, were missing, and it was not until 4 P.M. that they were found. To occupy the time, I took my rifle and strolled out into the forest along the river, which I found in places to be composed chiefly of the common bamboo (*Bambusa arundinacea*), which here grows in scattering clumps to a height of forty to sixty feet. While I was walking along, lost in admiration of the first bamboo forest I had ever seen, a large animal suddenly leaped to the ground from a tree a few paces in front of me, flourished a long tail in mid-air, and rushed away through the grass. From the

length of its tail I thought it was a young leopard, and immediately gave chase, when the animal ran up a tree, and in another moment my rifle brought down a fine old gray monkey, the Madras langur (*Semnopithecus leucoprymus*). The report started a whole troop of the same species which had been feeding quietly in an adjoining tree, and away they went at a great rate, galloping through the tree-tops a little faster than I could run on the ground below. But one of the monkeys could not resist the temptation to stop and have a look at me, a very common habit with monkeys generally, and a moment later he, too, was tumbling to the ground. The largest monkey of this species which I obtained in the Wainaad measured as follows : length of head and body 23 inches, tail 37. I also shot a Malabar squirrel (*S. Malabaricus*), one of the handsomest of all the *Sciuridæ*, and also one of the largest.*

By the time I had prepared the skins of my three specimens the ponies arrived and we started for the Mudumallay Karkhana, or headquarters of the forest officers, six miles from Tippecadu. The village, which consists of about twenty huts, built of mud or of split bamboos woven together, stands upon the bank of a filthy, stagnant pond or "tank," a genuine cholera generator in fact, for it furnishes the sole water-supply of the village. The year before our visit the village had been nearly depopulated by cholera and fever, many dying, while the rest fled for their lives. There is a good bungalow here belonging to the forest department, quite vacant when we arrived, but owing to ignorance on my part, and lack of management on that of my companion, we had not obtained at Ooty permission to occupy it during our stay, and so we were obliged to go farther, and fare worse. Having come to hunt bison, we went on two and a half miles beyond the Karkhana to the very centre of the best game district, and camped near the house of a well-to-do old native, named Courti Chetty.

The natives inhabiting the Mudumallay forest, forest officers, and all, are certainly the meanest and most disobliging lot I met anywhere in the East Indies. As soon as they found we had come among them without any "backing" from the government authorities, or without any kind of tangible power over them, they became most insolent and disobliging. First of all we saw the hand of the government writer, Ramasawmy, in charge of the Karkhana and its affairs. While we were making our camp, a forest peon

* See Table of Measurements of S. I. Mammals, Appendix.

came along and demanded to know who gave us permission to camp in that forest. We politely informed him that we had no permission and needed none. A little later, when we tried to engage trackers and game-carriers from among the natives living near us, they told us Ramasawmy had ordered them not to go with us, and they dared not go at any price. Here was a pretty fix. I at once wrote a letter to the most excellent Ramasawmy, threatening to instantly report him to his superior at Ooty, Major Jago, if he hindered our movements or caused us further trouble of any kind. He at once countermanded his obnoxious "order," and became the cringing, fawning native who fears authority, even though it be ever so shadowy.

Then came old Courti Chetty, who had under his immediate control all the natives near our camp. We gave him various presents to start with, but these only served to whet his appetite to an alarming extent. He thought he was doing us a great favor when he furnished us trackers at a rupee each per day (three times their actual value), and pocketed half their wages. The Kurumbers themselves, even when hired, would do nothing unless they felt inclined, and what nearly ruined us was that they seemed to be indifferent to the power of the rupee.

Old Courti Chetty visited our camp very frequently, always wanting something, generally arrack or brandy. He had built for himself quite an elaborate family temple in one corner of his yard, and was a very devout old Hindoo, extremely careful of his "caste." One morning his son took my gun and shot a muntjac (*Cervulus aureus*), near our camp, of which I wanted the skin. The little animal was brought up and skinned by the old man's son under my instructions, but I was not allowed to touch the animal lest I should defile it! When they had carried away the carcase and all the flesh, I was at liberty to take up the skin. An hour later, when Courti Chetty came down and asked for a drink of brandy, I ordered Appoo to pour it out in my drinking-cup, that I might make a trial of the venerable Hindoo's principles. It was done. As usual, the old man declined to receive the cup from the hand of either of us, but had it placed upon the ground in front of him. Without another word he took up my cup, which had been at my lips a thousand times, and drank off the contents as though it had been mother's milk. The old hypocrite!

My friend had brought with him from Ooty a strong, healthy-looking coolie to serve as a gun-bearer, but the day after we

reached our destination he stole nearly all the rice belonging to my cook, and refused to do any work about the camp. His master discharged him at once, and after eating an enormous quantity of rice he started back to Ooty. At the Karkhana he was attacked by cholera, and died in a few hours.

During the first three days my friend and I hunted together, and were completely unsuccessful, whereupon we decided to go out separately. The second day that I went out alone proved to be a very eventful one, and a record of its incidents will give a fair idea of our doings in that locality. The following is from my diary:

"*June* 3, 1877.—Started out very early, accompanied by a single old Kurumber, because no other trackers could be procured. The old man carried my rifle and game-bag, which latter contained my breakfast and luncheon. I carried my No. 10 gun, and cartridges all loaded with single round balls and six drachms. Throughout the day the character of the forest remained the same as usual here—rolling hills covered with grass waist high, and a very open, scattering growth of low, scrubby trees; ground hard and dry, and no swamps.

"About nine o'clock found a very fresh bison trail, and started upon it at once. The way the Kurumbers and Chetties of these parts take up a bison trail through long, thin grass and over hard ground is surprising. They glide rapidly but almost noiselessly along, their eyes fixed upon the ground, but raised every now and then for a quick, piercing glance ahead to sight the herd. The old Kurumber lifted the trail very rapidly, and I followed close at his heels. On we went, up hill and down dale, over hard ground and soft ground, the trail freshening very rapidly. Sometimes it led down moist banks, and then the ground would be quite ploughed up by the hoofs of the herd. At last we were pretty well blown, and sat down beside the trail, under a bush on a bit of rising ground, to rest and refresh a little. I was getting deeply interested in a cold roast chicken, when suddenly we heard a rush and a trampling of feet, and the next instant a whole herd of bison hove in sight, coming toward us over the brow of the hill.

"'Kahtee, sahib! Kahtee!' said my old tracker, in an excited whisper.

"I snatched up my heavy gun and made ready.

"The herd came on at a brisk trot, suddenly turned off to the right when a hundred yards away, and swept along before us like a cavalry squadron under review. It was a grand sight, although

but a momentary vision of massive heads and huge white horns, high humps, sides of chestnut brown, and about thirty pairs of legs, all white from the knee down. They were too far away for my smooth-bore to hit with certainty, but aiming as well as I could, I fired at the largest bull one barrel after another—and missed with both. The bison dropped their heads lower, humped their backs higher, redoubled their speed, and swept out of sight like a whirlwind.

"We were instantly up and after them, and in about twenty minutes saw them walking quietly along a quarter of a mile ahead of us, for the forest was very open. I undertook to stalk the herd, and was doing very well, when the old man touched me upon the arm and pointed to a fine stag sambur that was standing, head erect and antlers thrown back, motionless as a bronze statue, looking full at us, and only fifty yards away. My policy is, 'one bird in the hand is worth two dozen in the bush,' and regardless of the bison in sight of us, I fired my rifle at the sambur's neck. He dropped instantly, and died almost without a kick. We cut his throat, blazed a tree on three sides to mark the spot, and hurried on after the bison.

"Apparently bison do not run far after being shot at, or hearing fire-arms, for half a mile from our dead sambur we came upon the herd again, and stalked up to within seventy yards of it. This time I fired my rifle at the heart-region of a large cow that stood nearest me, 'broadside on,' knowing that with that weapon I would hit my mark. To my chagrin the entire herd went tearing off, and I saw that my little rifle was too small for such large game, or at least too small to stop a bison. We followed on after the herd, which finally led us up a high, conical hill, and twice completely around it. Twice we came upon the bison where the grass was as high as our heads, but each time they saw us first and dashed away. After two hours of such chasing, we reluctantly abandoned the trail, and started back to find the sambur we had shot. The old man took his bearings, and we walked, and walked, and walked, but could not find it. It afterward proved that we went directly away from camp and the object of our search.

"I soon saw that my guide had lost his reckoning, and simply could not find our dead game. But he tried his best, I followed without grumbling, and again we walked and walked. It grew monotonous, but there was no help for it. And we could not talk a word except by signs, which made matters so much worse.

"Late in the afternoon we came upon the first herd of wild elephants I ever saw. They were moving quietly along through the forest, a quarter of a mile from us, and after watching them for a while at a distance, we went our way without disturbing them. Half an hour later we came upon the same herd, this time where there was better cover from which to observe them. The herd consisted of one fine old tusker, one young tusker, five females, and two babies. They were feeding upon the grass, pulling up long bunches and jerking it from side to side to shake the dirt from the roots, then winding it up to their mouths. Some threw quantities of dry dirt over their backs, others fanned themselves with leafy branches. I wanted that old tusker for his skin and skeleton, but I had no right to shoot him there, or even attempt it, without laying myself liable to a heavy fine, and so we again left the herd and went our way.

"We walked on another half-hour, and came upon the herd for a third time. This was too much for human endurance. Twice had we resisted temptation, but here it was once more. I determined to kill that largest tusker then and there, if possible, and take the consequences. The highest possible fine would be five hundred rupees, and he would be worth that as a specimen. When my companion saw my intention he retired a quarter of a mile, and climbed a tree. I loaded my No. 10 with hardened balls and six drachms, quite enough for any elephant, I thought, and took up my position in advance of the herd. The old tusker was behind the rest, sauntering slowly along, feeding as he went. I crept up through the grass, keeping a tree-trunk all the time exactly between his eye and me, and stole from one tree to another, until at last I got within thirty feet of him. But unfortunately he kept his forehead from me, and I only knew about the front head shot. He passed on and I had to stalk him again. I stalked him at least six different times, but somehow his forehead was always away from me, and I would not fire at any other part.

"The elephant is certainly the most stupid animal I ever tried to approach. He is as easily stalked as an old sitting-hen. Evidently his hearing, sight, and scent are alike dull, or I would have been discovered. At one time the whole herd was feeding around me in a semi-circle, in a space not larger than could be covered by an ordinary circus-tent, and it seemed as if the elephants were in a menagerie, they were so near and so quiet.

"At last I had a reasonably fair chance at the tusker at twenty

yards and fired both barrels, aiming to strike the brain through the nasal cavity, at the base of the trunk. My shot was a total failure. The elephants ran off a hundred yards, and to my great surprise stopped and began feeding again, all except the tusker, who stood quite still. I stalked him again and this time fired at his temple, but failed to bring him down, and gave up in shame and disgust. The elephants now made off, trumpeting as they went, and leaving a trail which looked as if a hundred men had marched along in Indian file. Then I regretted my folly in firing at the elephant and wounding a noble animal to no purpose, and likewise rendering myself liable to a fine whether I killed him or not. But the temptation was too great to be resisted.

"I found my old Kurumber, and we started home, abandoning the search for the dead sambur. In going through a patch of high grass we came suddenly upon a spot where a tiger had pulled down and devoured a sambur about four days previously. The grass was trampled all about, and it seemed the carcass had been dragged some distance. We saw a number of freshly picked leg-bones, and we might have found the skull and antlers by looking about a little, but I, for one, felt a trifle nervous in that dense high grass, considering who had just been there before us, and we left the spot without any unnecessary delay.

"We walked on until almost sunset, and then the old man told me by signs that we were lost, would have to sleep (!) in the jungle, and that we might as well prepare for it as best we could before dark. Here was a pretty fix. We had been rained upon several times and were wet to the skin, had no blankets, matches, nor food, nor even a chopper wherewith to build a hut. A night under such conditions, in that wet grass, would surely finish one of us for some time to come, even should the tigers let us alone, and to sit all night in the fork of a tree was not much better as a prospect. I said we must get back to camp, and the old tracker said (by signs all this) 'Well, I am lost. You may show the way home.'

"I replied, 'Very good, I will. Let us go in that direction,' and pointed across a little valley to a certain low hill. It was simply a hap-hazard 'guess' at the way out of our difficulty, although I felt, without in the least knowing why, that the Karkhana and our camp lay in that direction. Without a word of objection the old man waded on through the tall grass in the direction I had indicated, and just at sunset we climbed the little hill I had pointed out —and came suddenly upon a well-travelled road! Then we knew

we could reach some shelter before midnight, at all events. Fifteen minutes later it was pitch-dark, and I can scarcely remember a night of more intense darkness. I could not see my companion two paces in front of me. Fortunately the road passed near our camp, which we succeeded in reaching about ten o'clock, to the surprise of every one, for we had long since been given up for lost, and the people were speculating calmly on our probable fate."

The next day we went back and found our sambur untouched, and I removed and preserved the skin, while the Kurumbers eagerly appropriated the flesh. Very soon after this my friend and his gun-bearer, Dena, succeeded in killing a fine bull bison, and as they wanted only the skin, I was allowed to take the skeleton, all except the skull, which the "Leftenant" proposed to keep as a trophy. But he was a thrifty lad, and afterward sold me the skull for four rupees, which made my specimen complete. Having come wretchedly provisioned and equipped for such a trip, he soon abandoned his enterprise, which was to shoot bison for their skins and heads, and returned to Ooty, leaving me alone. I was not sorry when I found, immediately after his departure, that the chief reason why the Kurumbers were so backward about assisting us was, because my friend had neglected to pay a number of them for services rendered during a previous visit. He was a queer character, to say the least. One day he said to me, "I believe you have been having a war over in the United States, between the North and South. Is it over now?" "Yes." "Well, which side whipped?" This question from a man who had but a short time previously held a commission as a "Leftenant in the —th Lancers," was rather a stunner to me.

I find that, in nearly all cases, I have to see a new animal two or three times and get somewhat acquainted with it before I can be at all sure of bringing it down. Especially is this the case with large game, and with very strange species I am not discouraged if I make two or three flat failures before bringing down a single specimen. After I succeed in killing my first one of any kind, I ask no odds of the rest. Should my reader be an old sportsman, I beg him to remember all along that these are but the adventures of a "griffin," who, until coming to India to hunt elephants, tigers, and bison, had never shot even an elk or buffalo; and his fire-arms, for large game, were such as no genuine "old shikaree" would accept as a gift.

The death of my first bison occurred as follows:

"*June* 6, 1877.—Went out this morning accompanied by

three Chetties, one of whom is the keenest tracker I have yet seen. About 2 P.M., we struck the fresh trail of a solitary bull bison, worthy game for the most fastidious sportsman. Followed the trail rapidly for some time, when suddenly, with a loud snort and a crash, the old bull started up and went tearing off through the jungle. Instantly we were after him, swiftly but silently, half running and half walking. If one man lost the trail, another found it again in less than a minute, and on we went. We crossed a little ravine and clambered up the opposite bank, every one keenly on the alert. On gaining the top of the hill, the foremost Chetty suddenly crouched down, moved back a little, and motioned me to the front. I hurried to his side, and there, about eighty yards distant, was our old bison, quietly walking away from us at a slight angle. It was a desperate chance, but I dared not lose it. Waiting a moment until he turned a trifle to pass a certain clump of bushes, I aimed at his flank so that my ball would range forward into his heart-region, and fired my No. 10. He sank upon his knees, but got up directly, ran straight on, and disappeared in a thicket. Reloading as I ran, we were soon at the spot where he was struck and saw his blood upon the grass. I hurried along his trail, but before I had gone a hundred yards he rushed out of a bamboo thicket and ran before me along the edge of a deep ravine. As he dashed along I fired a ball into his shoulders. He staggered, lost his balance, and fell, crashing and tearing down through the young bamboos, rolled completely over, and with a mighty bellow landed on his back, with legs in air, at the very bottom of the nullah. Finding that he was breathing freely, I fired a bullet from my Maynard quite into his heart, which saved the noble animal at least some minutes of suffering."

But what a time we had measuring and skinning him! He could not possibly have fallen in a worse situation than upon his back in the bottom of that narrow ravine. Although not of the largest size, he was still a very fine bison, his vertical height at the shoulders being five feet eight and one-half inches, while his horns were sixteen inches in circumference at the base. As this was but the beginning of my experience with the Indian bison, I will defer all observations upon the animal and its habits until we have had a more extended acquaintance with it upon the Animallai Hills.

Two days later I shot another bull bison, and some Chetties shot for me a fine brown flying-squirrel (*Pteromys petaurista*), and another langur (*Semnopithecus*). While out hunting that day we

had a fine illustration of how the protective instinct varies in animals according to surrounding circumstances. We surprised a couple of gray langurs, feeding in a small grove of low trees in the midst of a very thin and very low forest, which was overgrown with tall grass. When the monkeys saw us they tried to hide in the tree-tops, but finding it impossible to escape in that way, they ran. We chased them through the grove without getting a shot, but at last, when they reached the farther side we felt that we were sure of them. In those low trees they would fall an easy prey to any of our weapons. Who ever heard of a monkey coming down from his native tree-top to escape a hunter?

When the monkeys saw that the trees no longer afforded them shelter and concealment, they leaped to the ground and started off at a tearing gallop through the tall grass. We ran after them as hard as we could go, but so long as the monkeys remained upon the ground they were completely hidden from us. Very soon one of them leaped upon a white-ant hill, and looked back to see where we were. The instant my gun touched my shoulder he was down and away again, with the most astonishing bounds, and flourishes of his long tail.

We renewed the chase at our best speed, and once more a monkey leaped up to see where we were. Four times this manœuvre was repeated, the animals gaining ground each time, until at last we gave up beaten. This was the only way in which they could escape us, and they knew it much better than we.

After sixteen days in the jungle, I decided to return to Ooty without delay, but soon found I had stayed a day too long. The night before we were to start back it rained nearly all night, and with a chill, a splitting headache, and a high fever, the grim Phantom of the jungle marked me for his own. In spite of my iron constitution and strictly temperate by-laws, the jungle-fever had fastened upon me, although it was no more than I could expect. But it is not such a terrible ailment after all—in fact it is half good—for, owing to its regular intermittence, it gives its victim a chance to rest and recuperate a little between spells.

We made ready to return to Ooty at once, and Ramasawmy promised to engage a bullock bandy (cart) for us. Instead of doing so, he did nothing at all about it, and went off shooting in the forest. We lost a day's time through relying on his word, our camp equipage got soaking wet in a rain-storm, and with the jungle-fever to help matters, my patience underwent a severe strain. When

we asked one of Ramasawmy's peons to find a bandy-man for us, he flatly told us to find him ourselves, for he would not, which in the end we were obliged to do as best we could. It is a source of consolation to me now to know that cholera prevails at Mudumallay, and that in time it will catch all those wretches.

When we were starting off from our miserable camping-place, old Courti Chetty made a last raid upon us, wanting arrack, powder, shot, my "cumbley" (double blanket), and some money to spend in redecorating(!) his family temple, all of which I took great pleasure in flatly refusing. He also begged me to write out a petition to the Forest authorities at Ooty, praying for the removal of Ramasawmy, which petition he and the other Chetties would sign and present. He complained most bitterly of the way the government writer lorded it over them, compelling them to do this or that without so much as saying "by your leave." He forgot that in the same manner he and his relatives lorded it over the poor Kurumbers and Puniyahs, and that they all had, with one accord, used me about as meanly as they could. To me there was a sweet consolation in the thought that

> "So, naturalists observe, a flea
> Has smaller fleas that on him prey;
> And these have smaller still to bite 'em,
> And so proceed *ad infinitum*."

And I left the Chetties to fight their own battles with Ramasawmy.

We hastened our return to the hills, and the first day travelled from the Karkhana to the foot of the Segor ghaut, when the bullocks could go no farther. I at once set out and walked up to the Kulhutty bungalow, where I spent a wretched night of fever and nightmare. The next day, finding that the bandy did not put in an appearance, and feeling that I must reach Ooty before night, I hired a pony at the toll-gate and tried to ride it bare-back. It balked, bucked, and kicked viciously, and I could not get it a hundred yards beyond its owner's hut, so I gave up in despair and lay down by the road-side upon my blanket to enjoy my fever in peace and comfort. Just then, along came a good Samaritan (otherwise known as Captain E. A. Campbell, of Ooty), who at once dismounted from the fine bay horse he was riding, made me mount in his place, and, walking by my side, brought me to the hotel at Ooty. Then I gave up entirely, and in a few hours was quite out of my head, so that for a time my miserable surroundings at the hotel and total lack of attention did not trouble me at all.

My servant Appoo also came down with fever, was worse than useless, and begged me to send him back to Madras or he would die. I had before determined to discharge him, and forthwith gave him money enough to take him back to Madras, which so completely overwhelmed him that he actually fell upon his knees to express his thanks. I record this as the only instance I ever knew of a Hindoo thanking any one for a kindness, but I doubt if any Anglo-Indian will believe that it really occurred.

As soon as I was able to think, I sent for a doctor. After a long delay he came, but to me he seemed only an excuse for a doctor, for all the qualities a good physician should have seemed to be lacking in him. His first step was to find fault because I had not sent him a note instead of a verbal message. I was in a beautiful condition for the composition of a stylish note just then. Then he sniffed the damp, unsavory, and poisonous air of my room, looked dubiously at the chaos surrounding me, and remarked that I "ought to get cleaned up a little." Just my own opinion, but who was going to do it when my servant had gone home sick, and the landlord was good for nothing in looking after the comfort of his "small gentlemen" guests? The doctor felt my pulse, scribbled a worthless prescription, said he would not need to come again, he thought, pocketed his ten rupees, and went away.

In about a fortnight I was on my feet again, thanks to my own quinine, and able to skin the big black monkeys (*S. cucullatus*), which were brought me by the native shikarees. This was the only mammal they were able to obtain for me, except the black-naped hare (*Lepus nigricollis*).

During my last fortnight upon the Hills I became acquainted with Mr. G. A. R. Dawson and his excellent lady, both of whom did all in their power to break the social monotony of my life. Mr. Dawson is an excellent artist and taxidermist, and was then engaged upon the text of an illustrated work entitled "Neilgherry Sporting Reminiscences," which has since been published by Higginbotham & Co., Madras.

The illustrations, coming as they do from the hand of an artist as well as a naturalist and sportsman, are truly beautiful and valuable. Mrs. Dawson is a musician of rare ability, who, at eight years of age, travelled in the United States with Mrs. Bostwick's concert troupe, playing solos upon the concertina. Until meeting her in her charming Neilgherry home, I never for a moment suspected what delighful music the concertina can be made to yield in

good hands, and so long as I remember India I shall recall with pleasure the evenings I spent at Grasmere.

For some weeks I had been corresponding with Mr. A. G. R. Theobald, a forest officer on the Animallai Hills, and he depicted such a splendid prospect for elephants, bison, and other large game, that I determined to visit his locality for six or eight weeks at least. Accordingly, as soon as I felt strong enough, I packed up my specimens and sent them to Madras, while I bade adieu to the Neilgherries and started south.

So far as specimens were concerned, my Neilgherry trip was not a complete success, and on that score I felt somewhat disappointed. I had the fever in my system, also, as I plainly felt. True, I had escaped the fierce heat of the plains during the hottest months, May and June, and, had I desired, I could not sooner have gone to the Animallais, because there were no rains and therefore no water upon those hills, until the burst of the southwest monsoon late in June.

CHAPTER XI.

THE ANIMALLAI HILLS.

A Hunter's Paradise. —Getting there.—The Bullock Bandy and its Driver.—His Discourse.—Physical Aspect of the Animallais.—Toonacadavoo.—A Glorious Prospect.—Mr. Theobald.—An Efficient Officer and Faithful Friend.—Character of the Forest.—Seasons.—Protection of the Elephants.—A Permit Obtained.—My Mulcer Hunting Gang.—The Karders.—More Ornamental than Useful.

The Animallai Hills! How my nerves tingle and my pulse quickens as I write the name! It seems to have charged my pen with electricity, and no wonder. Let any young sportsman, young naturalist, or "griffin" of any description have a Hunter's Paradise for a four months' inheritance, with nothing to do but chase wild animals and preserve their skins and skeletons; let him have the keenest trackers in the East Indies, and a faithful friend within reach to help him over the rougher difficulties, and we will see if he does not afterward write and speak of his experiences with enthusiasm. India is the greatest game country in the world except South Africa, and the Animallai Hills are, beyond all question, the finest hunting grounds in all India. No other locality in all the East Indies can boast of possessing such splendid open forests for hunting, and such a genial climate, combined with such a variety and abundance of large game.

The lordly elephant has given his name to this range of mountains. In Tamil, Tellegu, and Canarese, his name is "ani," "arni," and "anay," respectively (which accounts for the variety of ways of writing the name of the hills), and "mallai" or "mullay," signify hills or mountains; hence we have "Animallai," Elephant Mountains, a very appropriate name for a range which is the home of so many vast herds of elephants, bison, axis deer, and wild hog. Besides these, there is the sambur, or Indian elk, the wild goat or "ibex," of sportsmen, the muntjac or rib-faced deer, all in goodly numbers, while the hunter meets an occasional tiger, leopard, and

bear, many squirrels, and black monkeys by the hundred. A glance at my list of Indian mammals * will enable the reader to gauge the accuracy of the above statements.

The Animallai Hills belong to the great range known as the Western Ghauts, and extend generally east and west along the south side of the great break known as the Coimbatore gap. Through this wide pass runs the Madras and Calicut railway, with the Neilgherries looming up close along the north and the Animallais from twenty to thirty miles farther south. The city of Coimbatore is the point of departure for the latter range, which must be reached by travelling across country. My friend in the hills, Mr. Theobald, had advised me to bring a full stock of provisions, since nothing was obtainable in or near the jungles, except the flesh of wild animals. Accordingly, when I and my new servant, Michael, reached Coimbatore on our way from the Neilgherries, we spent a very busy day in the crowded, hot, and dusty bazaar, buying provisions for our campaign in the jungles.

Our purchases were about as follows: For my native hunting gang, 2 bags of coarse rice, sundry bottles of arrack (native liquor of the fiery sort), several bundles of tobacco, salt, and chillies (red pepper). For myself, 20 loaves of fresh bread, flour, English jams and jellies, sausage, herrings, sardines, butter, and "biscuits" (crackers)—all in tins; rice, potatoes, "curry stuff," cocoanuts, and brandy; and for preserving skins of large animals, 96 lbs. salt and 96 lbs. alum; also, a new lantern, candles, cocoanut-oil, rope, nails, etc. We expected to remain in the jungles not less than two months, to prepare one large elephant skin and two skeletons, several ditto of bison, and every other species of mammal we could secure. We fully expected to have jungle-fever, for no stranger, white or black, can escape it long in the Animallais, so we took a good supply of quinine and chlorodine, the two great remedies of India, and other medicines for cholera and dysentery, the twin curses of jungle life, worse dreaded by Europeans than any number of savage animals.

Travelling in India is usually done at night, in order to go faster and farther, and to avoid the oppressive heat of the day. The commonest means of conveyance is the covered bandy (cart) drawn by two white bullocks. This ancient vehicle is simply a broad platform on very high wheels, completely covered with mats which

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* See page 216.

are supposed to be rain-proof. The driver sits astride the tongue of the cart, within easy reach of his bullocks' hind-quarters, and it is interesting to study the various methods he employs to start his cattle and keep them going. A foreigner could no more drive them than he could fly, until he has fully learned the Madras bullock-driver's language. It consists of a complicated system of "boh-boh-boh-ing!" chirrups, "tock-tocks," and other indescribable ejaculations, combined with slapping, tail-twisting, toe-poking, and ordinary goading and lashing. Two or three times I have seen my bandy-man save the heavily loaded bandy from sticking permanently in a muddy nullah by biting his bullock's tail in a most fiendish manner. It seems that a bullock has no idea what he can do until his tail is bitten. Their drivers talk to them a great deal, always aspersing the reputation of their female relatives when angry, especially their mothers and sisters—a common custom with Indian natives when quarrelling—and praising them when their horned steeds are doing well. The following was the drift of one driver's discourse to his bullocks as translated by an "Anglo-Indian journalist."

"You, Punniah, you a byle?* Not you;—your father must have been a donkey, and your mother a pig; no respectable cow would own so lazy a son. As to you, Moreeah, I believe your father was a Feringhee, and your mother a Pariah. You are the most abominable of all brutes, and how you came to have horns and a tail is quite a mystery to me. Some fine day I shall saw off your horns and sell them to a Mochee, and instead of coloring your long tail with goolal, I shall cut it off and sell it to some rascally English dragoon, to stick in his helmet and bring him bad luck, for he is sure to be killed in the first battle he goes in afterward. I wish they were all killed, but never mind, they soon will be, and then won't we have jolly times? Ah! now, you behave something like respectable animals: that's the way to get over the ground. You, Punniah, are my father and mother, and you, Moreeah, all the rest of my relations, except my wife. I'll give you both a fine feed of sugar-cane tops when we come to any, but not if you are lazy—tock-tock! tor-rr-ee-ee-ooh-ah!" †

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* Bullock.

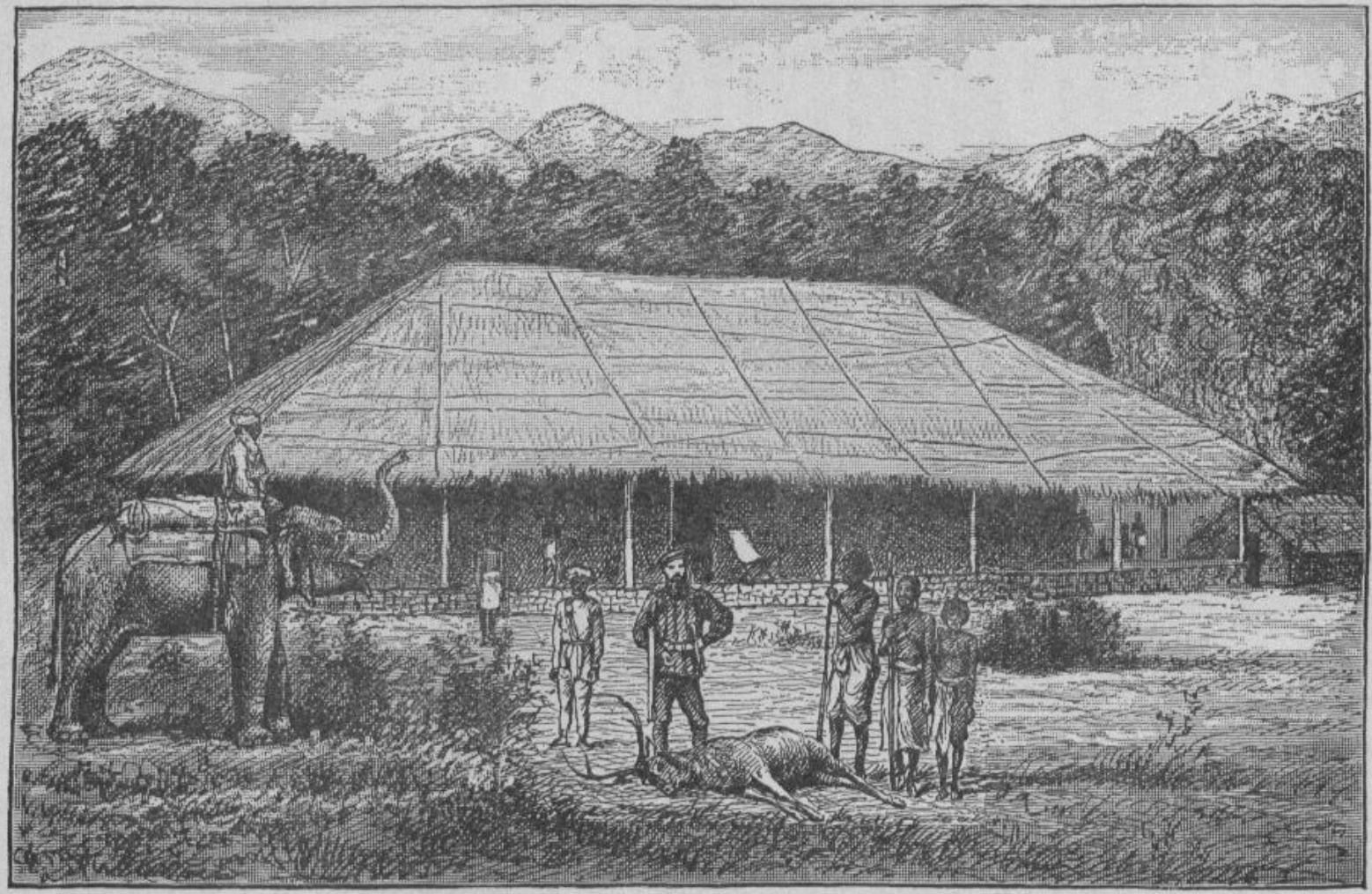
† I have often been surprised at the speed and endurance of the little white bullocks (zebus) which take the place of horses in India. It is no uncommon occurrence for a good pair of bullocks to make 3½ miles per hour for several hours, with a light bandy and proper encouragement. With two or three relays of bullocks one can easily travel 30 miles in 10 to 12 hours.

About 4 P.M. of the day after we reached Coimbatore, we loaded one bandy with our outfit and provisions, filled the bottom of another with straw for ourselves, settled our dues at the traveller's bungalow, and with the little bullocks at a sharp trot, started south for the Animallais. The road was very good, and it literally swarmed with people travelling along. When night came I spread my blanket on the straw and then had my boy arrange boxes and bundles all around me, so that when the cart tilted sideways I would not roll about. The cart wheels are so large that a very small stone causes a terrible tilt and a fearful jolt, so that such riding is very wearisome. All night long we went jolting on, stopping only at midnight for the bullocks to feed and rest, and at daybreak the next morning the steep blue sides and serrated crest of the Animallai range loomed up all along the south. At last we reached the little village of Animallai, ten miles from the foot of the hills, a sort of half-way house between the heart of the jungles and Coimbatore. This is the winter headquarters of the Forest Ranger in charge of the Animallais, and for his use there is a good bungalow, in which all wandering white men are allowed to take shelter as a matter of charity. In the course of my goings and comings I afterward occupied the place many times, sometimes a week at a time, and it is not strange that I conceived quite an affection for this "snug harbor."

As soon as we arrived, the Government writer, with the appalling name of Venkateramiah, came and offered his services in helping us along. We halted at the bungalow until the next day, when early in the morning the writer mustered a gang of about twenty-five coolies to carry my luggage up the steep pass, and we drove on to the "foot of the ghaut."

On the northern or Coimbatore side, the Animallais rise very steeply up from the plains to a height of from two thousand to five thousand feet, so that it is a steep, steady climb from the level plain up to the summit of the range. Once the summit is reached, the hills slope very gradually down into Cochin and Travancore, draining nearly all the water in that direction; so that, while the Coimbatore district may be dry and parched by drought, the native states on the opposite side will be well watered, green, and fertile.

Upon reaching the foot of the Ardivarum ghaut we dismissed the carts, and the coolies took my luggage upon their shoulders. A horse was waiting there for me, sent down by the friend I had not yet seen, and leaving my servant to accompany the luggage, I



MR. THEOBALD AND HIS FOREST BUNGALOW. *(From a photograph by himself.)*

mounted and rode on alone. After a long, hard climb up the steep and rocky pass, we reached the summit at an elevation of about two thousand feet, and began to descend the gentle slope. Then the road led through lofty bamboo and teak forests, across rocky ravines and mountain torrents, up hill and down, until at last, at the very end of a long ridge, seven miles from the top of the pass, we emerged from the thick forest, and the forest camp, called Too-na-cad-a-voo, lay before us. At the very point of the ridge stood a dozen bamboo huts and a comfortable thatched bungalow; a little river swept past them on the left and tumbled down a precipice, just beyond which rose a lofty cliff of smooth gray rock, with a fringe of feathery bamboos all along its base by the river-side. On the right rose a conical mountain-peak. Between the two mountains we looked over the camp and far across an unbroken sea of green forest, which in the distance was bounded by a lofty mountain-range. What a spot for a camp! A moment later I rode down to the door of the bungalow, and received a most cordial welcome from the officer in charge of the forest, Mr. Albert G. R. Theobald.

Now and then we meet a man whose looks and tones and words strike the cord of our sympathies so forcibly that we feel instinctively a kinship and confidence, and we say to ourselves "I shall like him." Such was my experience with Mr. Theobald, and at the end of an hour I felt that I knew him as an old friend and comrade in arms rather than an untried stranger. From the first moment we became fast friends, which feeling only deepened with time and further acquaintance. I found in him one of nature's noblemen, as frank, free-hearted, and steadfast as ever breathed.

In the course of time I discovered that he was a real genius, of the type so generously credited to the "Yankee." Besides possessing a very considerable fund of medical information and surgical skill, he was a good gunsmith and watchmaker, a first-rate photographer and taxidermist, and a very keen sportsman and naturalist. What an invaluable man he would be in an African exploring expedition! His natural ability as an experienced forester, and his varied accomplishments, entitle him to a higher position in the Forest Department than he now holds; but he is still a young man.

During my entire stay upon the Hills, Mr. Theobald never wearied in his efforts to assist me, in every possible way. He doctored me when I was ill; he divided his provisions with me

several times when I was off in the jungles and nearly starved out; he lent me his elephant-gun, and taught me how to use it on elephants; and when my cook ran away he immediately sent me his. He also lent me one of his private peons when I was crowded with work upon elephants, and, in short, he helped me with more useful articles than I care to mention altogether. A traveller cannot afford to carry with him all the comforts and conveniences proper for a stationary camp-life, and his assistance was, therefore, invaluable. He knew the natives, the wild beasts, and the forests as intimately as a farmer knows his barnyard and its inhabitants, and the interesting incidents of jungle life he related to me would fill a volume.*

His bungalow was quite a museum in itself, stocked with a magnificent array of trophies of the chase which proclaimed the genuine "old shikaree." There were tusks and tails of more than one lordly elephant that had fallen before my friend's smooth-bore. Well-mounted heads of bison, sambur, muntjac, sasin antelope, axis deer and wild boar hung on the walls until they were crowded. Perched up on a book-case sat a very fine and rare monkey, the wanderoo (*Silenus veter*), along with a small crocodile, shot at an elevation of fifteen hundred feet, and stuffed birds both great and small. On the floor were spread, in the most indifferent way, skins of bear, hyæna, leopard, and deer, but of the half-dozen tigers killed by mine host only the skulls and claws remained. In out-of-the-way corners of the bungalow I presently turned up divers and sundry skulls of bison, antlers of sambur, and about *fifty* black monkey skins. There were chests full of the best-made Indian bird-skins I ever saw, drawers full of eggs and nests, and piles of original scientific "Rough Notes" of all kinds. A well-stocked zoological library was the crowning feature of this interesting collection of trophies and scientific specimens, and I did not need to be told that this hunter-naturalist had joined the Forest Department to indulge his love of nature.

* Since my visit to India, Mr. Theobald encountered and killed on the Ponnasy Hills (Collegal Taluq), a famous rogue elephant, who began his career by killing nineteen other captive elephants, and making his escape. Since that time he killed three natives and several head of cattle, besides destroying large quantities of standing crops and terrorizing the district for several years. He was a giant in size, and for the gallant exploit which ended his career the Madras government voted Mr Theobald a reward of two hundred rupees, with permission to retain the tusks. The latter were fifty-eight inches long, and weighed together seventy-five pounds—a very large pair.

I soon found that I had reached a perfect hunter's paradise, the ideal "happy hunting ground" which is the heaven of our North-American Indians, where all good braves go when they die, where game is ever abundant, and there are no white settlers nor Indian agents. The slope of the Animallais is a succession of high hills and deep ravines, lofty peaks or ridges, and broad valleys, everywhere covered with lofty virgin forest. Some portions of the range, those commonly termed the "higher ranges," which lay along the boundary between the Coimbatore District and Travancore, are very lofty. The highest peak has an elevation of eight thousand eight hundred and thirty-seven feet, and is the highest land in India south of the Himalayas. Around Toonacadavoo there were high, rocky precipices for the wild goats, thick bamboo jungle and marshes for the elephants, grassy glades and fine open forests for deer and bison, rugged, rocky hill-sides for bears, and dense patches of underbrush for the sounders of wild hog. The tiger needs no particular kind of jungle, for where other game is, there will you be sure to find him also. Thus are we able to account for the presence of so many large animals in the same locality.

The forest camp is situated very nearly in the centre of the Government Leased Forest, which is composed mainly of mighty teak trees (*Tectona grandis*), blackwood (*Dalbergia latifolia*), the "*vella naga*" (*Conocarpus latifolius*), "*ven-gi*" (*Pterocarpus marsupium*), and the common bamboo (*Bambusa arundinacea*). Near the foot of the hills, I noticed a tree (*Salvadora Indica*) which somewhat resembles the weeping willow, and also the *Euphorbia antiquorum*.

There are two strongly marked seasons upon the Animallais, the wet and the dry. The former is during the monsoon rains, from June or July to November or December, when the streams and marshes are full of water, grass is abundant, and the forest has taken on the growth and freshness of spring. During this season the force of the Forest Service is engaged in cutting down teak trees, hewing out their trunks, hauling and "slipping" them down the mountain side, to be floated down to Calicut, and there taken charge of by H. M.'s Navy to be used in ship-building. Teak is impervious to the attacks of the white ant and the ship-worm, which, with other good qualities, renders it a very valuable timber.

The dry season begins at the end of the northeast monsoon, usually about January 1st, and continues six months. Then the leaves fall in the deciduous forest, which becomes open and bare, the streams dry up, and the forest is usually swept by fire. The

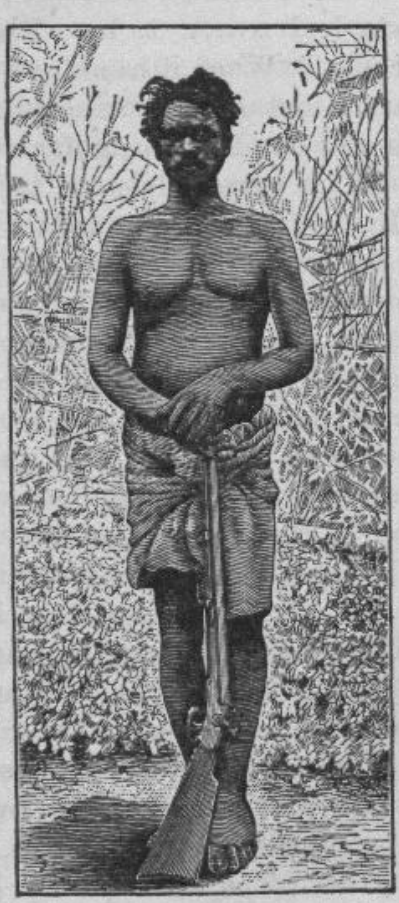
elephants and bison seek the streams near the base of the hills, the members of the Forest Department return to the low lands to escape the fever, and the forest is then inhabited only by wild beasts. At the time of my visit, July 4th, the members of the Forest Department had come only the previous week from the plains; the elephants were beginning to come down from the higher ranges to feed upon the young bamboo shoots, and the whole forest appeared at its best.

In India, the elephant is a very useful and valuable animal when trained to service, and large numbers are caught annually by Government officers appointed for this work in the Coimbatore District, at Collegal, in Mysore, and in Chittagong. Formerly wild elephants were so numerous in many parts of India that they were regarded as a nuisance and a Government reward of £7 per head was paid for killing them. Through the efforts of sportsmen and native shikarees their numbers were reduced to the proper limit, whereupon the reward was discontinued and a fine imposed to prevent their destruction. At present, elephants are rigidly protected by law all over India, although it is very evident that their numbers will soon increase so much as to render further elephant shooting positively necessary.

In 1873 an act was passed to "prevent the indiscriminate destruction of wild elephants upon waste or forest land," not only in the Madras Presidency, but any of the "native territories for the time being subject to that government." The penalty for shooting a female elephant was for the first offence a fine not exceeding five hundred rupees, or three months' imprisonment, and for the second conviction the penalty was double the first. Shooting wild male elephants was also prohibited under the same penalty as fixed for the killing of females, except it be done under a proper authorization. The act provides that any zemindar or native proprietor of land may shoot male elephants on his own land, and may also authorize others to do the same. Of course, any person is authorized to shoot any elephant in defence of himself or any other person, or to save his crop from destruction. Any native prince owning territory frequented by elephants may, if he choose, grant permission for male elephants to be shot, and the law provides that each District Collector shall have the same discretionary power, conditionally, although up to the time of my visit, the latter officers had always refused to give any such permission.

Before I came to the Animallais my friend Theobald had offered

to obtain permission for me to kill two elephants in a tract of forest on the hills belonging to an old native prince, the Rajah of Kulungud, which adjoined the Government Leased Forest. Mr. T. had done the old Rajah many a good turn in preventing the stealing of timber from his land, and after a good deal of talking and much diplomacy on the part of my friend, the matter was finally arranged, and I was given a written permit to kill two tusker elephants in the Kulungud Forest.



Pera Vera.
(A Mulcer Hunter.)

The day after I reached Toonacadavoo I formed a regular hunting gang of five picked men to serve me in the jungles as trackers, guides, game-carriers, porters, and general assistants. I was fortunate in finding there a hill-tribe, the Mulcers, of which every man is willing to work hard when well fed, is skilled in woodcraft, and is not in the least afflicted with caste prejudice, which is the most important point of all. The Mulcers are really agriculturists, but they will do any kind of work that pays, and live right beside it. They are, by preference, carnivorous in their habits, being very fond of flesh of all kinds, save that of the tiger, and, possessing no fire-arms themselves, they hail the visit of a sportsman with delight. When well fed, the men are very strong and capable of great physical endurance. Two of my men once carried a dead wild boar, weighing 230 lbs., three miles through the jungle, up and down hill, halting only twice to rest.

The Mulcer men are of medium stature, well proportioned, very dark-skinned, with rather thick lips and slightly flattened noses, after the African type, wearing no ornaments whatever as a rule, and no other clothing than the loin-cloth. Ordinarily, their

long, matted, jet-black hair is simply drawn back and tied in a coil at the back of the head, while they have no beard at all save now and then a few short black, kinky hairs. The women seem to be old and wrinkled from their youth up, and, without exception, are very ugly and unprepossessing.

Three of the men who formed my hunting-gang, Arndee, Pera Vera, and Channah, were the most expert trackers I ever saw, and I soon had reason to know that all were likewise brave and spirited men. When it came to the supreme danger of tracking up a tiger on foot and attacking him fairly and squarely in open ground, with only one little insignificant rifle, the two men who happened to be with me were fully equal to the occasion, and "game" to the last.

It was famine time, work was scarce, and food exceedingly dear, and the five Mulcers were glad to take service with me. I agreed to pay the head-man of the gang five annas per day in cash (fifteen cents), and each of the others four annas per day, besides which each received one quart of rice, and two leaves of tobacco per day, with salt and chillies *ad libitum*. This was much more than they could obtain elsewhere, and was amply sufficient for the support of themselves and their families, who would always accompany them. Being, as they were, passionately fond of fresh meat and receiving good wages, it is not surprising that I had a gang of faithful men always ready to undertake the hardest kind of work.

Besides the Mulcers, there are two other hill-tribes upon the Animallais, the Paliars and the Karders. The former are chiefly merchants and herdsmen, and it happened that I saw nothing of them. The Karders, however, were somewhat numerous. To a hunter they are entirely useless, for, owing to their caste prejudices they will not touch a dead elephant, bison, bear, or deer of any kind at any price. They are purely herbivorous in their habits, never touching flesh, but subsisting upon roots dug in the jungle, fruits, rice, etc. They collect honey and beeswax, cardamoms (*Elettaria cardamomum*), white dammer, a resin from the *Vateria Indica*, black dammer from *Canarium strictum*, and another gum resin called "mutty pal" from *Ailantus Malabaricus*, also wild ginger, turmeric, rattans (*Calamus rotang*), horns of deer, and "*cheeakai*" (the buds of *Acacia concinnà*), largely used by the natives for bathing purposes instead of soap. These products of the jungle they exchange for rice, tobacco, salt, chillies, etc. In physique and physiognomy they very closely resemble the Mulcers, but they dress more elaborately, and wear many ornaments. They all file their front teeth

to sharp points as a marriage ceremony, and the women wear an enormous coil of springy wood, or a strip from the leaf of the palmyra palm (*Borassus flabelliformis*), coiled up like a clock-spring in the lobe of each ear, which causes the flesh to expand into a thin ring two or three inches in diameter, which sometimes hangs nearly to the shoulder. The women also wear beads and necklaces of various kinds, but no other covering above the waist. The old women are always hideously ugly, and, as is also the case with the Mulcers, the men are handsomer than the women. Formerly the Karders would perform no menial labor at all, and, while consenting to carry a load of baggage or a gun, they would be deeply offended if they were called coolies.

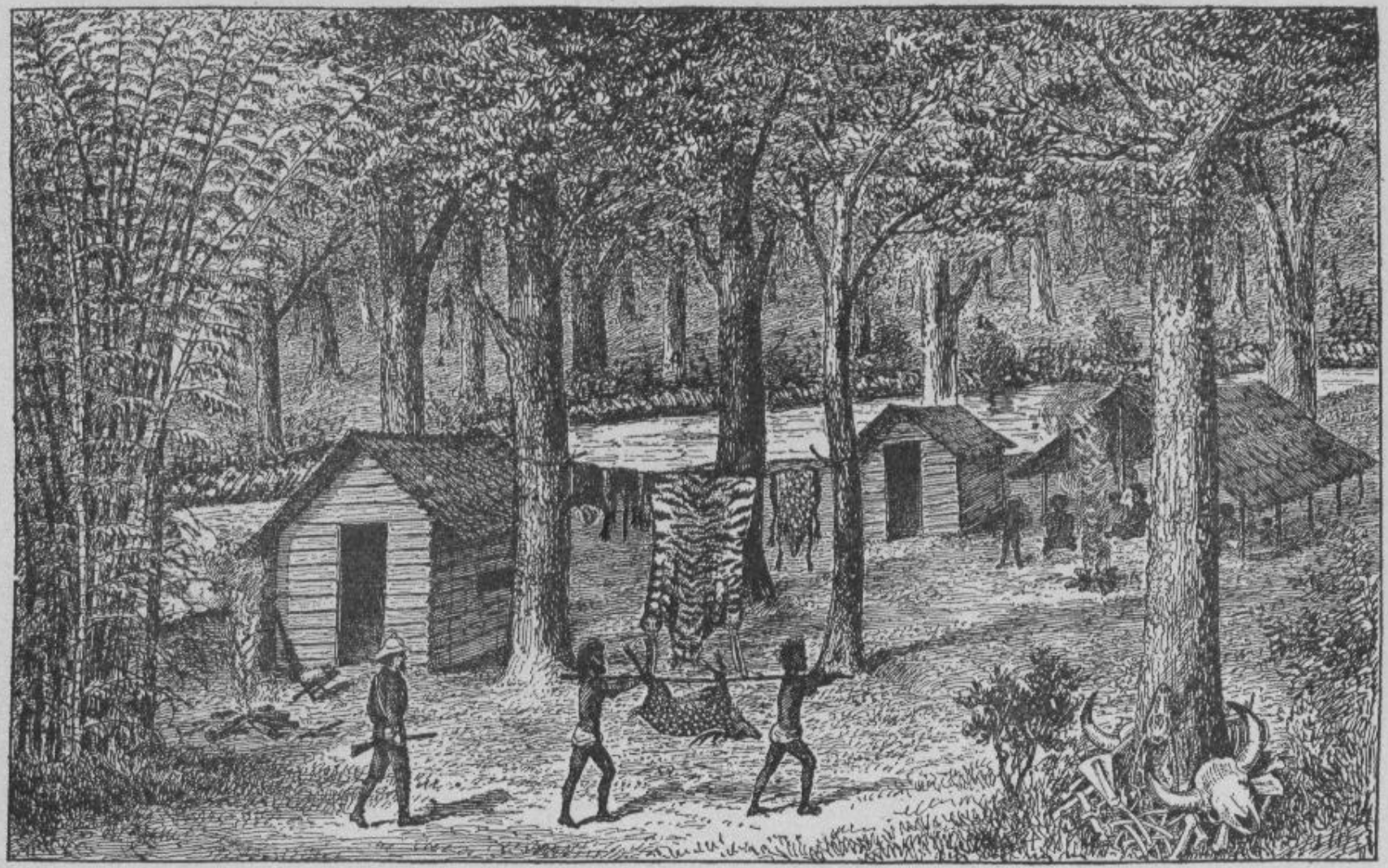
CHAPTER XII.

ELEPHANT HUNTING.

"A Lodge in a Vast Wilderness."—Hut-building with Bamboos.—Elysian at Last.—Character of Elephant Hunting.—Grand but Dangerous Sport.—Indian *versus* African Methods.—The Skull.—Difficulty of Hitting the Brain.—Cranial Fracture Impossible.—The Fatal Shots.—Physique of the Elephant.—Tracking up a Herd.—Welcome Sounds.—Surrounded by Giants.—The Attack —Stampede and Flight of the Herd.—Great Abundance of Large Game.—The Charge of a Dangerous Animal.—Fooling around a Baby Elephant.—Charge of an Infuriated Female.—A Grand but "Scarey" Sight.—Repelling the Charge.

ALTHOUGH there was really an abundance of game around Toonacadavoo, such as bison, sambur, wild goat, muntjac and monkeys, there were no elephants, nor would there be any in that immediate vicinity until very late in the season. Moreover, had there been ever so many, we could not have killed one there. About a day's march farther into the very heart of the forest, they were quite numerous, and I soon decided to go out and camp where game of all kinds was most abundant. Accordingly, when the elephant permit came to hand from the old Rajah, we packed up provisions, preservatives and ammunition, pots, pans, and camp furniture, and took up the line of march for Tellicul, a mere vacant spot in the heart of the forest. And there, at the confluence of two little rivers, the Toonacadavoo and the Teckadee, where the teak-trees and the bamboos were the tallest, where the forest was silent, sombre, and shadowy, where big game was thick all about us and no white man ever came, my men cut down big bamboos and built huts for us all.

To me this hut-building is an interesting operation. First a skeleton hut is built of large bamboo stems set upright in the ground, and a ridge-pole, plate and rafters lashed firmly to them with green bark. Then large bamboo stems are cut in lengths corresponding to the length and width of the hut, and split irregularly all over. Finally each stem is split quite open on one side, and the



MY CAMP AT TELLICUL. (*From a sketch by the Author.*)

former cylinder now flattens out into a broad slab, twelve to eighteen inches wide. These bamboo slabs are then lashed with strips of bark to the upright posts of a hut and form the walls. Bamboos similarly treated were made into beds, tables, and doors, and it also served as an excellent flooring. My wash-basin was a joint of bamboo made into a trough, and my pail was a four-foot bamboo stem with all the joints broken out except the lowest one, which served as a bottom.

The roof of the hut is nothing but young teak-leaves laid on like slates and held by their own petioles, being partly split and hooked over the cross pieces. Besides a good comfortable hut for me, the men built another to serve as a cook-house and servants' quarters, while for themselves, their wives, children, and mothers-in-law, they built simply a huge, low shed and covered the ground beneath it with bamboo slabs.

No man ever experienced half the keen pleasure and delightful anticipation in taking possession of a mansion that I did in unpacking and arranging my guns, ammunition, and camp equipage in that rude little hut. Before the door stood a large clump of bamboos, an immense bouquet of ornamental grass sixty feet high, the long, green, feathery stems nodding and bending as gracefully as ostrich plumes. Far above us the tops of the giant forest trees met and shut out all but one little patch of blue sky, and the sun's rays never reached our camp until high noon. The shade was so dense that there was no undergrowth, and usually we could walk through that grand old forest as freely as though it were a meadow. I felt that at last I had reached the "happy hunting grounds" I had so often been disappointed of before, and subsequent events proved that I was not mistaken.

And now a word in regard to elephant hunting. I consider it the grandest and most exciting of all field sports, and by several of the greatest sportsmen living it is also considered the most dangerous. The elephant is the true king of beasts, both as regards size and strength, mental capacity, and natural dignity of character. As he marches majestically through the forest, monarch of all he surveys, or rushes like a living avalanche upon his foe, he seems the vital impersonation of an Irresistible Force. I have a greater fear of the elephant and a greater respect for him, than any other wild beast I ever saw, either in the forest or in captivity, and this feeling has only increased with protracted acquaintance.

Elephant hunting is bound to bring into play all those qual-

ities of endurance, perseverance, coolness, good judgment, and knowledge of an animal's habits, which go to make up a successful sportsman. There is a subtle charm about tracking up an elephant which I am sure is never found in any other pursuit. The trail is usually broad and plain, leading rapidly up hill and down, over mountain and through valley, across marsh and river, through dense forest and over grassy plain, mile after mile, growing fresher every hour, but often taxing the skill of the trackers to the utmost. At last the clear, resonant trumpet note, or the cracking and crashing of green branches, or a tall gray back above the bushes, tells the pigmy he is in the presence of the giant. It is a fair and square encounter every time, and the hunter backs his skill and nerve with his life against the great mountain of physical strength and impregnability. The game does not skulk in the bushes and wait to be driven out at random by a grand army of beaters; nor can the hunter climb into a tree-top and from thence shoot him with as much safety as though he were at home in his little bed; neither can the elephant be killed at long range. The hunter must boldly walk up in front of him to within twenty paces or less, fire away, and take his chances. While doing so he knows very well that if any accident or miscalculation places him within the power of that terrible trunk, those huge fore-feet or knees will immediately be upon his chest crushing him, like a miserable reptile, out of all human shape. Hunters frequently escape alive and recover from the jaws and claws of the lion, tiger, leopard, and bear, but I never yet heard of a man falling into the power of an infuriated wild elephant and living to tell the story.

Just before I began my elephant hunting, I came across the following encouraging (!) paragraph from the pen of Colonel Shakspere, a high authority on Indian sports:

"That elephant shooting requires much practice is certain from the fact that young hands at it, though very good shots, are rarely successful. Indeed, that famous sportsman, Captain Garrow, who probably at his death had killed more elephants than any man in India, and if you count only tusk elephants, perhaps more than any man who had ever shot, assured me that for the first two years he did not bag even one. I have known other sportsmen, who turned out very well afterward, to shoot at elephants for a couple of years, knock them over, but never able to persuade them to remain." *

* Wild Sports of India, p. 163.

In the jungles of the East Indies an elephant must be shot through the brain, and thus killed at the first fire, or he is very apt to get away. Should the ball not touch the brain, the elephant is only stunned for an instant and is almost certain to move off at a high rate of speed. The latest writer on elephant hunting in India * says, in "Thirteen Years Among the Wild Beasts of India," "I have never recovered any elephant that has left the spot with a head shot," and my own experience has been the same. True, even in India an elephant may be shot in the shoulder and partially disabled, to be followed up and re-attacked time after time until he falls; but this practice is dangerous, unsportsmanlike, and undeserving of success. It is, perhaps, a surer way of bagging an elephant, but there can be no glory in it, nor even satisfaction, it seems to me. Although, by force of circumstances, I have to shoot all game animals regardless of age, sex, or condition, I yet have pride enough to be above shooting an elephant in the shoulder or anywhere else than in the brain. At the very outset I resolved to bag each of my elephants with a single ball through the brain, in a sportsmanlike manner, or else hire a sportsman to do it for me.

On the plains of South Africa the famous wild-animal slayer, Gordon Cumming, used to shoot elephants in the shoulder, and then gallop alongside them for miles, loading and firing until the weight of lead would compel the wretched beasts to fall. He relates how he once had to fire *forty* two-ounce balls into a single elephant before bringing him down. In India no such barbaric modes of hunting are practised, nor are they even possible.

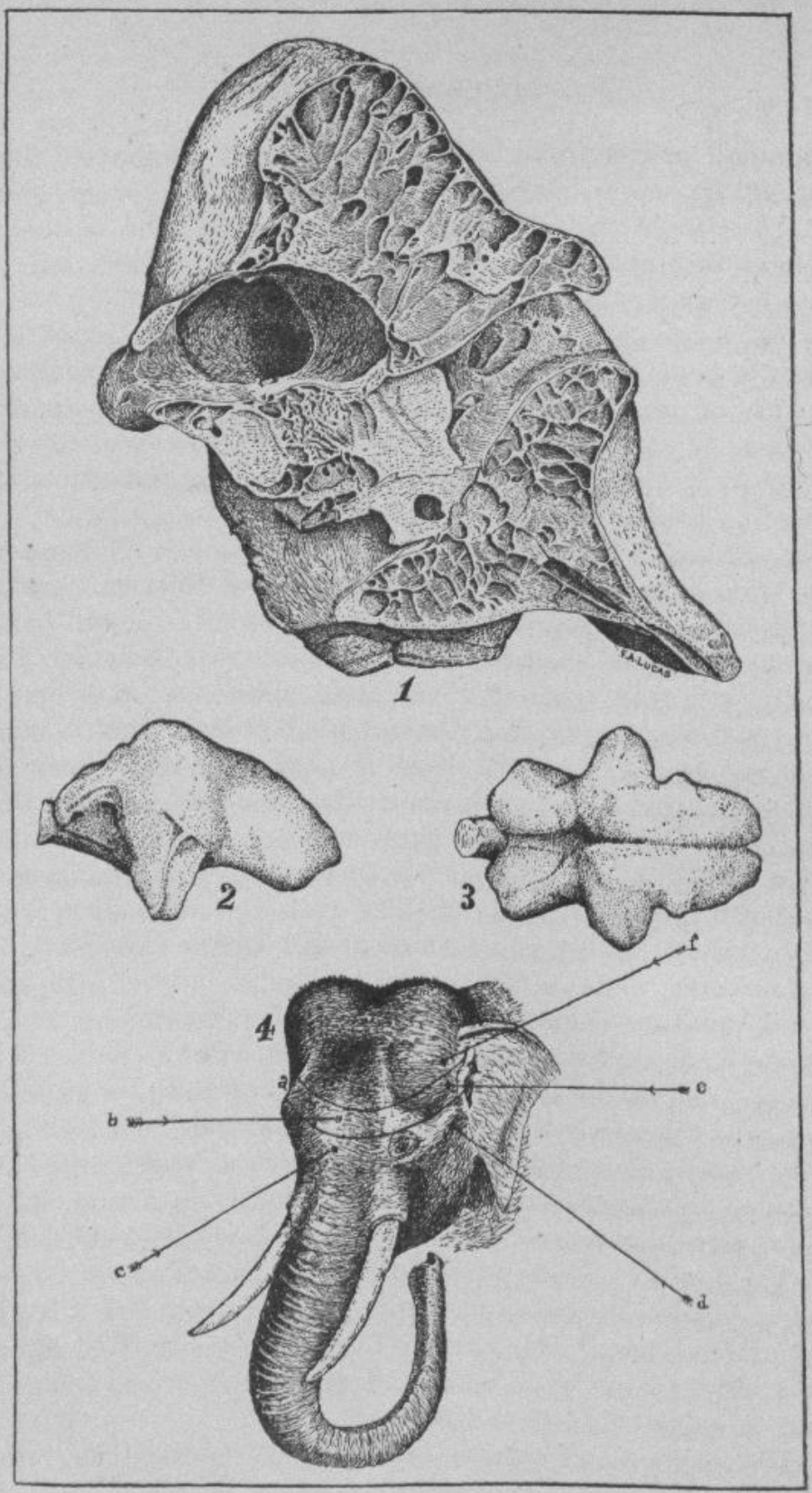
In examining a section of an elephant's skull we find that while the skull is of great size in order to afford an extensive surface for the attachment of the powerful muscles of the trunk and jaws, the brain itself is very small indeed, situated far back, and surrounded by such a huge, irregular mass of bone and flesh, that its exact position in the living animal is very hard for the novice to determine. The skull is really of great thickness, but it is composed of long, narrow cells perpendicular to the surface of the skull, some three to six inches in length, others small, irregular, and honey-comb like. The skull has really an outer and an inner wall of considerable thickness, between which lie these bony cells, separated from each other by walls of bone as thin as pasteboard. These cells all communicate with each other, and through the frontal sinuses with

* G. P. Sanderson.

the nasal cavity, so that they are filled with air only, and thus, while the skull is of great size, it is very light and buoyant in proportion to its bulk.

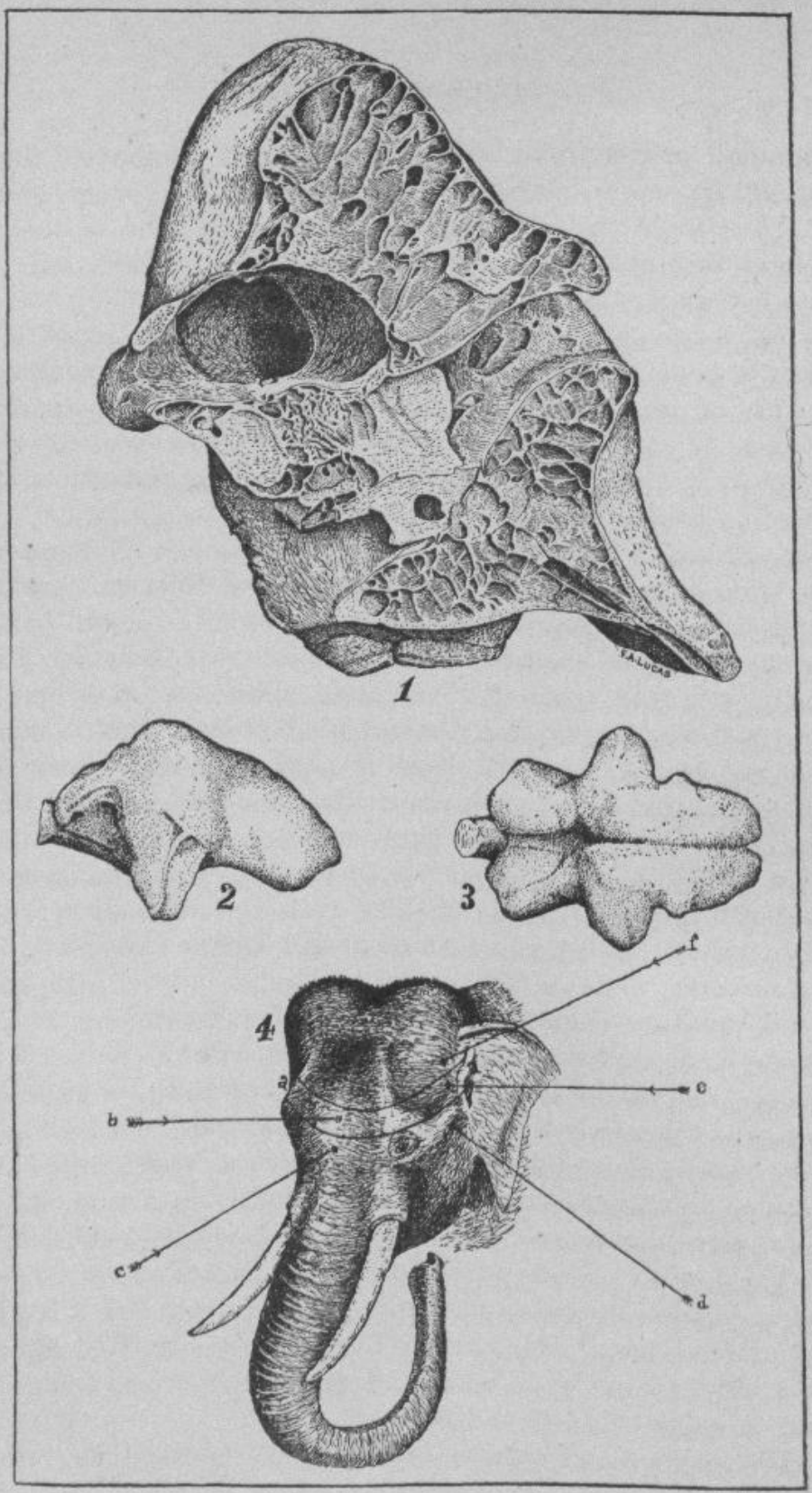
In the elephant we see an animal which very strikingly illustrates the perfect manner in which nature always adapts means to ends to secure the survival of the fittest, even under the most trying circumstances. He is possessed of a colossal body and head, joined by a neck so extremely short and thick that the head is almost a fixture upon the body. He cannot reach down to graze or drink, as all long-necked animals do, and so nature has provided him with a wonderful flexible proboscis six feet long, which is at once a powerful arm and hand, a drinking-cup, and a movable nose. The eye is very small indeed, placed far back upon the side of the head, and owing to the shortness of the neck and general unwieldiness of the head, the visual organ is almost a fixture upon his head, and its range of vision exceedingly circumscribed. His hearing is by no means acute, his sense of smell is also very deficient, and, taken altogether, he is easily approached in the forest. The most unskilful hunter can easily steal up to within ten feet of an elephant when he is feeding, provided there are no others near to discover him, and were the animal's brain enclosed in the same kind of a skull as that of every other terrestrial mammal, the most bungling hunter—or naturalist—could easily kill half a dozen elephants in a day.

But nature has not left this noble animal at the mercy of unskilful hunters. Instead of the thin, solid cranium wall which we see in the skulls of nearly all other land quadrupeds, a cranium which can be fractured by a blow or a bullet, thus producing death, a bullet may go crashing through those thin, bony cells, within two inches of the brain itself, and only cause the animal to run away much faster and farther than he otherwise would do. If the ball passes very close to the brain, the elephant may be stunned or knocked down by the concussion, but if he receives no further treatment he will quickly recover, regain his feet, and adios!—he is off, to recover entirely in a short time and live to a ripe old age, barring more serious accidents. The *Ceylon Observer* once gave an account of the death of a fine old male elephant near Trincomalee, whose skull showed the marks of twenty-three bullets, which had from year to year been fired into it by British naval officers hunting in that vicinity while their ships lay in the harbor. And yet the old fellow's serenity had not been disturbed sufficiently to



VIEW OF AN ELEPHANT'S SKULL AND BRAIN.

1. Section of an Elephant's Skull.—2. Side View of Brain.—3. Top View of Brain.—4. How to Hit an Elephant's Brain. *a*, *a*, Horizontal plane of the brain; *b*, Front head shot from same level; *c*, Front head shot from below; *d*, Temple shot from below; *e*, Temple shot from level of brain; *f*, Temple shot from above.



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frighten him away from his old haunts, for he frequented the same locality for several years. At last, however, a sportsman stole out one fine night in pajamas and slippers, found the battle-scarred veteran feeding close to the traveller's bungalow, and sent a ball into his brain, which ended his career.

Much has been written about the vulnerable points of an elephant's skull, and they are usually reckoned at two or three, but the fact of the matter is simply this: with a proper weapon, properly loaded, it is possible, nay easy, to reach the brain of an elephant from any quarter, side, or front, provided the animal is not charging you, and is not more than twenty yards away. When a gun will send a ball entirely through an elephant's head and out on the other side, even when fired through the thickest part of the skull, it stands to reason that one part of the skull will be as vulnerable as any other, and it makes no difference whether you fire at the forehead, temple, or ear, from above, below, or behind, so long as it is possible to get a fair, unobstructed shot. When an elephant is charging, the head is held high, the trunk tightly curled and thrown forward, so that the bullet must be sent through nearly two feet of trunk before even reaching the skull, a task almost impossible to accomplish with certainty and precision. The hunter must be perfectly familiar with the anatomy of the elephant's skull. Then, and then only, will he know at what point to aim in order to reach the brain. When on a level with his elephant's head the vulnerable point will be somewhere on a horizontal line drawn around the head from the ear-opening, three inches above the eye, and to the very centre of the bump in the middle of the face, which is really the base of the trunk and the nasal opening. When one is above the elephant, the vulnerable point will be above that line according to the height of the hunter's position, and when he is below him, it will be a proportionate distance below.

The brain of a full-grown Indian elephant is of very irregular, and almost indescribable shape, its greatest width being 10½ inches and extreme length 11. From the side, it is at best a difficult mark to hit, even when seen, and infinitely more so when hidden away in a mass of bone and flesh.

We encountered a herd of elephants the very day after we camped at Tellicul. We started out about noon to find elephants, if possible, and whatever else we could find in the way of mammals. We had not gone far when up jumped a fine stag sambur, a half-grown fawn, and a doe. The first two dashed away with the

speed of the wind before I could even raise my rifle, but the doe stopped short forty yards away, and for a full minute stood stock-still, staring at me in dull surprise and curiosity. I could easily have brought her down, but she would have been worthless as a specimen, and so we all stood there quietly and had a staring match with the doe, until she turned around and trotted off. The stag carried a fine pair of antlers, and we set upon his trail at once, hoping to come up with him in half an hour, at most. As we were hurrying along, we came to where that trail led across another of a very different description, and the trackers stopped short, pointed to it with broad smiles, and in low tones exclaimed, "Ani, sahib! ani!" or in other words, "Elephants, sir! elephants!" After examining the trail very carefully they declared that it was only four hours' old, and had been made by a herd of at least ten elephants. Without another word we turned off upon the elephant trail and followed it as fast as we could walk.

When travelling through the forest, going from one good feeding ground to another, elephants usually follow one another in Indian file, so that a whole herd leaves only a single trail; but that is a broad, well-tramped path, as plain and well-beaten as if a regiment of men had marched along in the same order. When it leads through tall grass there is a clear lane a foot and a half wide.

The trail soon led us into a marsh of mud, water, and tall, rank grass as high as our heads, and there the herd had scattered somewhat. The soft mud was tramped full of great, deep holes where their huge feet had sunk down, and they had fairly mown down the high grass, as they went along, leaving the marsh cut up into a labyrinth of lanes. A green hunter acquires a very wholesome respect for an animal which leaves a track sixteen inches in diameter and eighteen inches deep! But we crossed the marsh and entered the forest again.

The trail freshened rapidly from the first, and we had followed it for about an hour at a good pace, when suddenly we heard a clear, resonant trumpet note, coming from the forest on our right.

Tal-loo-ee!

It created a profound sensation, and instantly we turned off the trail and started in a bee-line for the old fellow who was doing the

trumpeting. He repeated it at intervals, as if to guide us, and we made the most of it. Soon we were near enough to hear the welcome "crack! crack! crr-rr-*rash!*" of the young bamboo shoots upon which the herd was evidently feeding. No sound can be more welcome to the ears of the elephant hunter. There was not a breath of air stirring to betray us, and a moment later we were crouching behind a huge teak-tree, in sight of half a dozen tall, arching, gray backs that loomed up above the bushes.

I now told four of the men to stay were they were, while Arndee and I pushed carefully forward. The weapon upon which I depended was a Westley Richards double muzzle-loading, smooth-bore No. 8 gun, weighing 9¾ lbs., belonging to my friend Theobald. Each barrel was loaded with six drachms of powder and a No. 10 round ball of pure zinc. Arndee carried my No. 10 gun loaded with hardened balls, and I rather flattered myself I could floor an elephant with that old gun if need be. At first my tracker led the way, and almost before we knew it we were in the midst of the scattered herd.

The herd contained about sixteen elephants, three of which were young tuskers, but there was one old patriarch who carried a splendid pair of ivories, and I instantly marked him as my own. Being wholly unused to such work, I was all impatience to make the attack at once, for fear the game would discover us and make off. But Arndee had seen a good many elephants killed, and he forcibly prevented my bringing matters to a crisis at once, telling me by signs and looks to "keep cool and take my time." I obeyed him, and for fully half an hour we skulked around and through that herd, trying to get a sure thing on that old tusker.

The forest was quite open, with only a little underbrush here and there, and we could easily see an elephant a hundred yards away. Often we were within thirty yards of an elephant, and several times we crouched down in plain view of two or three. I was amazed at their neither seeing nor scenting us. They were feeding quietly on a hill-side, wandering all about, utterly unsuspicious of danger.

Now stand here with me and watch that lordly old tusker who is coming this way. See how lazily and leisurely he saunters along, swinging his huge trunk from side to side, until he comes to a thick clump of bamboos. He surveys the clump for a moment with his queer little brown eye, and sees in the very centre of it a soft and juicy young shoot, which looks very much like a huge stalk of aspar-

agus, twenty feet high. Slowly and deliberately he forces his way right into the clump, and reaches inward and upward with his trunk until he gets a turn of it around the coveted young shoot. Now he quietly backs off a few steps, and the twenty-foot stem totters, cracks, and comes down with a tearing crash. Quietly placing his huge fore-feet upon the prostrate stem he crushes it into fragments, winds a soft, juicy piece of it up to his mouth, and begins a measured "champ! champ! champ!" which tells us he is wholly unsuspicious of our presence.

At last the elephants began to move off, quietly browsing as they went, and I saw that I must bring matters to a crisis at once. Four of them started off down the hill, the old tusker in the rear, crossed a nullah and entered a thick bamboo jungle on the other side. I sneaked along behind my old tusker within twenty feet of his tail, until at last the leading elephant turned off to the right, and I saw that they were all going to pass quite close to an unusually large clump of bamboos. I quickly made a detour to the right, almost crawling upon hands and knees, and was soon crouching motionless behind it. When the third elephant had sauntered past me I quietly took my position at the further side of the clump and waited for my old tusker. Slowly he pushed past the thorny tangle and came into view. I knelt there with the old smooth-bore at my shoulder, in plain view of the old fellow and only fifteen feet away, but I never moved a muscle and he did not twig me! I never felt more certain of killing a robin than I did of flooring him the next moment. Taking a steady, careful aim at his ear-opening, I fired, and sprang behind the bamboos to be out of his way when he fell. Horrors! Instead of coming down with a grand crash, as I expected, he threw his trunk aloft, gave a thrilling shriek and rushed off through the forest, trumpeting as he went. My shot had been a failure and a glorious chance was lost. But why? Or how? I could not understand it, and could scarcely believe it was a fact.

Of course my shot alarmed the entire herd and set the elephants running in all directions at first, during which time I executed a series of lively dodges to keep from being seen, and also to keep from impeding the progress of any elephant who might be running away. A hunter who is quite surrounded by elephants, and alarms them all by a shot, is often in great danger of being run over accidentally when the herd makes its first startled rush. In a moment or two the elephants all got together and started off, after which the forest was still as death. We followed them until nearly night, without

success, of course, and returned home in disappointment, wondering why my shot had failed to hit the brain. I see now, that on account of my kneeling as I did, my bullet passed quite above the mark. Had I aimed ten inches lower, it would have done its work.

The next morning at daybreak we set out fully equipped for cutting up an elephant, and took up the trail where we abandoned it the evening before.

While following it up, we started quantities of game, but dared not fire, not knowing how soon we might come up with the elephants. We saw troop after troop of black monkeys, seventeen gangs in all that day, and a number of great horn-bills (*Buceros bicornis*) flying overhead. Out of a patch of low underbrush we started a sounder of wild hog; and farther on, a solitary old bull bison feeding upon a hill-side, saw us, gave a snort like a steam-engine, and dashed heavily away. Later in the day we came upon a herd of axis deer feeding at the edge of a glade, and I could not resist the temptation to fire at a buck. I crept up to within sixty yards of him, rested my rifle upon a log, fired at him as he stood broadside—and never touched him! He did not even jump. Before I could recover from my astonishment and reload my rifle the herd quietly trotted off. Verily

> "All hits are history,
> All misses mystery,"

but this new humiliation was very discouraging.

We followed the elephant trail until it crossed the Teckadee River and entered the Government Leased Forest, where we had no right to follow it, and then went home in disgust. On the way home we saw a sambur, but could not get a shot at it, and thus ended a day of disappointments.

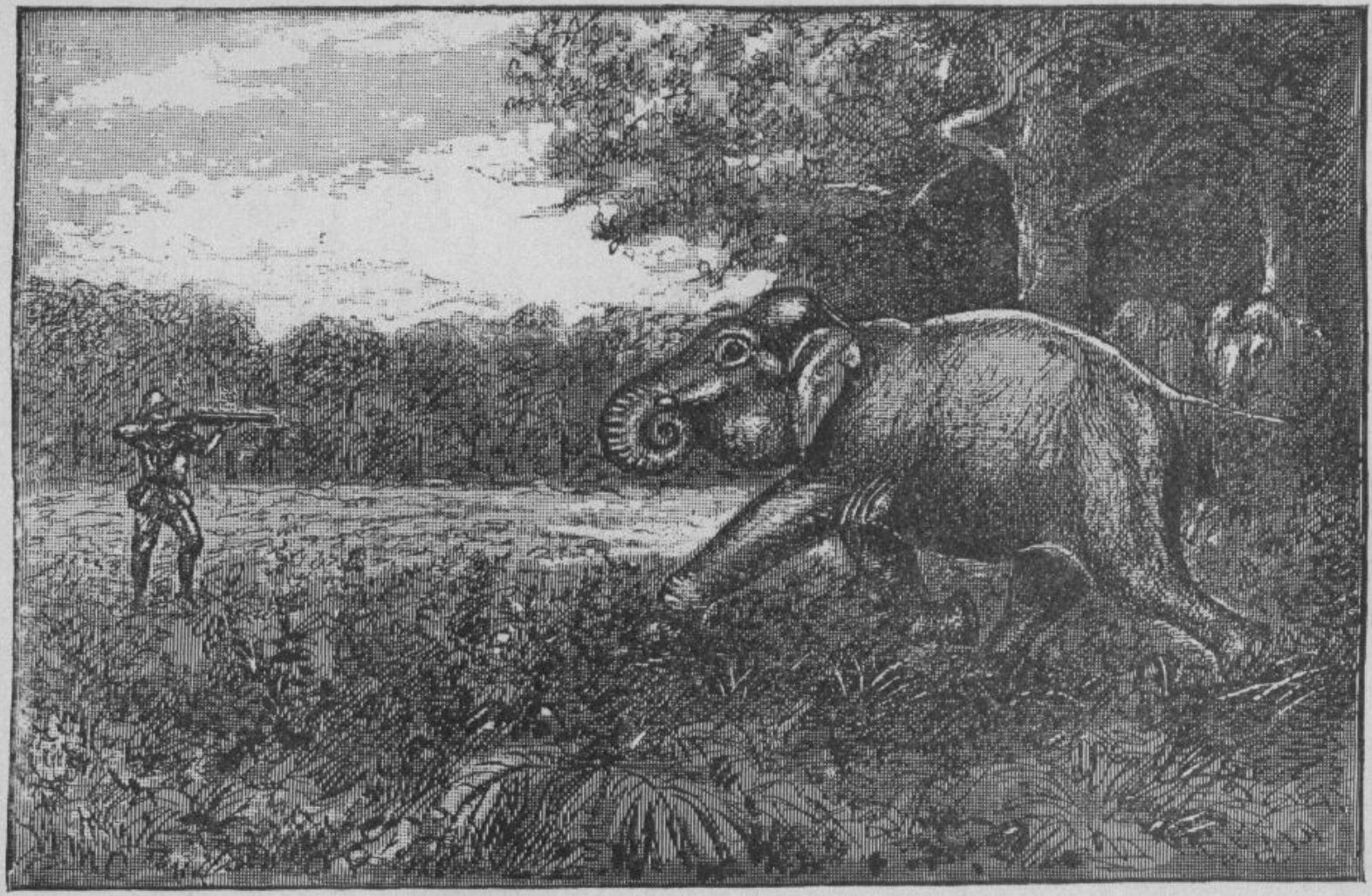
For the next four days I had fever. My cook and interpreter, Michael, also came down with it, and declared that unless sent home at once he would die. I doctored both him and myself with quinine so successfully that in a few days the fever was broken, and we were once more able to work. Every day it rained from two to four hours, and the forest was very dark and damp.

Eight days after the above fiasco, I had another experience of rather a different nature, and was considerably scared by an old cow elephant who took it into her head to run me down. The moment of danger in hunting a dangerous animal is when it "charges" the hunter, as the saying is, at which time nothing but the hunter's

steadiness and presence of mind can save his life. It is enough to make any man shudder and turn pale to see an infuriated bear, bison, tiger, or wild elephant rushing down upon him to tear him in pieces or crush him to a jelly. Then the rifle must not miss fire nor the bullet fail to do its work in time. The charge must be stopped, or the hunter goes down. It is a very difficult matter to kill an elephant when in the act of charging, but a well-planted shot will turn him aside and make him glad to run away.

On that particular day my gang and I tramped about five hours through a drizzling rain, and finally overtook a herd of elephants, which we found to our disappointment contained no tusker at all, only females and young males. One of the females, however, had a cute little calf at her side, in which I soon became deeply interested. He was a cunning little rascal, only about three feet high, as demure and consequential as any pigmy could well be, and, hiding safely behind a large tree, I watched his movements for some time. His hide was smooth, shiny, and of a dark brown color, almost black it seemed at first. He wandered all around his colossal old mother who caressed him occasionally with her trunk, and occasionally he stood directly under her body, swinging his little trunk and tail from side to side just as naturally as the older elephants. A wild elephant is never still a moment when awake, swinging first one foot and then another, and both trunk and tail almost constantly. I never saw a more demure and cute looking animal than that absurd little elephant, and I fairly ached to steal up and grab hold of his trunk, and have a tussle with him.

I knew very well that, like most wild animals, the female elephant is very suspicious and dangerous when she has a young one to protect, but in watching that little calf for a good half-hour at a distance of only forty paces, I must have grown rather careless. The herd was huddled together in a thick clump of small trees, and my men were hiding near me, waiting patiently for the sahib to see all he wanted to see. At length the little baby elephant wandered off to the other side of the herd from me, and I determined to work round to that side also. Immediately around the clump of trees which sheltered the elephants, the ground was level and the cover very thin indeed. I saw that to reach the other side of the herd I would have to cross a small patch of open ground; but I thought the elephants would not notice me if I crouched low and went very slowly. Moving back a few paces I started to make the circuit, crouching almost to the ground, but keeping a careful eye



CHARGE OF A FEMALE ELEPHANT. *(From a sketch by the Author.)*

upon the herd. Just as I reached the middle of that small open space, I heard a profound rustling among the thick branches that screened the herd ; in another instant the branches parted suddenly, and a huge old female came rushing down upon me.

She had sufficient distance to get under full headway, and although my breath stopped and my heart stood still with sheer fright, I yet realized she was the grandest living object I ever saw—and the most terrible. Her head was held high and her trunk curled up under her mouth to be uncoiled when within reach of me, I suppose ; her ears seemed to stand straight out from her head with the tips curled forward, and the strides of her massive legs were perfectly enormous. Luckily she came on in dead silence, or I should have been frightened out of my wits. As it was, I felt as if I was going to be run over by a locomotive. I knew it was useless folly to run, for in a few strides she would have been upon me. When I saw her coming I stood up quickly and faced her, threw my gun up to my shoulder and fired both barrels, at the base of her coiled-up trunk in the direction of the brain. She was within fifteen paces of me when I fired, but the thundering report, the smoke, and two zinc balls crashing into her skull close to her brain, stopped her charge, for she sheered off suddenly and rushed into the forest, trumpeting shrilly once or twice. Directly there was a grand crash and a rush in the thicket as the herd broke away and started off, and that was the last we saw or cared to see of it.

Then I had time to reflect upon what "it might have been" had my caps failed to explode, or my powder been damp. Once when walking on a railway track in a snow-storm, I was very nearly run over by a locomotive coming down a grade in muffled silence, and my sensations then were precisely the same as when that old female elephant came charging down that grassy slope. The approach of the powerful machine and the living monster seemed exactly alike.

CHAPTER XIII.

MONKEYS, BEARS, AND ELEPHANTS.

The Black Langur.—Monkey Shooting.—A Startling Cry.—Absurd Encounter with Three Bears.—A Stern Chase.—Death of Number Two.—A Woful "Slip 'twixt cup and lip."—Surprise Number Two —The Old Bear Dies.—Habits of the Species.—A Typical Elephant Hunt.—Hunters Hunted.—Wonderful Manœuvring of the Elephants.—A Stealthy Retreat.—A Double-barrelled Attack.—"Shavoogan!"—Panic-stricken Hunters.—Failures, Fever, and Scarcity of Food.

From the day we entered the forest we began to collect specimens of the black langur (*Semnopithecus cucullatus*), which actually swarmed in the tree-tops wherever we went. We often saw more than a hundred and fifty in a day, and had we desired, might easily have killed fifty every week. They are usually found in troops of five to ten individuals, and are very noisy, uttering a most diabolical cry which can be heard a mile in the densest forest. Often when out hunting with my gang, stalking like silent shadows through the forest, every eye and ear keenly on the alert to detect the presence of large game, we would be suddenly startled by hearing exploded thirty feet above our heads, a terrific guttural "*wah! wah!! wah!!!*" followed by a loud "a-*hoo*-oo-*hoo*-oo-*hoo*-oo," making the forest ring. On looking up we would see a jet-black face encircled by a ring of long, white hair, grinning and making faces at us from the fork of a tree. The moment we raise a gun the whole troop starts up, and the branches are alive with leaping and climbing black forms, each of which tries to make the quickest time on record in getting out of range. Once fairly started, they go galloping off through the tree-tops so fast that we have hard work to keep in sight of them, and mark down the largest one when he stops. But after about two hundred yards or less the flying column calls a halt to rest, count noses, and see how we below are getting on.

As we hurry up, rifle in hand, my swiftest-footed Mulcer stands there with a long, bare, black arm, pointing upward into the top of a hundred-and-twenty-foot blackwood tree, and we begin to peer and dodge about to catch a glimpse of the largest monkey in the troop. All the men gather round the tree and peer and point, and try to show me just where he is. At last we see his head, and a pair of black eyes staring stealthily down at us. The rifle is up in a second, and we are about to pull the trigger when adios!—the monkeys are up and off again, and the chase begins anew.

The very same performance is repeated again, and perhaps two or three times more, the monkey running away just as I catch sight of him and raise my rifle. But at last he waits a little too long, the rifle cracks, the monkey starts up violently, clutches desperately at the branches around him, loses his balance, and with outstretched legs and arms, the big, black body comes flying down through space without touching a single limb to break his fall, and strikes with a terrific thud upon the earth. We naturally think such a fearful fall has broken every large bone in his body, but we find only a humerus, or perhaps a femur snapped in two. If he is not dead, or likely to die quickly, I take from my shot-bag a knife with a very slender blade, thrust its sharp point into his occiput, give it a slight turn and presto! he is dead. Then the Mulcers peel a long strip of bark from a tree near by and tie together the legs of *Semnopithecus cucullatus*, sling him under the pole with the deer or other small game and we start on.

It would seem that this black langur utters his diabolical cry at any animal of which he is particularly afraid, and it is well known that a troop of them will sometimes follow a tiger for some distance, hooting and swearing at him just as they did at us. The whereabouts of a tiger has often been discovered in this way, for instead of running from him they follow him up. After the explosive "wah! wah!" the remainder of the cry is continuous, every alternate syllable being produced by drawing in the breath, so that the sound is very much like that made by sawing an empty barrel in two. Many times the startling cry above our heads, and so very near, has caused us all to jump and involuntarily grasp our weapons, causing much amusement afterwards. At such times it always seemed to me that the monkeys were swearing at us, and the fiendish expression of their faces strengthened the belief.

From first to last I shot about forty-five langurs, out of which I got twenty skeletons and eight skins. The tree-tops were so lofty

I was obliged to shoot them all with my rifle, and in order to get a skeleton having no broken bones, I had to shoot one monkey through the head and take its body and legs, and shoot another of the same size through the body for the sake of its skull. The Mulcers ate the flesh of every one I killed, and had it not been that deer were plentiful I should have been tempted to try it myself.

The black langur is a very handsome monkey. The fur is fine and glossy, black throughout, except that the head and nape are gray or grayish brown, the face is encircled by a ring of long gray hairs, and in old individuals there is a large gray patch on the rump. The largest of my specimens measured, head and body, 29 inches, tail 37 inches. But this was a giant in comparison with all the others, a good sized one being, head and body 23 inches, tail 35, and weight 23 pounds, which should be set down as the average size of this species.

One morning when out looking for elephants, we had a rather amusing adventure with a party of bears. We had tracked down and killed a sambur, but unfortunately it was too young to furnish either skin, skeleton, or skull, and so the game fell a prey to the Mulcers, who joyfully cut it up and loaded themselves with the flesh, while I looked on in disgust. On the way home we were strolling stupidly along in Indian file, utterly listless and inattentive, when, happening to cast my eyes to the left, I was amazed at seeing three black bears loping slowly along, one behind the other, and only thirty yards away. They were going to cross our path, and had we all been a trifle more stupid, we would have actually come into collision. The bears were wholly unaware of our presence and so were all my men of theirs' until I awoke the whole crowd by throwing up my rifle and firing at the largest bear.

Directly there was a terrible uproar. The bear fell to the ground, howling and bawling with all her might, while the other two pitched right upon her, snapping and snarling viciously, and all three yelling in concert. I had a rubber blanket tied around my shoulders to keep off the rain and the fever, and owing to my encumbrance and sudden excitement, I made most awkward work in getting reloaded. The wounded bear tried her best to charge us, although I saw her spine was broken, and as quickly as possible I gave her another bullet through the shoulders, which seemed to satisfy her rather better. By the time I had again reloaded, the two unwounded bears had taken in the situation and started up the hill as hard as they could go. A hundred yards away they

stopped, and one stood up on his haunches to have a good look at us. I fired at the yellow crescent on his breast, but missed, and on they went again.

Telling Arndee to come on, I started after them, throwing away my hat and rubber blanket as I ran. We could see the low bushes shake a hundred yards in advance of us, and occasionally we caught a glimpse of a black form, but could not get a shot. We crossed the top of the ridge, ran down the other side and found the bears were gaining on us. We crossed the ravine at the foot of the hill and started up the other side, which was very steep and in places thickly overgrown with brush and clumps of bamboo. Near the top of the hill we came to an unusually thick patch of underbrush, in which we heard the two bears grumbling and swearing as they paused to rest a little. Keeping a sharp lookout, we soon sighted a glossy black form, at which I fired.

Evidently the shot took effect, for directly one of the bears set up a terrible bawling, and came rolling end over end down the steep slope, clawing right and left, and yelling "bloody murder" at every tumble. He rolled down to within twenty feet of where we stood and finally lodged in a clump of bamboos, where he remained motionless and quiet. Arndee exclaimed that "he was dead;" I thought so too, and so we started on after bear number three.

We found his trail at the top of the hill and followed it a little way, when I discovered that my head was aching and throbbing terrifically, so we abandoned the pursuit and went back to bear number two. We reached the spot, but lo and behold! we beheld not the bear. He had evidently concluded, on thinking the matter over, that he was not quite dead enough to skin, so he had picked himself up and gone off about his business. He left a few "foot-prints on the sands of time," and a drop of blood here and there, but that was all. We followed his trail for a mile or so, abandoned it finally in disgust, and went back to the scene of our first encounter.

We expected to find the dead bear, four Mulcers, and my cast-off garments all there together, but to our utter amazement we found none of them! The whole affair began to look like a dream, but while I was trying to study it out, Arndee found where the old bear had gone off, dragging her hind-quarters,—and my gang had loafed off home. Vowing vengeance on those heedless rascals we started to follow up the broad and bloody trail left by our wounded quarry.

Going up a brushy hillside close by, we came suddenly upon her, and were within twenty feet of her before we knew it. She saw us first, wheeled around and came charging at us, *dragging her hind-quarters*, jaws wide set and eyes glistening, while her angry growls told us she was desperate and meant mischief. Arndee shouted a warning and vanished, but I stood still until she got within ten feet of me, then fired at the centre of the yellow crescent on her breast, which shot finished her.

This specimen was an old female (*Ursus labiatus*), no doubt the mother of the two smaller bears; but, unfortunately for science, she had been living in a rocky cavern which had a very low front door, for the hair was worn off her back until the skin was quite bare. She furnished a fine skeleton, however.

The Indian black bear inhabits all India south of the Ganges, and also Ceylon. It lives chiefly in rocky caverns and fissures and feeds upon ants, both black and white, the larvæ of certain longicorn beetles which it forcibly sucks out of the ground, and various fruits, especially that of the mohwa tree (*Bassia latifolia*). Like our American bear, this Indian species is very fond of honey. During my hunting on the Animallais I never came upon any other bears than those mentioned above, but Mr. Theobald has killed a good many there. *Ursus labiatus* is found in many other parts of the Madras Presidency, viz.: the Neilgherries, the Shervaroy Hills, Pulneys, the Wainaad, and also in Mysore.

In due time another herd of elephants visited our forest, and we lost no time in hunting it down. The trail led us a merry-go-round of between twenty-five and thirty miles before we came to the end of it. Taking it up in our forest, it led out of that across the Teckadee River into the Government Leased Forest, made an immense circuit in that and recrossed the river again. Presently it led once more out of our forest, across another river, and this time entered the native territory of Cochin. We hoped the herd would recross the river higher up, and once more enter our hunting-grounds, so we took off our clothes for the third time that day, waded the river and kept on. Up hill and down the trail led us, through wet marshes, open glades, and dense forest, the signs growing fresher every mile, but still it went farther and farther into Cochin. At last, as it led us up a very steep and very slippery mountain-side which fairly took our breath away, I vowed we had fairly and squarely earned one of those elephants, and we were going to have it, too! The fine for shooting an elephant in Cochin

was even greater than for the same offense in the Coimbatore District, but we wanted an elephant terribly. We started our game in our own forest, and being thoroughly excited by the chase, we determined to kill an elephant out of that herd if possible, and risk the consequences.

We gained the top of the mountain at last, and then Arndee declared that the elephants were a great way off yet, it was a long way back to camp, and we had better abandon the chase. I said "No," very decidedly. The men started on, grumbling as they went, and in less than ten minutes more we sighted the herd! There was a very fine tusker in it, but he was feeding in a bit of open forest, and it was impossible to stalk him successfully.

Before we were aware of it, Arndee and I had walked into dangerous proximity to a group which included three female elephants and two calves. Out of a thick patch of underbrush, forty yards from us, there came up the end of a huge trunk with the tip bent in our direction. Then another trunk came up, and sniffed the air suspiciously, first in one direction and then another. Presently a movement was made in our direction, and two of the elephants emerged from the brush and stopped short, scenting the air in every direction. Arndee and I shrunk our bodies up as small as possible and cowered closely behind the foot of a tree, while I cocked both barrels of my gun and made ready to meet a charge.

For fully four minutes—a very long time under such circumstances—those two elephants stood there within twenty-five paces of us, listening intently, watching every object, and scenting the air very suspiciously, actually trying to discover where we were. They knew we were somewhere near them, and they deliberately searched for us to attack us. Every moment we expected to be discovered and charged by both the elephants, which would have been disagreeable, if not fatal. At last, one of the pair started straight in the direction of the other men, who had climbed trees, fifty yards off. When the elephants started for them, Arndee made a frantic signal with his arm, and the Mulcers went on up like squirrels. The old scout walked directly under them, then turned and came back, and during this diversion Arndee and I lost no time in beating a safe retreat. In returning, he came directly to the spot where we had been concealed, paused, and stood motionless as a statue for about two minutes, then quickly but noiselessly vanished in the thicket, and all was silent.

We moved up again and waited to see what the herd was going to

do next. Not a sound was heard for some minutes, not a movement seen. At last we stole up cautiously, and to my utter amazement I found that the entire herd had taken the alarm and stolen off through the thick undergrowth, without making a single sound that we could hear at a distance of fifty yards! Not a rustle, not a broken twig, nor a noisy footfall.

I was really amazed at this exhibition of sagacity and almost military manœuvring. We saw them deliberately

1. Reconnoitre dangerous ground by sending out scouts and spies.
2. Communicate intelligence by signs, or sign language.
3. Retreat in orderly silence from a lurking danger; and
4. March off in single file, like the jungle tribes of men.

How different was this stealthy, noiseless retreat from the wild stampede which follows an open attack, in which the crashing and tearing through the jungle is at first appalling. This time the foe was still in ambush when discovered, and the order signalled was, "Retreat in silence and good order."

And yet there are intelligent people who believe that none of the lower animals are capable of reasoning.

I have often been led to admire the perfect silence in which the elephant goes through the densest jungle, particularly when fleeing from an enemy. The sambur goes tearing through the forest when alarmed, smashing dry twigs and galloping over the ground with so much noise that he can be heard more than a quarter of a mile away; a herd of bison makes the earth fairly tremble during its first burst; but the lordly elephant, largest of all terrestrial mammals, glides away like a gray shadow, without breaking a twig, or scraping against a bough. His foot is like a huge, india-rubber car-spring, and is literally shod with silence.

Upon finding the elephants had decamped, we immediately made after them, and in half an hour came suddenly upon them, feeding quietly in thick underbrush. By great good luck the old tusker was nearest us, and facing in our direction. Without a moment's delay, I crept up in front of him, hid behind a tree considerably smaller than my body, and at a distance of twelve paces waited in anxious suspense for him to face me a trifle more fully. Presently he swung around just right, and presented as beautiful a front head-shot as any hunter could possibly ask or obtain. I fired instantly, both barrels of my No. 10 with twelve drachms, aiming at the base of the trunk in the centre of the face. The gun kicked

fearfully, nearly knocking me over, and I thought it had killed both the elephant and myself, but to my disgust I found it had done neither. The elephant wheeled around, and in doing so fell upon his knees, but while I was recovering from the stunning effects of my shot, he regained his feet and made off slowly and in silence.

Wiping the tears from my eyes and the blood from my nose, I started after him as fast as I could run, reloading as I went. At every new turn I expected to come upon him lying dead, but somehow I didn't. We were sure of having him down within an hour, and as we went puffing up that steep mountain-side, I planned just how we would skin and skeletonize him and get his remains to the nearest road. We were pushing along at our best speed, all excitement and eagerness, determined to bring down that elephant before we stopped, no matter whether he ran one mile or twenty, when suddenly we heard, "Hi-*yoh*-ho!" shouted out loud and clear a quarter of a mile directly ahead of us.

At this clap of thunder from a clear sky, we stopped dead short and looked at each other. "Hi-*yoh*-ho!" Again and much nearer! The men turned almost pale with fear, and with one voice exclaimed in a most tragic stage-whisper, "*Shavoogan!*"

It was the only time I ever saw those rascals really terrified. Without another word, they wheeled about, turned off the trail and fled down the mountain at full speed; of course I followed to see that they all got safely back to camp. We went down the steep slope about six feet at every step, fleeing in dead silence from that terrible "Shavoogan," whatever that was. We went as though the great dragon was close behind us, and never paused a moment, nor uttered a word, until we were at least three miles from that awful "Shavoogan." Then we enjoyed a laugh at our own expense over the sudden and ludicrous manner in which the tables were turned upon us.

I need scarcely add that that elephant escaped, or that we did also, and that I added another word to my Tamil vocabulary. "Shavoogan," is the Tamil word for "watchman" or "peon," and the one we heard belonged to the service of the Rajah of Cochin.

To my dying day, I shall never understand how I failed to kill that elephant in his tracks. I had a fair shot, had done my very best and failed, and was therefore at my wit's end. Such failures as that and my first one are, of all others, the most disappointing and discouraging. I had done all I knew how to do, and what

could I do more? Those were the bitterest failures I ever made in hunting.

During my first six weeks in the hills, all circumstances seemed to combine against me. Several times we found the fresh tracks of elephants, and followed them diligently for several hours, only to find where the trail crossed over into the Government Forest, where we had no right to follow. It seemed at last as if the elephants knew that when we got after them, they had only to cross the Teckadee River to get beyond our reach, and finally we almost despaired of ever coming up with elephants in our forest.

During all this time I devoted myself almost exclusively to elephants, killing no other game of any consequence, save enough deer and sambur to supply the camp with meat. Indeed, I fired as few shots as possible to avoid frightening away the larger kinds of game, particularly the elephants. I had had two glorious chances, and each time failed to kill, although I had done my best. In fact, I was trying to shoot an elephant according to the recipe given me by my friend Theobald, and it was uphill work. Every week or ten days I had an attack of jungle fever, but it was always of the mild, intermittent type, and after about three days I would have it broken up with quinine, so that I could go hunting every day again until it returned. Several times the fever came on me when out hunting, several miles from camp, and I would have to crawl back as best I could, with my head throbbing like a steam-engine. My remedy for the fever was ten grains of quinine dissolved in half a wine-glassful of clear brandy, taken two or three hours before the fever was expected, then the same dose morning, noon, and night, until once more able to travel.

My provisions became exhausted all too soon, and I came down to plain bread, rice, and venison, with a potato now and then, by way of luxury. My cook was a failure at making curry, that "dish fit for the gods," without which India would be uninhabitable for either natives or Europeans. Being heavily handicapped on curry, I had to live upon deer and sambur tongues, with venison steaks and roasts by way of variety, and dry boiled rice. Once a week Mr. Theobald and I sent a coolie to Coimbatore (50 miles), for a basket of bread, but by the time the loaves reached me, they were always mouldy. A dozen bananas or potatoes were a positive treat, so scarce were fruit and vegetables during that long period of semi-starvation. After a while, there came upon me an intense craving for vegetables, which could only be satisfied by Crosse & Black-

well's mixed pickles. But I cared very little about my inner man during those days; and, as nearly as could be possible, he was left to take care of himself.

After my second failure at shooting elephants, I determined to hunt smaller game for a time, and give that persecuted animal, as well as myself, a rest. Very soon after this my luck took a turn for the better, which now makes it necessary for me to say something about tiger-hunting.

CHAPTER XIV.

A TIGER HUNT.

Tigers.—The Game-killer.—The Cattle-lifter.—The Man-eater.—Reign of Terror.—Eight Hundred Victims Annually.—Modes of Tiger-hunting.—Howdah Shooting.—Machan Shooting.—Shooting on Foot.—An Impromptu Tiger hunt.—The Trail.—A Light "Battery."—The Game Overhauled.—A Good Shot.—Death of a Superb "Game-killer."—Dimensions and Weight.—A Proud Moment.—Struggle to Preserve the Skin.

ACCORDING to their habits in procuring their food, tigers are divided by the people of India into three classes.

The least harmful is the "game-killer," who lives in the hills and dense forests where wild game is abundant, and leads the life of a bold, honest hunter. He feeds chiefly upon deer and wild hog, and so long as he remains a game-killer he is a real blessing to the poor ryots, who have hard work to protect their crops from the droves of deer and wild hog which sally forth from the jungle at nightfall to depredate upon them. But the trouble is, there is no knowing when this striped sportsman will take it into his head to try his teeth and claws on cattle or men: in fact, he is not to be trusted for a moment.

The "cattle-lifter" is a big, fat, lazy thief, too indolent to pull down fleet-footed wild animals, who prowls around the villages after nightfall, or the edge of the jungle where the cattle are herded, and kills a bullock every four or five days. The annual loss to the cattle owners whose herds are thus preyed upon by the cattle-lifter, is very great for poor natives to bear, since each tiger destroys in a year, cattle worth at least four hundred dollars.

But even the most greedy cattle-lifter sinks into insignificance in the presence of the fierce "man-eater," the scourge and terror of the timid and defenceless natives. Until a tiger has once had his fangs in human flesh, he has an instinctive fear of man, and unless attacked and brought to bay will nearly always retreat from his presence. But with his first taste of human blood that fear

vanishes forever. His nature changes, and he becomes a man-eater.

Tigers who prey upon human beings are usually ex-cattle-lifters, who, from long acquaintance with man have ceased to fear him, and find him the easiest prey to overcome and carry off. A large proportion of the man-eaters are mangy, superannuated, old tigers or tigresses, whose teeth and claws have become blunt with long use, and who find it too great an exertion to kill and drag off bullocks.

The presence of a man-eater causes a perfect reign of terror in the district which he frequents, which lasts until he is slain. It is almost invariably the case that the brute confines his operations to a few square miles of territory, and perhaps a dozen villages, so that each one becomes a walking scourge whose form, habits, and foot-prints become thoroughly known to the terrified villagers. At first, perhaps, he carries off a herdsman instead of a bullock, by way of experiment, and soon after an unlucky woodcutter at the edge of the jungle shares a similar fate. Finding that he can easily and with perfect safety kill men, he gradually becomes bolder, until finally he enters the villages after nightfall and seizes men, women, and children from off their own door-steps. No one is safe save when in his house with the door shut and barred. The herder no longer dares to take his hungry herd to graze in the jungle, and for the woodcutter to go forth to his task in the forest, would be to literally walk into the jaws of death.

The man-eater may be seen in the evening near a certain village, and before morning carry off a man from another five miles away. No one can say that he will not be the next victim. When the people go to sleep at night the last thing they think of is the man-eater, and he is first in their thoughts when they awake in the morning. It is a horrible feeling to live in constant fear of being suddenly pounced upon by a big, hungry, wild beast that can carry you off in his jaws and eat you up clean at one meal.

But, thanks to English sportsmen, improved fire-arms and the liberal rewards offered by the Government, man-eating tigers are now rare compared with what their numbers once were. It is not now possible for a single tigress to cause the desertion of thirteen villages, and throw out of cultivation *fifteen square miles* of territory, as once occurred in Central India ; nor for another to kill one hundred and twenty-seven persons before being laid low. And yet, in spite of breech-loading rifles and zealous British sportsmen,

poison, and pitfalls, the man-eaters still devour over eight hundred human beings in India every year.

The tiger inhabits all India from the Himalayas to Cape Comorin, and is hunted in three different ways.

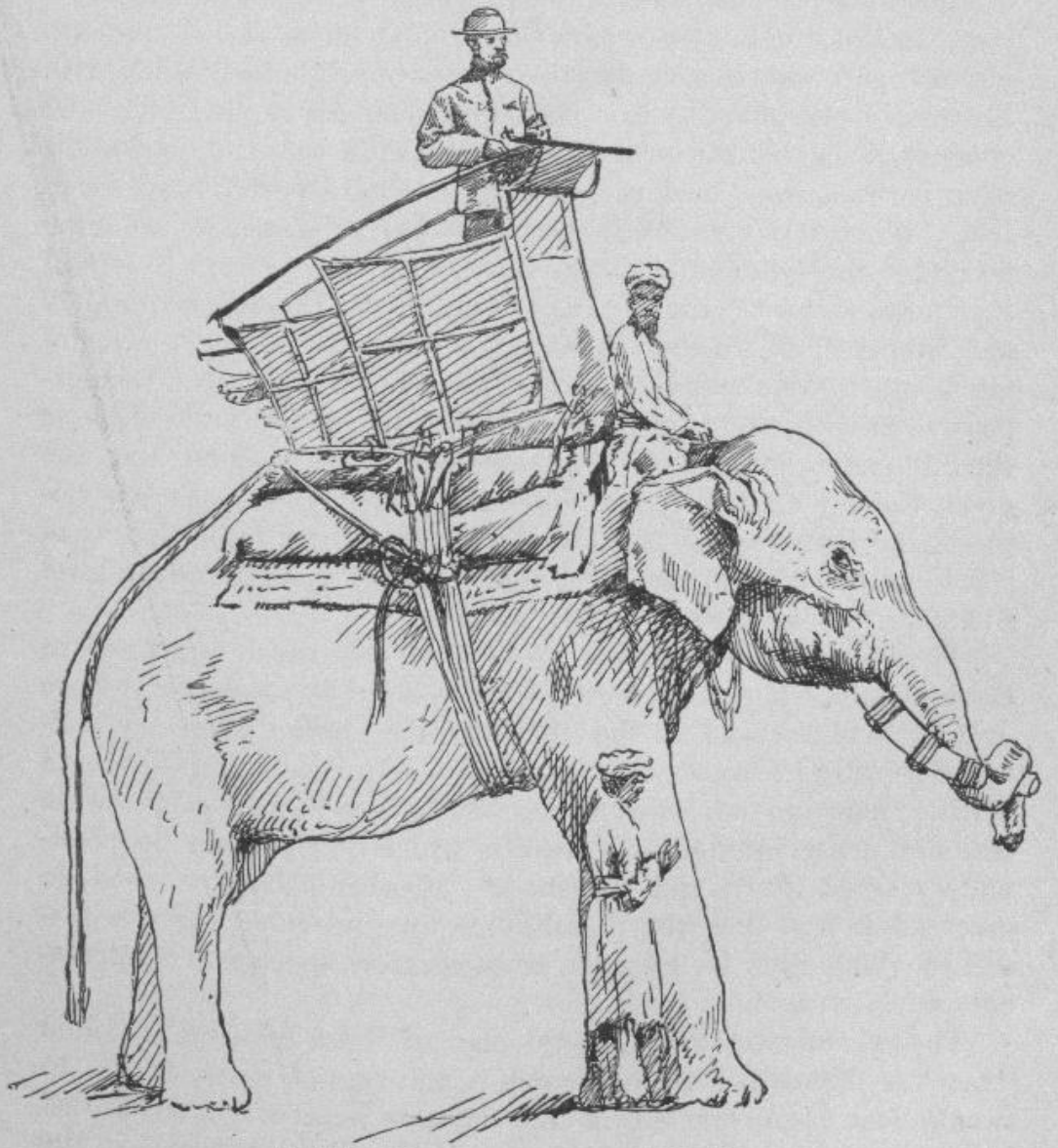
The first, the best, and most interesting plan, is howdah-shooting. In this, the hunter is perched on an elephant's back, high up out of harm's way, in a comfortable square box called a howdah, with his weapons and ammunition placed conveniently around him. Of course the elephant is managed by a mahout, who sits astride his neck with an iron goad in his hand, a very exposed position, in fact. When it is possible, a large number of elephants are mustered for the hunt, to assist in stirring up the tigers. Now and then a grand party is made up of four or five English sportsmen, and twenty or thirty elephants; and perhaps five or six tigers and much other game may be killed in a week. But this is a very expensive method, and cannot be practised except by the wealthy or the influential few. This is an eminently safe method, too, the greatest danger attending it being the running away of one's elephant and the wreck of the howdah. Ladies often attend hunts of this kind, which tends to place this once noble sport upon a level with lawn tennis and badminton.

Tiger hunting with elephants is most extensively practiced in Central India where the jungle is in low, scrubby patches with bare ground between, and in the Terai, a wide stretch of grassy half-forest skirting the base of the Himalayas. In Southern India there is little chance to employ elephants in this way, because of the wide tracts of dense jungle * and forest in which no tiger can be effectually marked down and "flushed." Elephants can be used to great advantage, however, in following up a wounded tiger, a pursuit too dangerous for even the most reckless sportsman to prosecute safely on foot.

The second and most general plan of tiger hunting, is called "machan-shooting." A machan is a platform of poles, fifteen to twenty feet high, erected in the daytime near a recently killed bullock, a live bait, or a pool of water. Usually it is placed in the top of the tree nearest the spot or object the tiger is expected to visit.

In Central India where the jungles can be beaten for tigers, the

* In the East Indies the term "jungle" is applied to all kinds of arboreal growth lying in large tracts, whether it be composed of heavy forest, low brush-wood, or a scattering growth of scrubby trees in tall grass.



TIGER HUNTING ON ELEPHANT-BACK.

(From a photograph by A. G. R. Theobald.)

sportsman builds his machan in the most favorable position, takes his place upon it, and waits while the tigers are actually driven toward him by a grand army of beaters—from fifty to three hundred native men blowing horns, beating tom-toms, firing guns and shouting, and then, when the tigers come running past his position, he kills them—if he can. When a tiger kills a bullock, the hunter quietly builds a machan in the top of the nearest tree, takes up his position in the afternoon, and waits patiently until the tiger returns to his feast at nightfall; then he shoots him, or at least shoots at him, in the dark.

It is very seldom that accidents occur in hunting tigers by either of the above methods, for usually the sportsman is not in the least danger.

Shooting on foot is the third method of tiger hunting, but it is so dangerous that it is not regularly practised except as a last resort, and the most reckless hunter never dares follow it up for any length of time. Nine-tenths of all the tiger "accidents," as they are called in India, occur to sportsmen who are shooting on foot. The Collector of the Coimbatore District acknowledges the superior dangers and risks of this method by paying a reward of one hundred rupees for a tiger shot on foot, whereas he grants only the minimum reward, thirty-five rupees, for a tiger shot from a machan or poisoned. When a hunter attacks the tiger in open ground, he must shoot the animal in the brain or else break his spinal column, for nothing else is sure to stop his furious charge. A tiger is but a gigantic cat, endowed with the traditional nine lives, and even though shot through the heart, the lungs, body, neck or shoulders, he often has strength enough to spring upon the hunter and give him a terrible mauling or a mortal wound before falling dead. Tigers often become so enraged by the pain of their wounds that they attack the hunting elephants with the greatest fury.

The Animallai slope was one vast, unbroken forest, with such endless cover that successful beating for game was simply out of the question. There was such an abundance of it that no men or cattle were ever killed by tigers, and hence our only chance for finding them at all was to track them up on foot, or trust to meeting them by chance. Either plan was risky, but I had enough faith in the accuracy of my little Maynard rifle, and my own steadiness, to believe that between us we could floor a tiger if we ever got a fair chance. In tramping through the forest I often wished I could come face to face with a tiger and get just one fair shot

I thought I would like to be a little above him, if possible, so as to get a better view of his face, and be more certain of hitting the brain. I spun my theories very finely, and all I asked was a chance to give them a trial.

We often tried to follow up the "pugs" we found in the forest, and it was in this way I finally made the acquaintance of "my first tiger." It was during one of my fever-spells, too, when I was feeling rather low-spirited. I had been seven weeks in the hills, hunting constantly when not down with the fever, but had killed neither elephant nor tiger, and was beginning to think I never would. I had shot nothing for several days, and consequently there was no meat in camp. The old women grumbled, the little children cried for it, and, in fact, I wanted some fresh venison myself.

On that particular day, I had an attack of fever due at 2 P.M., but I thought I could stroll out and shoot an axis deer before it came on. It happened that three of my men had been sent away on various errands, and there remained in camp only Pera Vera, my second tracker, afterwards my head man, Nangen, a very quiet but courageous young fellow, and a small boy. I took along these three for general purposes, my little Maynard rifle for the deer, and my No. 16 shot-gun, loaded with bird-shot, for jungle fowl. Not a very heavy "battery," certainly, when compared with the formidable array of double rifles from the 4-bore, throwing a 4-ounce ball, down to the double .577 Express rifle as the least deadly weapon which every genuine English sportsman in India possesses and carries with him when after big game. It takes twenty-nine of my Maynard bullets (calibre .40), to make a pound.

We hunted all the forenoon, and found a herd of axis deer feeding in a glade, but I had not enough energy to make a successful stalk, and so that chance was lost. In fact, I did not care much whether school kept or not.

We strolled through the Government Forest until nearly noon, when, just as we were about returning to camp, we heard a fearful growling and roaring a few hundred yards in advance, which set us instantly on the *qui-vive*. We hurried in the direction of the sound, which continued at intervals for some minutes. I said, "Tiger, Vera?" and he replied: "No, sahib, panther. Shall we go for it?" "Of course," and on we went.

Presently we heard trumpeting and branch-breaking half a mile beyond us, and then Vera said the low roaring, or growling, noise had been made by the elephants. On our way toward the ele-

phants, to have a quiet look at them, we came to a little nullah,* and there, in the level, sandy bed of the stream, was the trail of a large tiger.

The men carefully examined the huge tracks in the wet sand, compared notes a moment, and declared the trail was fresh. Then I examined it for myself, looked wise, and said; "Oh, yes, it is; very fresh, indeed." Vera looked anxiously about a moment, examined the bore of my rifle doubtfully, tried to measure it with the end of his little finger, and finally asked me very seriously whether I would dare to fire at a big tiger with that small rifle. I said, "Yes, certainly; just show me one and see." I did not for a moment allow myself to hope for such good luck as a meeting with the animal that made those huge tracks, and a shot at him. But without a moment's delay we started to follow up the trail.

The little creek ran through perfectly level and very open forest. Its bed was about eight feet below the level, forty feet wide, and almost dry. The tiger had gone loafing leisurely along down the bed of the stream, walking in the shallow water every now and then, crossing from side to side, and occasionally sticking his claws into the bank, as if to keep them in practice. Vera led the way as usual, I followed close at his heels, and we stole along as silently as shadows.

We had followed the trail about a mile, when we came to a clump of bamboos growing in a sharp bend in the stream. Vera stopped short, grasped me by the arm, and pointed through the clump. He had the habit of grasping my arm with one hand, and pointing with the other whenever he discovered any game, and I could always tell the size and ferocity of the animal by the strength of his grasp. This time he gave my arm such a fierce grip I knew he must have found a tiger.

Sure enough, there was Old Stripes in all his glory, and only thirty yards away! The midday sun shone full upon him, and a more splendid object I never saw in a forest. His long, jet-black stripes seemed to stand out in relief, like bands of black velvet, while the black and white markings upon his head were most beautiful. In size and height he seemed perfectly immense, and my first thought was, "Great Cæsar! He is as big as an ox!"

* "'Nullah' is an Indian term of the most comprehensive signification, used in speaking of any channel or water-course, and applied alike to a small river or deep ravine, to the sandy bed of a dried-up stream, or a wet gutter." —A. C. McMaster.

When we first saw him, he was walking from us, going across the bed of the stream. Knowing precisely what I wanted to do, I took a spare cartridge between my teeth, raised my rifle and waited. He reached the other bank, sniffed it a moment, then turned and paced slowly back. Just as he reached the middle of the stream, he scented us, stopped short, raised his head and looked in our direction with a suspicious, angry snarl. Now was my time to fire. Taking a steady, careful aim at his left eye, I blazed away, and without stopping to see the effect of my shot, reloaded my rifle with all haste. I half expected to see the great brute come bounding round that clump of bamboos and upon one of us; but I thought it might not be I he would attack, and before he could kill one of my men I could send a bullet into his brain.

Vera kept an eye upon him every moment, and when I was again ready I asked him with my eyebrows, "Where is he?" He quickly nodded, "He's there still." I looked again, and sure enough, he was in the same spot, but turning slowly around and around, with his head held to one side, as if there was something the matter with his left eye! When he came around and presented his neck fairly I fired again, aiming to hit his neck-bone. At that shot he instantly dropped upon the sand. I quickly shoved in a fresh cartridge, and with rifle at full cock and the tiger carefully covered, we went toward him, slowly and respectfully. We were not sure but that he would even then get up and come at us. But he was done for, and lay there gasping, kicking, and foaming at the mouth, and in three minutes more my first tiger lay dead at our feet. He died without making a sound.

To a hunter, the moment of triumph is when he first lays his hand upon his game. What exquisite and indescribable pleasure it is to handle the cruel teeth and knife-like claws which were so dangerous but one brief moment before; to pull open the heavy eyelid; to examine the glazing eye which so lately glared fiercely and fearlessly upon every foe; to stroke the powerful limbs and glossy sides while they are still warm, and to handle the feet which made the huge tracks that you have been following in doubt and danger.

How shall I express the pride I felt at that moment! Such a feeling can come but once in a hunter's life, and when it does come it makes up for oceans of ill-luck. The conditions were all exactly right. I was almost alone and entirely unsupported, and had not even one "proper" weapon for tiger-hunting. We met the tiger fairly, on foot, and in four minutes from the time we first saw him

he was ours. Furthermore, he was the first tiger I ever saw loose in the jungle, and we had outwitted him. I admired my men quite as much as I did myself! They were totally unarmed, and they had seen me miss spotted deer at sixty yards; but instead of bolting, as I should have done had I been in their place, they stood right at my elbow like plucky men, as they were. What if they had been of the timid sort? They would never have consented to follow the trail of that dangerous beast.

I paced the distance from where we stood to the dead tiger and found it to be just thirty yards. My first was a dead centre shot, striking him exactly in the left eye, scarcely nicking the edge of the lid. I had intended that that bullet should enter his brain, but owing to the narrowness of the brain-cavity it only fractured the left side of the cranium. However, it rendered him quite powerless either to fight or run away, and he would have died very soon from such a terrible wound. In fact, I now think my second shot was really unnecessary. Owing to the position of his head I could not possibly have placed a bullet in his forehead so that it would have reached the brain, but had I been using a regulation "No. 8-bore rifle," throwing a 2-ounce ball, I could have blown the whole top of his head off very neatly (!)—and utterly ruined him as a specimen. My second shot struck one of his neck vertebræ and cut his spinal cord, killing him instantly, a favorite shot with me when I can catch an animal at rest.

He was a splendid specimen every way, just in the prime of tiger-hood, fat, sleek, and glossy. Up to that time I could not make myself believe that a tiger can pick up a man in his mouth and run away with him as easily as a terrier does with a rat. But when I measured that great brute, I saw and realized just how it is done. Before touching him with a knife we measured him carefully, twice, and recorded the figures in my note-book. His dimensions were as follows:

Felis tigris.

ANIMALLAI HILLS, September 27, 1877.

Length from tip of nose to end of tail vertebræ	9 feet	8½	inches.
Length of tail alone	3 "	6	"
Vertical height at shoulders	3 "	7	"
Girth	4 "	2	"
Circumference of neck	2 "	8	"
Circumference of head around the jaws	3 "	0	"
Circumference of fore-arm	1 foot	8	"
Width of fore-paw		6¼	"
Weight (by standard American scales)	495 lbs.		

My experience with that specimen will serve as a good illustration of the difficulties I had to contend with in curing skins in that rainy jungle. In a climate that is dry and hot, skins can be cured, sometimes, almost without preservatives; but in the moist and hot tropics, every bit of skin which does not feel the effects of a powerful preservative at the right time will simply decompose before it will cure in the least. When the powdered alum does not reach the epidermis, the latter slips off in about four days, taking the hair along with it, leaving unsightly bald patches on the skin. Thick skins must be thinned down with the knife, so that the alum will strike through at once to the roots of the hair, and harden the whole skin. For the benefit of the sportsman and the general reader, I am tempted to give brief directions for skinning a tiger, so that it may be mounted as a first class-museum specimen; for which see the Appendix. We removed the skin of our tiger, applied the preservatives, and hung it over a pole to dry, expecting that such glorious sunny weather as we were then having would allow it to cure in a very few days. That same evening it began to rain, and for the next ten days it was either a steady down-pour or a dreary drizzle. Of course, no skin could dry in such a vapor bath as that, and, worst of all, I was very short of alum.

For a week I played a game with the elements, with that tiger skin for a stake. I hung it out in the air whenever the rain ceased for an hour; I built a fire before it, and came near roasting one leg. I had a wide shed built, near my hut, under which I hung the skin, spread out and stretched so that the air could reach every portion of it freely. I applied to it all the alum I had, both in the dry state and made into a warm bath, but still the skin would not and could not harden in the least, nor get dry so long as I remained there.

Determined not to lose such a specimen we broke up our camp hastily and hurried off half a day's march to a spot that was higher and more open, and where less rain fell. There we found the sun shining, not hotly by any means, and unpacking our tiger skin we spread it out widely in his gracious beams, which saved it at the last moment.

Mr. Theobald sympathized with me very heartily during my troubles with it, and congratulated me upon my final success, informing me as he did so that he had once lost two fine tiger skins under similar circumstances, in spite of all he could do to save them.

I had nearly the same trouble with every large mammal skin I prepared in that rainy jungle, and I realized more than ever that "eternal vigilance is the price of" a collection.

CHAPTER XV.

SKELETONIZING AN ELEPHANT.

Mischievous Elephants.—Chase of a Large Herd.—Death of a Tusker.—Forbidden Ground.—A Secret.—The Mulcer's Oath.—A Change of Base.—Skeletonizing an Elephant in Sixteen Hours.—Cacheing the Bones.—The Traces of our Guilt.—Moral Aspect of the Affair.—The Spotted Deer.—A Pretty Picture.—The Indian Elk or Sambur.—Bad Case of Protective Coloring.—Serenaded by Sambur.—The "Brain-fever bird."—Tree Rats.—The Muntjac.—Delicious Venison.—The Neilgherry Goat.—Wild Hogs.

When we returned to Tellicul after our absence while drying the tiger skin, we found all our huts a total wreck. A large herd of elephants had visited the spot and walked through them from one end to the other, tearing them completely to pieces, smashing tables and cots, and even pulling up a few of the posts, and throwing them some distance. All this just for pure mischief, just to be doing something, and to show us what they could do. Many a night in those hills I have heard the trumpeting and squeaking of elephants near our camp, and I would never have been at all surprised to have been awakened by an elephant pulling my hut down over my head. I never went to sleep without Theobald's elephant-gun standing loaded within reach of my hand, and other weapons close by, so that in case any wild beast made us a midnight call we could give him a cordial reception. I also had a hole cut in the end of my hut, at the foot of my cot, so that in case a mischievous elephant should come and knock at my door in the middle of the night, I could get out at the opposite end to receive him in due form.

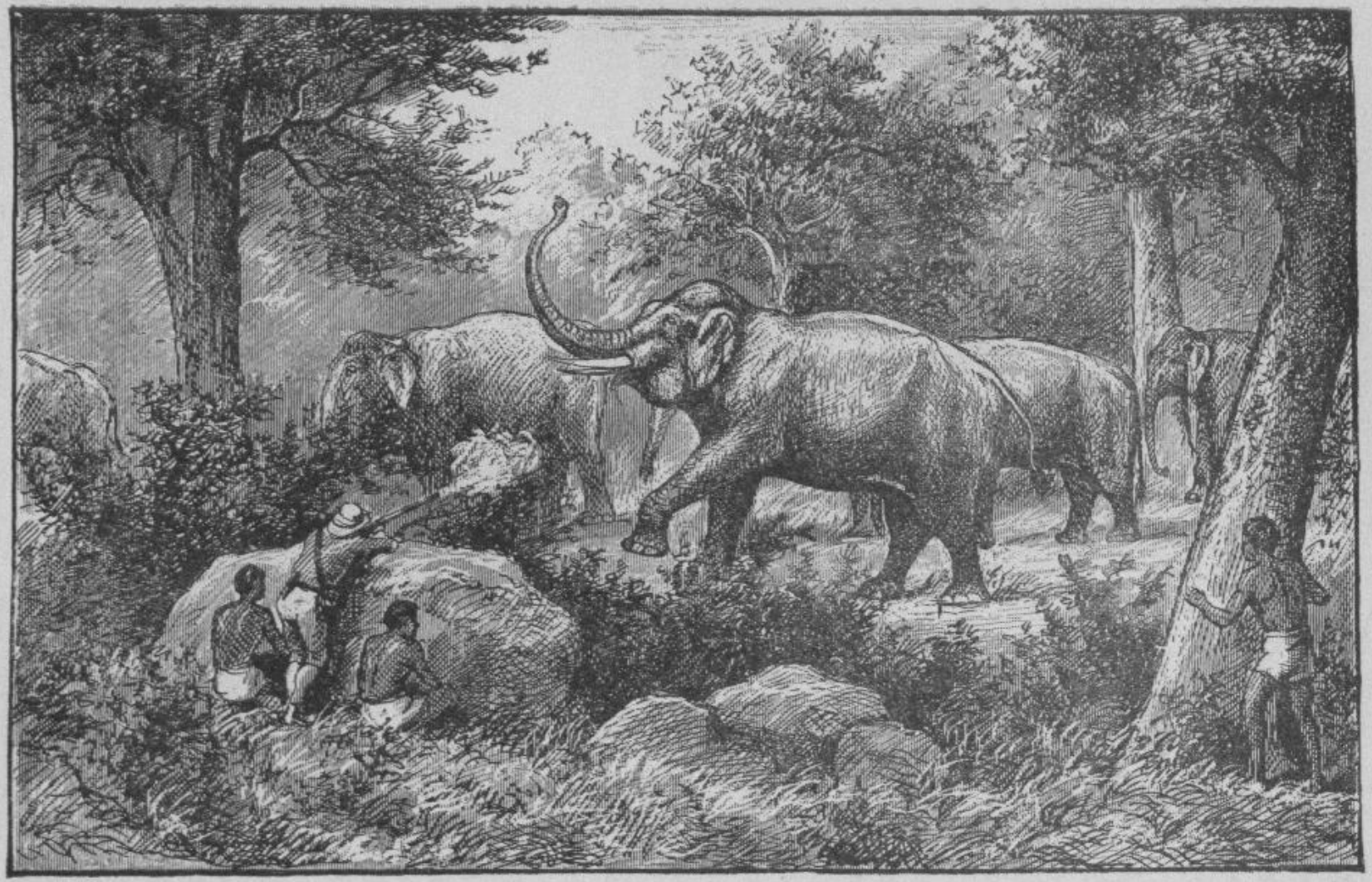
Three weeks after the death of the tiger, another herd of elephants visited our forest. The moment we found the trail, we set out upon it as fast as we could go, and strained every nerve to come up with the animals before they could get out of our hunting ground. But once more we were doomed to disappointment and aggravation. An hour before sunset, the trackers declared that

the herd was only a half-hour in advance of us—and the trail crossed the river into the Government Forest, of course! We gave it up that day, but the next morning we took up the trail where we had left it the previous evening, and followed it rather leisurely for some hours, just to see where it would finally lead to. That herd was the largest I ever saw on those hills, containing between forty and fifty elephants, five or six of which were tuskers. In some places it left a trail like the track of a small hurricane, mowing down the tall grass in a swath a hundred feet wide, pulling down and smashing scores of old bamboos in one place, just for the fun of the thing, and, stranger still, we saw several saplings the size of a man's arm or larger which had been half uprooted and borne down to the ground.

The herd had made a wide circuit through a corner of the Government Forest, and just before they quitted it they had done still further mischief. They visited a camp of wood-cutters on the bank of the Toonacadavoo River, where there were four large huts for the accommodation of over fifty men. We found the huts torn and smashed all to pieces, and of the long row of round stones on which the men set their chatties of rice to cook, every stone had been displaced and rolled about by those rascally elephants.

From the huts, the elephants had turned off westward and headed straight for Cochin. In one place we saw where an old tusker had been barking a tree with his tusks, just for amusement, and once where he had thrust them into a bank of earth for a foot or more. Again we came to where he had lain him down to sleep and left a very perfect impression of his right tusk in the moist earth. The trail led us through all sorts of places, and finally crossed the boundary into Cochin. At last, we overhauled the herd as it was feeding along a rather steep, grassy hill-side, which was strewn here and there with rugged rocks, a capital situation. But alas! we were on forbidden territory again, Cochin this time, and once more that fine loomed up before our eyes. Apart from the fine, I had no conscientious scruples about the matter, for when an elephant roams through four territories in one day, to which does he belong more than to the others? I argued the question, gave it up, and decided to kill one of those elephants if possible, take its skeleton for my collection, and if caught, pay the fine and call it square, although financially it might prove a losing game.

We posted ourselves among some large rocks, well in advance of the elephants, and waited for them to feed up toward us.



DEATH OF A TUSKER. *(From a sketch by E. F. Murdock.)*

On they came, and we saw there were five tuskers. This time I made my calculations more carefully than before, fired confidently, and my victim sank down in his tracks without a groan, and died without a kick. Being well below our position, he received my spherical zinc bullet high up on the left side of his head, whence it ranged downward, passing through eleven inches of bone and eleven inches of brain, and came out well below his right ear. I regret to say that he was not the largest tusker in the herd, being surpassed by one other which was so surrounded by other elephants that he was practically inaccessible, and therefore the victory was not as great as it might have been.

We returned to camp directly, and ordered all the women and children to start at once for Toonacadavoo. We had a big secret to keep, and preferred to manage it without any of their assistance. Women can keep a secret very closely, but it usually requires a great many of them to accomplish it. As soon as the women had been bundled off, bag and baggage, I told my men, through my cook-interpreter, that no other person besides ourselves must ever hear anything about that dead elephant, for should it get found out we would all get into trouble. They declared the secret should die with them. Then my new servant, Mullen, a private peon lent me by Mr. Theobald, resorted to a little device to play upon the superstitious feelings of the Mulcers.

Mullen was a Mohammedan, and a very shrewd fellow every way. He took my two big guns, laid them upon the ground, one across the other, with the hammers at full cock, and laid my largest hunting-knife—an infant broad-sword, which I never once carried—upon the guns, where they crossed each other. Then he ordered my five Mulcers to walk up on one side of the altar, and told the first man, Channa, to hold up his hands. Channa did so, whereupon the peon administered a sort of double-geared, self-acting oath or invocation, which translated ran about as follows: "Everybody sees that Channa promises before his sawmy (*i.e.*, his favorite god) and these horrible makers-of-dead-animals, that he will never tell any man, woman, or child anything about the dead elephant, and what the 'Merican sahib is about to do with it; and that he (Channa) begs his sawmy to remember, and if he ever does tell about it he prays that his sawmy will send a man to shoot him with one of these guns and stab him with that knife, or one just as large." Channa repeats the oath, steps over the "makers-of-dead-animals," and the ceremony is complete. Each of the others followed in

turn, while I stood by with a very straight face to lend an air of owlish solemnity to the scene.

Without a moment's delay we broke up our camp and hurried off to the dead elephant, which lay in a wild, unfrequented spot between two ranges of hills. We had a small tent, which we pitched in a lovely little valley, beside a running stream, a quarter of a mile from the elephant. The men cleared a place between three bamboo clumps and piled bamboo branches in the openings, so that a wild animal could not walk over them as they slept without their knowing of its approach. Shortly before sunset our camp was settled and we were ready for work. I "harangued" the men for a moment, telling them we had hard work ahead of us, and that for the next two or three days I would expect them to work hard, and I would double their wages. Then I served out arrack and tobacco all around, got out the skinning-knives, grindstone, oilstone, lantern, etc., and we lit down upon that carcass like a flock of vultures.

The elephant had fallen upon his side, back down hill fortunately, and we took his dimensions very easily. He was eight feet four inches in vertical height at the shoulders. As he lay there the top of the carcass was just on a level with my chin, and our task was to quarry the entire skeleton out of that great mountain of flesh and blood. We decided that we did not dare to attempt taking the skin, for under the circumstances we would have all we could do to take even the skeleton and get away with it without being seen by any of the Cochin people. Besides, I wanted the skin of a larger animal than that proved to be.

First, we stripped the skin from the upper side of the animal, to have it out of the way, then cut off the two legs which were uppermost, the one at the shoulder and the other at the hip, and set two men at work upon them to cut off the flesh, piece by piece. We found that it required the strength of two men to *roll the fore-leg over* as it lay upon the ground. From the first we worked very systematically, cutting off the flesh in huge chunks and tumbling it down the hill out of the way. The viscera soon swelled to an enormous size, and when we cut open the abdomen they burst out in a huge, unwieldy mass, that cost us three hours' hard tugging and lifting to detach and move out of the way.

When night came we lighted our lantern, built a large fire near the carcass, and while one man held the lantern and piled dry wood upon the fire to keep it blazing brightly, the rest of us toiled on till midnight, like so many bloody vampires. At last we were quite

tired out, and having made an excellent beginning, we left off work, went down to the little creek and bathed, after which I again served out arrack all around to the men and finished a quart of Bass' ale on my own account. With our tracking, marching to and fro, and work on the elephant, we had had a hard day of it; but the Mulcers had grown quite plump and vigorous on a two months' diet of game, I had been free from fever for nearly two weeks, and little cared we for any amount of hard work which did not quite kill us.

At sunrise the next morning we were again at our task, and after cutting the flesh from the entire upper side of the body, cutting off the head and as much as possible of the lower legs, we procured levers and, by dint of great exertion and no small amount of engineering, turned the carcass over. After the greater portion of the flesh had been removed, we cut out the sternum in one piece, cut out the ribs one by one, divided the massive spinal column into four sections, and cut each leg in two at ankle and knee. Then all the parts of the skeleton were cleaned neatly and carefully, one by one. The skin of each foot I saved to mount as a footstool, and the tail also was kept as a trophy.

By 4 P.M., after about sixteen hours' hard work, my five Mulcers and I had cut out all the bones of the skeleton, cleaned them neatly, painted them over with strong arsenical soap and tied them up into bundles suitable for carrying. Being anxious to leave that neighborhood as soon as possible, we carried all the bones about three hundred yards and hid them away amongst some large rocks, after which we spent an hour in making that spot look like a dense thicket. We cut green boughs and stuck them up in the heap of bones, and in the clefts of the rocks all around it, making young trees grow up and green branches droop over with a naturalness that was quite artistic. A stranger might have passed within twenty yards of the caché without even suspecting its presence.

But at the scene of action there was about an acre of meat, pieces of skin, blood, brains, and viscera which showed unmistakably that some great animal had been wrecked. That we could not hide, and one of my men, the peon who administered the oath to the Mulcers, proposed that we get several pairs of bison horns and throw them down there, along with a few bones, to mislead any of the Cochin people who might happen to pass that way. It was a good suggestion, but I thought we could risk the matter as it was. Then we "folded our tent like the Arabs and as silently stole away," first obliterating all traces of our camp, and marched boldly down

to Toonacadavoo—but we persistently refused to be interviewed on the subject of wild elephants.

The next day I sent the men back with a week's provisions, by the end of which time they had carried off all the bones without being seen by any one, and deposited them in a safe place in the Kulungud forest. I may add in this connection that they were faithful to their oath, at least to a great extent, and I doubt if the people of Cochin have even yet heard of that affair. I suppose I did not do altogether right about that elephant, and many severe moralists will condemn me. When they do, I shall reply with the well-worn formula, "It was all in the interest of Science." Verily, science, like charity, covers a multitude of sins. I hate a scientific thief as much as any one—and the world is full of them—but if any one can steal aught from me, that was not mine yesterday, and may not be mine to-morrow, and which I shall never miss nor ask for, he is welcome to it.

> "He that's robbed. not wanting what is stolen,
> Tell him not of it, and he is not robbed at all."

I am positive the Rajah of Cochin never missed that tusker from the vast herds which roam through his territories, and, considering the purpose and the circumstances, I think I was justified in taking it.

During the month of September I spent a good share of my time in hunting smaller kinds of game, deer of all kinds in particular. Being still desirous of taking another elephant for its skin, I left my old camp at Tellicul, moved farther up the Teckadee River and camped in a fine open spot called Moochpardi. The hunting ground about this place was, excepting for elephants, all that we could ask, and we endeavored to make the most of it.

The commonest animal in the Animallais, after the black monkey, is the axis deer (*Cervus axis*), or "spotted deer" of sportsmen. It was an understood thing between my men and me, that we could go out any day and bring in one of these beautiful animals, and we counted it exceedingly hard luck if we ever went out for deer and were obliged to return without one. Had we been so disposed, we could have slaughtered a great many of them, for they were very numerous, but we never shot even one which we did not positively need, either for skin, skeleton, or venison. From first to last we killed about twenty, a very moderate score, considering the number of tempting opportunities we had. I hate to see game

HERD OF AXIS DEER IN BAMBOO FOREST. *(From a sketch by the Author.)*

slaughtered to no purpose, and I hate all such game-butchers as those of our Western Territories who have already nearly exterminated the American bison.

All around Moochpardi are numerous grassy glades in the forest, usually of three to five acres in extent, where the ground is low and moist, and the grass is sweetest and tenderest. In these beautiful little pastures, hedged around by the tall, dark bamboo forest, the spotted deer love to feed in the early morning, before the sun gets too hot, and in the late afternoon when the shadows lengthen. We always found them in those places between four and five o'clock in the afternoon, although, to be sure, we used to happen upon them in all kinds of forest, and at all hours of the day. After a few hours' hard work on specimens and a quiet mid-day snooze in my hut, I would get on my hunting gear, call up Vera, and tell him that we would "go out now." Ten minutes later we would be on the look-out for game. We would go to one glade after another, always coming up to them against the wind, until at last we reached the right one, and our eyes would be gladdened by the sight of a dozen spotted beauties, grazing quietly, or lying at rest upon the green sward.

One particularly beautiful scene of this kind is stamped upon my memory with photographic accuracy. There was a small glade about the size of a city square, quite surrounded by dense bamboo forest, which was a favorite feeding ground for spotted deer. Stealing up to this through the dark jungle, late one bright afternoon, we espied in the centre of the open space a number of spotted forms which were a feast for the eyes of any lover of nature. Creeping up quite close to the edge of the opening, we crouched behind a thick clump of bamboos and gazed in silent admiration upon the lovely picture before us.

Grouped together in a most charming fashion, were about sixty deer of all ages and sizes, from a tiny fawn up to a splendid stag with horns measuring—but I must not anticipate. How lithe, graceful, and beautifully clean they all looked! The slanting rays of the sun shone full against their beautifully spotted sides, bringing out the white spots in striking contrast against the bright fawn-colored ground. Some were leisurely cropping the short grass, giving an occasional glance into the dark and treacherous forest, and others lay about at their ease, blinking lazily, and patiently grinding away at their cuds, now and then drawing a long breath of contentment. Surely, the axis deer is the most beautiful of all its tribe.

It seemed a pity to spoil such a pretty picture by shedding blood; but after all, death from bullet, knife, or spear is the most fitting end for any wild animal. Why should I not slay that noble stag in a moment's time and preserve it to be admired by thousands of other men, rather than leave it to be pulled down and torn to bits by a tiger? Without further argument, I sent a Maynard bullet through his shoulders, and he was mine. The next moment the herd dashed away at a great pace, but I managed to get in another shot, which brought down a fine doe.

The dimensions and weight of both specimens are given in the table of measurements, and may be taken as the average size attained by this species. This deer is difficult to approach within fair shooting distance, but a careful hunter can, in nearly every case, stalk a herd successfully in such forest as that upon the Animallais. At the same time they are exceedingly wary, and in brushy ground would be very difficult to kill. A stick breaking under the hunter's foot is quite sufficient to send the herd off flying, and their sight is usually quite as keen as their sense of sound. I have noticed that the buck never leads a herd, as many suppose, but lags along toward the rear, while an old doe leads the van. The flesh is always good eating, and that of young individuals is very fine indeed, fine-grained and sweet, but, like most venison, a little dry. The tongue is of course a choice tit-bit.

The axis is not easily frightened by evidences of civilization, and at times they are guilty of the most barefaced impudence. Once at Moochpardi, a solitary stag came up close to our camp, but on the other side of the river, in broad daylight, and uttered his loud, clear note of defiance. He repeated it so often and so defiantly that I finally went out with my rifle, waded the river, stalked my challenger successfully, and—made a clean miss. But that was not the only time we heard spotted deer calling near our camp.

The sambur, or Indian elk (*Rusa aristotelis*), is abundant in the Animallais, although not seen so frequently as the axis deer, nor in anything like such numbers. Usually they are found solitary, often two or three are found together, and once I saw seven in one herd. The sambur is the largest animal of the deer tribe in the East Indies, and is in many respects the oriental counterpart of our American elk, or wapiti (*Cervus canadensis*), although the former is not nearly so large and noble looking an animal as its American congener. The sambur stands about four feet six to ten inches in

vertical height at the shoulder, the length of head and body is from six to seven feet, and the tail twelve inches. Its body color varies from dark brown to slaty gray, according to the season and locality, the under parts are pale pinkish yellow, and upon the oldest stags the hair is long upon the throat and neck, forming a bristly mane.

The horns have but three points, a stout, thick brow-antler springing forward directly from the base or burr of the horn, and the beam is bifurcated near its extremity, sometimes the inner and sometimes the outer tine being the longer. The horns of adult stags average thirty-six inches in length, although they often far exceed that size. Mr. Dawson, of Ootacamund, showed me a splendid pair which measured forty-four inches from base to tip.

I cannot call the sambur a handsome animal by any means. Certainly a stag without its horns is the homeliest deer I ever saw, and as one rushed heavily away from me in the forest it always reminded me of a mulley cow. The body is heavy, the hair thin and coarse, and, to judge from the amount of noise made by a running sambur, it struck me as being a heavy-going and rather clumsy animal.

When lying down or standing motionless against a bamboo clump, a sambur is very difficult to see, at least for my eyes. I once afforded my men a ludicrous and aggravating illustration of this fact. I found that the eyes of my Mulcers differed from mine in their being able to pierce through underbrush and make out an object which I could scarcely see at all, even when pointed out. On the other hand, I could detect a moving object, even were the motion ever so slight, just as quickly as any of them, and a little quicker than even Vera, as was several times fairly proven.

One day we were hunting through the bamboo forest for whatever game we could find, when Vera stopped, uttered his low game signal, "tut-tut-tut," and pointed into a low thicket fifty yards away. He said it was a sambur. I looked intently, made up my mind I saw it, and blazed away. The object I fired at did not move. Vera said, "It is there yet, sahib!" and I fired again at what I thought was it. The same result as before. The sambur did not run. I fired two more shots at an imaginary deer, and the men began to laugh at me. I was disgusted with myself, and exclaimed, "Blast my eyes!" with far more fervency than any sailor.

Presently a twig moved, I saw the sambur and my fifth bullet struck it, but not quite fatally. It rushed out of the thicket, ran a

short distance and stopped behind some bamboos. Vera took me up quite close to it and tried to make me see it. I looked and looked, and he pointed and pointed, saying, "There, sahib! there!" but I couldn't make it out. The men all grinned from ear to ear, and I blasted my eyes more heartily than ever. Finally I sighted a brown object in a thicket fifty yards away, and fired at it through the clump of bamboos near which we were standing. Imagine my feelings when the sambur sprang up from the ground on the other side of the bamboo clump, almost under the muzzle of my rifle, or at least only twenty-five yards away! He had been *lying down*, and I fired directly over him. As he ran off slowly, I hit him again and brought him down, but this did not atone for my former stupidity.

It was a bad case of protective coloring, which I had noticed many times before. The summer coat of the sambur is precisely of the same dull gray color as the branching, scraggy base of a bamboo clump.

Sambur hunting in the Animallais is a mere question of patient tracking and straight shooting. The game is easy to stalk and easy to shoot. All around Tellikul, sambur were very plentiful, and many a time during the night some daring old buck would come up within fifty or a hundred paces of our camp, and blow one blast after another on his dinner-horn. I know of no sound which the so-called "bark" of this animal so nearly resembles, as a short, strong blast on a deep-toned tin horn. What sounds can be more pleasant to a hunter's ears than such a midnight serenade in the heart of a grand old forest!

There was one serenader, however, who often annoyed me by his outlandish song. It was the hawk-cuckoo (*Hierococcyx varius*, Vahl.), also called the "brain-fever bird," partly because its cry sounds like "brain-*fever*," and also because of its fancied tendency to produce that painful malady. This bird would perch quite close to my hut, and begin with a low whistling cry of "hew-ee," but with each repetition it was given louder until it reached the highest pitch of the bird's lungs, about like this:

"hew-*ee*! *hew*-EE! HEW-*EE*! HEW-EE! HEW-EE!"

About every five minutes, or less, it would begin at the bottom of the gamut and keep getting louder and louder, until at the last it would end in a shrill shriek, like a steam-whistle, and the exhausted bird would stop to rest. This serenade was a great annoyance to

me sometimes, especially when I was feverish and inclined to be wakeful.

While I lived at Tellikul, two tree-rats (*Mus rufescens*) used to come into my hut from the jungle, nearly every night, and gallop over the floor and climb all about the place, rattling papers continually and rummaging around, until I would get so nervous and irritated that for hours I could not sleep. I tried every plan I could think of to kill those two rats, but somehow my schemes all failed. I tried to poison them, smash them in a deadfall, shoot them, blow them up with gunpowder, and even to spear them; but something happened every time so that they escaped. At last, to my great relief, their nightly visits ceased.

When I first came up to the Hills, Mr. Theobald was living in the Deputy Conservator's bungalow, which had a very thick roof made of layers of cocoanut leaves. This thatch literally swarmed with tree-rats, and one or two other species, and at night, after we had retired, they would come down to the floor by dozens, and go galloping and rummaging all about, fighting and squealing until daylight. Several times rats ran over me as I lay in my cot, and once one jumped from a beam and alighted upon my forehead as I lay asleep. At last they annoyed me so much that I had to keep my light burning all night, which kept them away to some extent. Mr. Theobald had got accustomed to them, as I should in time, and it was well he had, for so long as that thatch roof remained upon the house it would be swarming with rats. We tried to poison them, but they were too smart for us. We caught a great many in different kinds of traps, however.

One of the most interesting of all the small deer is the muntjac (*Cervulus aureus*), which we frequently met in hunting on the Animallais and studied with unusual interest. This curious little animal is found in nearly all the thick forests and jungles of India, from an elevation of nine thousand feet in the Himalayas * to Ceylon, and also throughout the Malay peninsula, Borneo, Sumatra, and Java. The muntjac is really the connecting link between the *Cervidæ* and *Moschidæ*, or musk deer, having the antlers of the former and long upper canines of the latter.

Jerdon † gives the height of the muntjac as 26 to 28 inches, but out of ten adult specimens which I shot in various parts of the East Indies, the largest was only 22 inches in vertical height, with

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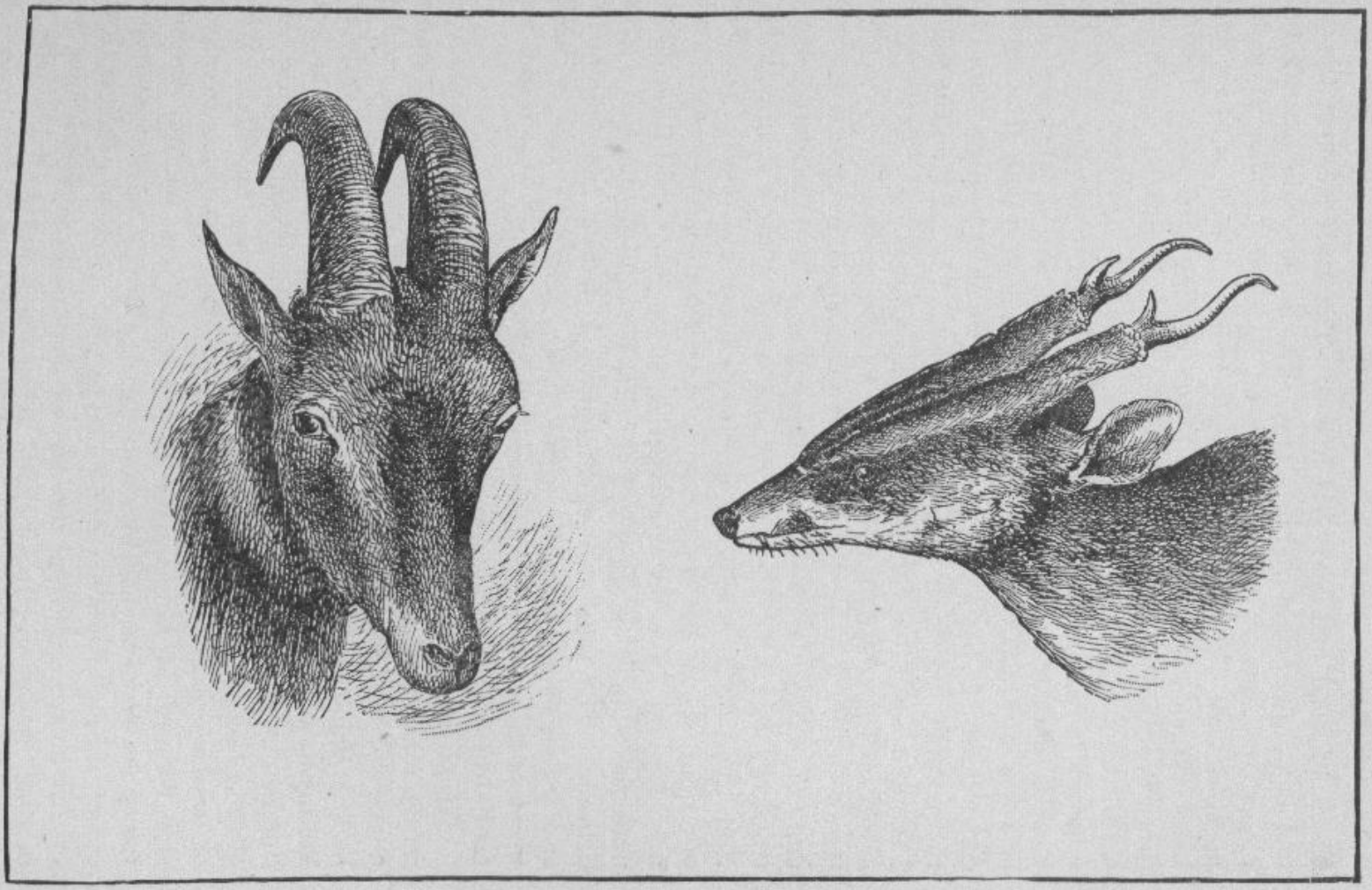
* Jerdon. † Mammals of India.

length of head and body 35½ inches. The body color of the animal is a clear, bright reddish bay. The antlers, which are 4 to 5 inches long, are set up on two round pedestals of bone 2½ inches high, covered with skin and densely hairy. There are two long, black ridges of skin and two corresponding furrows extending down the face, which, together with its curious antlers, give the little animal a very strange appearance. The legs are short, the hindquarters round and heavy, and it can neither run fast nor far. The head is always carried low, which enables the defenceless little creature to creep through tangled jungle faster than its enemies can follow. It has a very peculiar cry, which is really a bark, like the yapping of a small dog. The first time I heard it in the jungle I thought, until told otherwise, it was a dog barking. Twice by its cry alone I have found and shot this "barking deer." Each peculiarity of this strange little animal has caused it to receive a separate name, so that, besides muntjac, it is called "rib-faced deer," "barking deer," "red hog deer," and worst of all, "jungle sheep," from the manner in which it carries its head and neck. The flesh of the muntjac is the finest venison I ever tasted, and in fact, aside from birds, I know no wild meat equal to it. Could it be placed upon the table of an epicure, I am sure it would be counted a great delicacy. The meat is very fine-grained, tender, but seldom fat, and possesses an exquisite game flavor quite peculiar to itself, which is indescribable. The most delicious soup I ever tasted was made from the flesh of a muntjac.

The Neilgherry goat, or "ibex" of sportsmen (*Hemitragus hylocrius*), inhabits various precipitous places in the Animallais, and is now quite abundant. A sportsman on the Neilgherries does well if he kills one or two in a week, but here I was told of two gentlemen killing six in one day. Once we went after goats to a rocky cliff near Sungam, the elephant camp, six miles from Toonacadavoo, and after a long, laborious climb to the summit, we found one lying on a narrow ledge of rock, half-way down the side of the precipice, and far out of range. We took a good look at him through the glass, and watched him until he finally got up and sauntered out of sight, but we never saw him again. How he ever got down to that narrow ledge on the face of a smooth, perpendicular wall of rock, was more than I could see; nor could I divine why he chose to go in the most dangerous place he could find, unless to escape his enemies. The only specimen of this wild goat I secured was shot for me by Arndee and brought in quite fresh. With so



THE NEILGHERRY GOAT AND THE MUNTJAC. (*From sketches by the Author.*)

many other interesting animals around me, I was not ambitious to wear my body out, and perhaps break my neck, in trying to get one or two more goats.

In the course of our hunting large game, we occasionally fell in with droves of wild hog, or "pig" (*Sus Indicus*), but somehow I succeeded in killing only two good specimens. We always started them in brushy forest, where the bushes were so thick it was almost impossible to hit a hog running through them. One day, while we were in camp at Moochpardi, we went out in the afternoon, and in less than an hour brought down a fine doe axis deer and a buck muntjac, which we told Nangen and Corlee to carry home. In returning, Vera and I were alone, walking along a path which led along the edge of a long, open glade with thick, dark jungle on one side. All at at once Vera stopped, knit his brows, focused his keen eyes upon some object among the thick bushes, and the next moment pointed at a large boar standing motionless as a rock behind a tree, with only his head and ears visible. The old fellow thought he was fully screened, but the next instant a rifle bullet went through his ear and into his brain, and we had another fine specimen to add to the day's account. He weighed two hundred and thirty pounds, but Vera and Channa slung him under a pole and trotted home with him in fine style.

CHAPTER XVII.

THE POETRY OF FOREST LIFE.—BISON SHOOTING.

Return to the Hills.—Benighted in the Jungle.—Native Meanness.—Doraysawmy, the "Gentleman's God."—A Jewel of a Servant.—Prospects.—Fever again.—Bass' Pale Ale.—Glorious Weather.—Fine Forest.—The Poetry of Life in the Forest.—Our Mode of Hunting.—A Bison Hunt.—Death of a Solitary Bull.—A Noble Animal.—Characters and Habits of the Species.—Another Hunt.—Four Bison in Five Shots.—The Bison as an Antagonist.—Mr. Morgan's Encounter with a Wounded Bull.—A Close Shave.—A Typical English Sportsman and his Battery.—How to Preserve a Bison-skin for Mounting.

LEAVING my collection stored at Palghaut, I went by rail up to Coimbatore, laid in a full stock of provisions and preservatives, and on the 25th of October returned to Animallai village. Arriving there I learned that Mr. Theobald's health was very bad, that he had been granted leave to change posts, and was soon going to leave the Animallais for Nelumboor. Being attacked by fever again myself, I was detained at Animallai until he came down, bag and baggage, and we had our farewell visit there. During this short delay, I collected my old hunting-gang, gave the men an advance of money and rice, and sent them to Moochpardi to erect a good large hut for me. We were certain there would be plenty of elephants around that camp by the time I should return to it.

When I made ready to return to my old hunting-grounds, Mr. Theobald fairly loaded me with favors. He insisted upon lending me a fine young milch cow and calf, which he could not well take with him, his elephant gun, as before, and quite an array of camp conveniences which I had before done without. On November 3d we were ready, and loading our baggage upon six pack-bullocks, six coolies, and a bandy, we started about noon, which was as early as those wretched natives could be pulled together and shoved off. We tried to start the day previous, but owing to an unusual development of native cussedness, failed utterly.

After ten miles of slow but terrible jolting behind the meanest pair of bullocks I ever saw, we reached the foot of the Teckadee ghaut, a terribly steep, rocky pass, and began the ascent. For three hours my boy and I worried with those coolies and bullocks, carrying one pack after another, until we finally reached the top of the pass and started for Moochpardi. Recent rains had made the road very muddy, and the coolies and bullock-drivers grumbled and complained unceasingly. At sunset, five miles of muddy road through thick forest, and a swollen river, lay between us and our camp. The man with the cow and calf, and the coolies with my outfit chest, I allowed to turn off at Teckadee for the night, but the bullocks and their loads were obliged to go on.

As we passed a large camp of timber-cartmen, I tried hard to hire a cart to carry us to Moochpardi, or even a man to show us the way ; but neither could I get for love or money. They would see us get lost in the jungle and perish, too, for that matter, before they would, of their own good will, stir a step to aid us. No one is more cringing, fawning, and servile than the Indian low caste native when he is hungry, and no one is more arrogant, disobliging, and inhuman when he is well-fed and housed. I am not ashamed to say that I hate the "gentle Hindoo," and if you, my reader, ever fall into his power, or have actual need of his good will, you will soon say the same.

And so we had to go on, and trust to luck to find the road. We lit the lantern, and my new servant, acting as an advance guard carried it and one of my guns ahead ; after him came the file of bullocks and coolies, while I carried a naked candle shielded by my hat, and marched along as a rear guard. It was a tedious and toilsome tramp through the mud and the black darkness, all the time harassed by the fear of a drenching storm and of missing the road. When we reached the river, we undressed and waded it, the men carrying the packs on their heads—how chilly and swift the water was!—and kept on, until at about nine o'clock we dragged wearily into our old camp at Moochpardi.

My old gang was there, and hailed our arrival with delight, while they proudly led me to the fine new bamboo hut they had erected for me, at a total cost of precisely $2.50. And then I found once more what a priceless jewel to the jungle traveller is a really good servant. I had a new one whom I had picked up in Coimbatore in this wise : I had determined to discharge the servant I had brought down from the hills, a clumsy, old, gray-haired man not fit for jungle

life, and while I was waiting an hour at Pothanoor Junction for the train to Coimbatore, I went to the butler, or "head-boy," of the refreshment station, and asked him where I could find a good servant.

"Why sir, you got one servant already. What you want with one more?" "That's none of your business. I want another and a better one. Can you find one for me?" "No, sir!" "Where do you think I can find one?" "I don't know, sir." "Now look here. If you will find me a good 'boy,' that can cook and speak a little English, I will give you a rupee!"

You should have seen him brighten up. Telling me to wait there for him, he ran off and in fifteen minutes returned with a fine-looking young man wearing a magnificent black mustache, and rubbing his eyes in a bewildered way. The butler recommended him strongly and offered to be "secruit" (security) for him to the extent of twenty rupees. I looked at the boy keenly, and he at me, asked him a few questions hurriedly, answered a few, and in five minutes we had struck a bargain. The train was nearly due. He dashed off to where he had been sleeping, in five minutes ran back with a moderate sized white bundle; I handed him his ticket and three minutes later we were off.

I saw that the idea of going into the jungle on a hunting spree had stirred him up profoundly, and I knew he was my man. His name was Doraysawmy—meaning "gentleman's god!"—and he was worthy of his name. After my other three Madras servants, he seemed almost worthy of adoration. He was a capital cook, a first-rate tailor in his way, clean, neat, and industrious as any New England housewife. Of my own accord I nearly doubled his wages, and at last paid him at the rate of eighteen rupees per month; but he was worth it. He was a perfect jewel of a boy.

When we got to my new hut that night, he showed his good qualities at once. First, he tore the cover off a box, fished out a cork-screw and a cup from the camp chest, and in a moment handed me a brimming cup of Bass' pale ale, the most celestial stuff that ever warmed the midriff of a tired and hungry traveller. In return I gave him a dram of arrack, which helped him also. Then he flew around and undid certain of the packs, made the men build a fire, and in twenty minutes a supper of bacon, eggs, and hot chocolate was ready for me. While I was busy with these, he slung my hammock, and got out my pillow and blanket. I sat and watched him in dumb astonishment; it was so totally unlike any-

thing I had been accustomed to. Such was Doraysawmy's style, and he kept it up right along.

During the first few days following our return to Moochpardi, which is in the Kulungud forest, I sent my men all over the territory searching for elephant signs. Every year previous to that, there had always been from one to three herds roaming about that territory in October and November, but to the surprise of every one, we found none at all. At first I stayed in camp, husbanding my strength for the grand crisis when it should come, and every day we kept hoping a good herd would pay us a visit. A week after our return I was attacked by hard chills, a high fever and a horrible vomiting, which was repeated again and again, until I felt as limp, exhausted, and dry as though I had been run through a clothes-wringer.

The quinine I took for the fever acted like tartar emetic, and this time I actually threw up my jungle fever, for after the ninth inning (or rather outing), it left me suddenly and did not return in full force for a month.

It is strange how quickly one recovers from such sharp attacks of fever. I always made it a rule to eat heartily right along, no matter whether I felt hungry or not, and at the last I leaned upon Bass' ale and port wine as if they were a pair of crutches. Until my last two months upon the hills, my habits had always been strictly temperate, never using tobacco in any form, nor drinking any kind of spirits, wine, or beer, or even tea or coffee when at home, where good cold water is procurable. During my former trips to the tropics I was never sick a day, nor took a dose of medicine, but I took to coffee, temporarily. When I was told, on reaching India, that I would have to drink ale, or brandy-and-soda, or else wine, right along, I said "Never," and for the first six months I stuck to coffee, chocolate, and water. After three months of fever and fasting I tried Bass' pale ale, and found it always created an appetite. After a long, exhausting tramp through mud and rain, a pint of that immortal stuff was equal to a four hours' rest. I strongly recommend it to every "temperance man" whose lot may be cast in the jungles of the East Indies. To me it was a glorious medicine, and whenever I was ready to drop down, it was always ready to pick me up.

While hanging on at Moochpardi, waiting for some elephants to pay us a visit—there were plenty of them across the river in the Government Leased Forest—we decided that we would never have

a better opportunity to kill a few more bison and prepare their skins ; so at them we went.

During the whole month of November we had simply perfect weather, clear, sunny, and rather dry, just warm enough to be comfortable in the shady forest. Then we enjoyed the very poetry of forest life. Every morning we rose early, ate a good hearty breakfast, packed away a bottle of ale and a substantial luncheon of bread and meat into one side of my cartridge-bag, and called up the men. In a few words I informed Doraysawmy what I wanted him to do during the day, and what I myself wanted to do, which last he would interpret to the men, with many injunctions to take good care of the sahib. I always carried either my rifle or a larger gun. Channa always came behind me with another weapon and my large shot-bag ; another man carried my rubber blanket and a sharp hatchet, another carried a bundle containing six skinning knives, a whetstone, and a coil of half-inch rope, while very often the fifth man carried another gun. Vera nearly always led the party, but sometimes Channa, while I followed at his heels.

It was Vera's special business to sight the game, but at the same time every other man, save myself, was always on the lookout, and the hindmost men often took pride in calling us back to point out an animal the leading trackers had not noticed. I did not try to keep a sharp lookout, but reserved all my powers for the game when found. I take a little pride in the fact that I always carried a gun, no matter how many miles we tramped in a day. In going through the forest we always went slowly and in perfect silence, no talking save an occasional word in a very low tone, no stick-breaking, every sense keenly on the alert. Whenever any one saw an animal he would instantly utter a hiss or a low, rapid, "tut-tut-tut-tut," made by pressing the tongue against the roof of the mouth, and suddenly withdrawing it with a sucking noise, a signal which was never made under any other circumstances, and at which every one would instantly stop and look sharply about him. Often we would get so near our game that no one dared make even that low signal, and then Vera or Channa would quickly grasp me by one arm and point at the animal.

What a romantic life it was to hunt with such men, through those noble teak and bamboo forests, in such fine weather as we had most of the time, knowing that we were liable at any moment to fall in with some large animal, though, whether it would be axis deer, muntjac, bear, boar, sambur, bison, tiger, or elephant,

we could not possibly tell. There was a great charm in this glorious uncertainty. At noon, we would sit down beside some clear, cold, running stream, put away the lunch and the bottle of ale, and rest for half an hour. We always managed to get back to camp at least an hour before sunset, either with one or two dead animals borne upon a pole, or else a big skin or skeleton, and a few choice pieces of meat. Near our hut was a fine sheet of bare rock, where we cleaned skins, and the clear, running river near by, in which we had our bath when the day's work was done. Ah me! those were indeed halcyon days, each one of them worth a whole year of every-day life, and I would gladly have them back again, fever and all.

Around Moochpardi, bison were very abundant. The death of our first one there occurred as follows: We were hunting through fine bamboo jungle one morning, hoping to find a fresh bison trail, when, glancing down a long narrow opening through the trees and bamboos, I thought I saw a pair of horns move, down in a ravine fully two hundred yards away. Vera was ahead of me, but had passed along without noticing anything. I called him back and pointed out what I had seen, and directly he declared that it was a bull bison. We stalked down to where we had seen him, in a most picturesque little glen, but he was not there. He had not seen us, and we knew he could not be far away. As we surmised, he was a solitary bull, which was a sort of guarantee that he was a fine animal.

We at once set upon his trail, and in ten minutes came full upon him at the top of a bushy ridge. Vera seized my arm, pointed ahead quickly, and crouched down to be out of the way. Not more than forty paces from us, head proudly up and looking full in our direction, stood the noblest bison I ever saw. In an instant I took a quick aim at his shoulder, well down, and fired with the No. 8-bore.

He wheeled around and tried to dash away, but it was hard work. He fell once, but picked himself up, and went staggering down the slope at a terrible pace. Near the bottom of the hill he stumbled, went down upon his knees, and then pitched forward upon his side, legs in air and kicking furiously. To put a speedy end to his sufferings I fired a bullet from my rifle into his heart as he lay there, and a moment later his earthly troubles were ended.

What a splendid animal he was every way! He had a very handsome head and horns, an intelligent, noble-looking face, and a

beautiful mild blue eye. Even my men remarked upon the beauty of his head and face. His measurements were as follows :

	Feet.	Inches.
Height to top of hump	5	10
Height at shoulders	5	4½
Length of head and body	11	5
Length of tail	2	7
Girth	7	10½
Extreme width of horns	2	9
Circumference at base	1	5½
Distance between the tips	1	4
Length on outer curve	2	6½

After all, this was not a bison of the very largest size, for the largest bulls are said to measure 6 feet in vertical shoulder height. Somehow, I can never kill an animal so large but that some one else has killed a far larger one. The "Old Shikaree" tells of killing a bison measuring 6 feet 4 inches at the shoulders, and 6 feet 9 inches to the top of the hump ; but it is my opinion the "Old Shikaree's" rule slipped back very frequently when he was measuring game.

The Indian bison (*Bos gaurus*) is the largest of all the *Bovidæ* or hollow-horned ruminants, and is in every way a noble animal. It is much larger than its American congener, the buffalo (*Bos Americanus*), but, unlike the latter, it has no mane whatever. The hair is short and thin, and upon the hind quarters of old bulls it is so scanty that the skin is almost bare. Its body color is a dark mahogany brown, deepening to black in old bulls ; the forehead and legs below the knees are dirty white, while the inside of the fore-arms, thighs, and ears, both skin and hair, are of a rich ochre yellow. The iris is pale blue, the end of the nose and the lips dirty white. The hump of the bison is nearly in the middle of the back, from which the dorsal ridge drops abruptly four or five inches to the loins. The legs are very neat and tapering, and the hoof is small, compact, and deer-like, indicating that the bison is intended for a life upon hard ground and among hills and rocks. The foot-print of the large bull mentioned above, measured only 4 inches long by 3¼ wide, a remarkably small foot for so heavy an animal.

Unless they have been thoroughly alarmed, bison are very unsuspicious, and are easily stalked and shot. They usually go in herds of from ten to thirty individuals, sometimes more, and, when feeding, can be approached within easy gun-shot without much

THE INDIAN BISON, OR GAUR.

(From photographs by A. G. R. Theobald and sketch by the Author.)

difficulty. I never found much "sport" in shooting a bison out of a herd, except in following the trail, for there is so little difficulty and danger connected with it that I felt no more pride in attacking a herd of bison than I would a herd of bullocks. In fact, when in a drove they seemed too much like ordinary cattle. To show what tame sport bison shooting is when once the game is found, I will relate the following:

Two days after the death of the solitary bull mentioned above, we went out and found the trail of a similar individual, but just as we came to the end of his trail we found he had joined a herd of about fifteen others. I stalked up close to the herd, and fired across a little grassy glade at a fine bull, bringing him down promptly with a shot in the shoulders. Then I fired my remaining barrel at another bull standing among the bamboos, eighty paces distant, but he did not fall. Not feeling very murderously inclined, I leisurely reloaded my gun, the No. 8 muzzle-loader, and for fully three minutes the two bison stood on the opposite side of the glade, watching my movements with the stare of curiosity. When I was ready to fire again the herd sensed the danger and made off, but having one bull I declined to follow.

The next day I shot a large cow, and the day following another, making four bison bagged in five shots. I am sure we could have killed a bison every day for a month or more, had we been so inclined; but my fixed principle is never to kill a harmless animal which I do not actually need as a specimen, or else to eat.

Judging from my own experience with bison, I consider them very timid and inoffensive animals, except under circumstances of great provocation. From first to last I killed only eight, five bulls and three cows, no one of which made the slightest attempt to charge us. Indeed, in my bison-hunting I never took into account the fact that a bison could charge and make mischief; but at the same time the natives of India regard the bison as a dangerous animal, and many experienced English sportsmen also have a thorough respect for him. I saw one native on the hills, who had been attacked by a bull-bison a few years previous, and so badly mauled that his left arm was almost useless. In Coimbatore I met a young Englishman, Mr. Rhodes Morgan, Deputy Conservator of Forests, who once had a severe taste of a bison's horns, and at my request he kindly furnished me the following account of how it happened:

"It was in June, 1874, when I was inspecting a low range of

hills some twenty miles from Coimbatore, that I was going through a forest with a party of Irulars, and suddenly started a young solitary bull bison. After a long, stern chase we came up with him, and saw him standing still and looking at us, eighty yards off. I was armed with a .500 express rifle, and instantly fired at his nose; but, unluckily, he dropped his head as I fired, and the ball, instead of penetrating his brain, passed through his palate and tongue. It evidently severed some large blood-vessel, as the bushes were covered with blood, and we had no difficulty in tracking him. After following him about a mile, we came suddenly upon him, climbing a little, grassy hill some thirty paces above us. The instant he caught sight of me he turned to charge, when I gave him both barrels in the shoulder, which made him gallop madly off into the forest. Tracking him on, I soon saw him standing still and looking at me, some twenty yards off, and instantly gave him another bullet behind the shoulder. He now went crashing down the hill-side and apparently fell, as we heard him kicking, and then he uttered a faint bellow.

"When a bison bellows after being wounded it is almost always a certain sign of death, but in this instance it was not.

"We followed the bull down the side of the hill, where he had evidently rolled, and I was looking about trying to make out where he could have gone, when I suddenly caught sight of his nose not two feet from me! He had backed himself into a dense mass of creepers, and was lying in wait for me! Nothing was visible but his nose, and the instant I saw it, I felt that I was caught.

"In half a second, with a snort like a steam-engine, he sent me flying through the air. I lit on my back, and was immediately struck a blow on my ribs that made them spring inward as the top of a hen-coop would with a heavy man sitting on it. I felt that my last hour had come. He struck me with his head again and again, sometimes on my breast, back, and sides, sometimes on my thighs, while sometimes he struck the ground only in his blind fury. The blood was pouring in a stream from his open mouth, and the hot breath from his nostrils sent the blood in sprays all over me.

"I lay quite still, and he presently stopped and looked at me. Imagining that I was dead, he walked slowly away a short distance, and stood there eying me. There was the stump of a huge tree near me, and I thought that if I could only drag myself behind it I would be safe. I began to draw myself along, bit by bit,

toward it, but in an instant the bull rushed at me again and struck me several fearful blows. I felt now that nothing could save me. He tried to turn me over with his nose, that he might get his horns into me, and getting one horn under my belt he lifted me up bodily. Luckily it was an old belt, and the buckle snapped. He then endeavored to rip me up, so I seized his horn and held on to it with all my strength. In trying to shake himself free he took the whole of the skin off the under side of my right arm with his horn.

"The whole of this time, no fewer than six Irulars had been calmly looking on, and I heard one of them say: 'Dear me! the bison is killing the gentleman!' and another said: 'Send for the shikaree to shoot it.' (The shikaree was two miles away with my tiffin basket!) One of the Irulars now uttered a most diabolical yell. The bull threw up his head, then turned tail and dashed down the hill. Had they only yelled at first, I might have been saved from being pounded almost to a jelly.

"The Irulars all ran forward now to help me to stand up. One of them picked up my rifle, which was lying stamped into the mud and broken by the fall. I was then supported to a large rock, where my first act was to feel myself all over to see if any bones were broken. After lying on the rock for an hour, my shikaree came running up, lamenting. I must have presented a horrible spectacle, for I was one mass of black mud, and smeared all over with blood. The shikaree gave me a drink of water, and, having washed off the blood and dirt, I felt so much better that I determined to kill that bull if possible.

"An Irular climbed a tree and reported that the bull was standing close by, and that if I could get to a certain large rock I could have a good chance at him. Getting upon the rock, I saw him standing just below me, and immediately let him have both barrels of my No. 12 smooth-bore, but my aim was very unsteady. He then went down the hill, crossed a small stream, and stood again on a bit of level ground. I got up within twenty yards of him, when he charged, and I gave him two more barrels. He now attempted to cross a small nullah, when he fell from weakness, but regaining his feet, he went a little farther, and fell between two rocks, where he got firmly jammed. A bullet through the heart then finished him.

"The next day I was carried into Coimbatore, where I was confined to my bed for a fortnight, my whole body being black and blue."

I may remark in passing, that Mr. Morgan, who was about such a youngster as myself, in many respects, showed me at his house a really wonderful collection of hunting trophies, all shot and mounted by his own hands. Ranged around his dining-room were about twenty well-mounted heads of bison, among which was the young bull which mauled him so severely, and the walls were literally covered with skulls, antlers, and stuffed heads of sambur, axis deer, muntjac, boar, bison, bear, etc., etc.

In his parlor were two mounted tiger-heads, two splendid elephant tusks, a tiger-skin mat, a cabinet of bird's eggs, and many smaller specimens of great interest. It is truly refreshing to meet a sportsman who is such an industrious saver of trophies, and who, like myself, cannot bear to kill an animal and let it go utterly to waste.

Among other things, Mr. Morgan showed me his "battery," consisting of eight deadly weapons! The largest was a smooth-bore, B. L., C. F. gun, No. 4-bore with a barrel 3½ feet long, carrying *twelve drachms of powder and a four-ounce ball.* This is the calibre recommended by Sir Samuel Baker, Sanderson, and other noted sportsmen, for elephant shooting! It requires three coolies to carry this gun, turn and turn about on a day's shooting, and Mr. M. fires it from a small tripod-stand he has invented for the purpose. Such a weapon is really a young cannon, and is perhaps such a one as Professor Ward had in mind when he wrote me at the last to "get a howitzer if you can't bring down elephants with your smaller ordnance."

It is a difficult matter to prepare, in the jungle, a large bison skin so that it can be mounted successfully, and for this reason I will describe how I accomplished the task.

My largest bull was killed about 10 A.M., and, being fully prepared, we measured and skinned him immediately. We removed the skin in the same way as described for the tiger, except that to skin the head, we cut the skin loose from around the base of each horn, then slit the back of the neck and head into a perfect Y, with the long limb extending along the back of the neck, and each of the short ones reaching up to the base of one horn at the back. The head can thus be skinned very easily and lifted out through this hole. We carried the skin home slung under a pole—a heavy load for four men—and after spreading it out on a bit of bare ground we all went at it with our knives, to thin it down. On the back, and sides of the neck, the skin was more than an inch thick,

which we had to pare down until we could see the roots of the hair. This was a very laborious task, requiring thin-bladed and very sharp knives.

Late in the afternoon, we rubbed the inside of the skin very thoroughly with arsenical soap, then sprinkled over it about twelve pounds of coarse salt and rubbed it in vigorously with a flat stone. In a short time the salt drew quantities of water out of the skin so that it stood all over in puddles. We then rolled up the skin, let it lie over night, and the next morning thinned it down still more, so that the preservatives could strike the roots of the hair at once. Next we sprinkled powdered alum all over the skin and rubbed it in, using about seven to eight pounds.

After letting the skin lie spread upon the ground for a few hours, fairly pickled in its own moisture, we hung it over a pole in a shady place, spreading it widely with sticks placed cross-wise inside, and the legs were pulled out in various directions and tied fast to stumps. Every night we took it down and put it inside my hut to keep it from the dew and rain. After one very rainy day, two very fine ones, and one that was rather damp, the skin was almost stiff, and quite dry enough to fold up permanently. This skin has since been mounted very successfully at Professor Ward's establishment, and the old bull now stands in the Museum of Comparative Zoology, at Cambridge, Mass.

CHAPTER XVIII.

A MEMORABLE ELEPHANT HUNT.

A Run of Ill-luck.—The Climax.—Strained Relations with an Official.—The Turn of the Tide.—My Last Card.—An Official Favor.—Permission to Kill a Tusker.—Move to Sungam.—A Memorable Elephant Hunt.—A Bad Shot.—Dangerous Ground.—A Bold Advance and a Disorderly Retreat.—Mulcer Philosophy.—A Long and Tiresome Chase.—Desperate Character of the Jungle.—Luck at Last.—The Attack.—An Anxious Moment.—Victory.—The Dead Tusker.—A Sell on the Mulcers.—Skinning a Nine-and-a-half Foot Elephant.—The Modus Operandi.—Camp on the Field of Battle.—Surrounded by Wild Beasts.—Getting up a Scare.—Burning Bamboo.—A Tiger about.—An Accident.—Back to Sungam.—A Mulcer Row.—Fever again.—Mutiny in Camp.

During the first two weeks I spent at Moochpardi, after my return to the hills, my luck went steadily against me, and I soon found myself in a "sea of troubles." In the first place, we saw there was simply no hope of our finding a wild tusker in the Kulungud forest before the close of the season. My funds had become so nearly exhausted that at last, in spite of economy, I had not ten rupees left, and utter bankruptcy stared me in the face. Mr. Theobald was out of reach, or I could have borrowed. Three months before, I had received from Professor Ward a first bill of exchange for £100, with the information that the second would follow by the next mail; but it had failed to turn up, and I was embarrassed. I had written all over India about it, and also home, but it might be weeks longer before I could trace it up, and until I got it, my first of exchange was utterly worthless. My twelfth attack of fever came on and floored me in short order, and for two days I tried my best to throw up my stomach. My ankles were still covered with raw ulcers, six or eight in number, which at times were very painful.

To cap the climax of my difficulties, one day while I lay on my back with fever, I received an official document, bearing the legend "On Her Majesty's Service," from Mr. Gass, officer in temporary charge at Toonacadavoo. The communication politely, but firmly,

requested me to send him all my men, to work for the Government. He claimed that during my absence from the hills, he had made advances of money and clothing to the Mulcers, and therefore their services properly belonged to the forest department.

Here was a pretty fix. The loss of the men I had trained to assist me meant nothing less than the destruction of all my plans. When told the contents of the letter and the mission of the Government peon, my men with one accord declared they would not stir a step, and were fairly enraged at the demand. They stoutly asserted they had received no advances from the Government, and no one save myself had any claims upon them. After careful reflection, I made up my mind as to the course I should pursue. It was risky, but I had faith in its success, and acted immediately. I replied to Mr. Gass' letter very politely and respectfully, without expressing any of the indignation I felt, and had all my men except Vera, accompany my communication. But I firmly insisted that the services of the men properly belonged to me, and were only given up that I might avoid even the appearance of doing anything to hinder government work. I also stated that I had made advances of blankets and money to the men, which would therefore be a total loss to me. My gang marched off with the peon, but they privately assured Doraysawmy that after two days, they all intended to run away and come back.

When my men had gone, I began to review my situation, and calculate the chances of ever getting the skin of a big tusker out of the forest in good condition. I noticed that for some time all things had combined against me, and it made me mad. I repeated to myself my always-encouraging doctrine—the only sure thing about "luck" either good or bad, is, that it is bound to change. A long streak of bad luck always rouses the bull-dog element in my nature, and I feel like fighting it until it gets tired enough to quit. With my fever still burning, and my men all gone but one, I was only able to solemnly declare to Doraysawmy that I would "have an elephant before I left those Hills, or die." A sensible resolution for a sick man!

The very next day my run of bad luck came to an end, and from that moment it steadily improved. While I was taking a bath in the river, my Mulcers suddenly ran down the opposite bank and waded across to me in great glee, with a letter from Mr. Gass, in which he relinquished his claim upon them, and expressed his regret at having proposed to deprive me of their services, under the

existing circumstances, of which he had not been fully aware. Three days later, a coolie from Animallai brought me the letter from Professor Ward, which contained the truant bill of exchange, and it was at once dispatched to Madras to be cashed. I was now ready to play what was very nearly my last card.

There were no elephants in our forest, but across the river, two miles away in the Government Forest, there were two herds. One day we undertook to drive the smaller herd about a mile and make it cross into our forest, so that we might kill one of the tuskers. The plan was a good one, but I needed sixty men instead of six, and practically it wouldn't work. Then I determined to ask the Madras Government for permission to kill an elephant in the Government Forest. It was truly a forlorn hope, with all the chances against its success. A month previous, young Mr. Wedderburn, a son of the Collector of Coimbatore, had assured me that it would be useless to ask his father for permission to kill an elephant, because he was very much interested in "keddah operations" (elephant catching) and had never granted such a permission to any one, although often asked to do so. I had no letters of introduction, and no personal reputation whatever to recommend me to the favorable notice of the Government authorities. If they granted the request I proposed to make, it would be only from motives of pure charity, and not by reason of any claim I could establish. Without daring to hope my request would be granted, I sat down and wrote the following letter:

CAMP IN THE ANIMALLAI HILLS.
November 8, 1877.

To A. WEDDERBURN, ESQ., *Collector of Coimbatore District.*

DEAR SIR: At last I find myself compelled to address you on the subject of wild elephants. Mr. Douglass * advised me to do so when I first came to these hills, but I have refrained until now, hoping it would not be necessary. Under the present circumstances I am forced to make a virtue of necessity and beg your permission to shoot one or two male elephants in the Government Forest. I feel justified in doing so by the following reasons:

Although I am located in the forest belonging to the Rajah of Kulungud, and have his written permission to kill two elephants in his territory, there are no elephants here now, none have been here for weeks, and the chances are, I will never find a herd in this small forest so full of people. On the contrary, there are two herds in the Government Forest that are likely to remain some time, having already been there some days.

My being a naturalist and not a sportsman, and working directly in the in-

* Deputy Conservator of Forests.

terests of science, should, I think, give me a claim to consideration that I would not think of asking were I shooting merely for the sport and glory of the thing. I shoot nothing that I do not want as a museum specimen. Professor Ward, whose Natural History Establishment I represent, has tried long and hard to purchase specimens of the Indian elephant, but without success, and at last I have been sent out here at great expense and trouble, with the elephant as the main object in view. But for the generosity of the Rajah of Kulungud I should have been obliged to make this application to you long ago.

I have come up here again solely for elephants and find none where I expected. The season is rapidly coming to an end, when I shall be obliged to leave these parts, and the chances are that, unless I am permitted to shoot an elephant in the Government Forest as soon as possible, my work is doomed to end in failure. I wish to kill a full-grown tusker, of which I would prepare both skin and skeleton complete.

Hoping that you will consider an exception in my favor justifiable under the circumstances, I remain, dear sir,

Yours obediently and respectfully,

WM. T. HORNADAY.

Everything depended upon this letter. Had I only been a "Dr." or "Professor," or the possessor of any handle to my name, I would have felt less doubtful of the result.

My letter was received by Mr. Wedderburn and forwarded by him, with a favorable indorsement, to his Grace the Duke of Buckingham, Governor of the Madras Presidency. Almost by return mail, it seemed, I received the following official document:

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Read the following letter from the District Magistrate of Coimbatore, dated November 10, 1877. No. 248.

Order thereon dated November 14, 1877. No. 2670.

. . . . . .

The Governor in Council sanctions Mr. Wm. T. Hornaday shooting one full-grown tusk elephant in the Animallai Forest.

(Signed) C. G. MASTER.

Secretary to Government.

This was extremely gratifying in more ways than one. Aside from the success of my plans, it gave me great pleasure to know that my arduous labors as a field naturalist were substantially recognized, and that the Government had granted me a great favor solely upon the merits of my case, in spite of the fact that I was a nobody. While I felt really entitled to an elephant, and it was

no great loss for the Government to give me one, as elephants may never be caught on the Animallais, yet it would have been an easy and natural thing for the Governor and Executive Council to have refused my rather cool request. But the favor was granted, cordially, gracefully, and promptly. And the people of Northern India and Ceylon call this the Benighted Presidency! Then my worst wish for them is, that the same darkness may overtake them soon.

Two days after the above-mentioned order came to hand, we moved our camp to Sungam, a timber depot and elephant camp in the Government Forest, near which were the wild elephants. Learning the general whereabouts of a large herd, we equipped ourselves for the chase with cooked food, knives, blankets, hammock, ropes, etc., and set out to find the trail, determined to bring down a tusker before returning. It was a memorable chase, an appropriate ending of my laborious work in those hills, and I am tempted to narrate its chief incidents.

We found the trail where it crossed the road, within a mile of Toonacadavoo, and led straight away into Curran Shola, a wide tract of wild, tangled, and fearfully hilly jungle, which I had never before penetrated. In one place Vera and Channa did some very skilful tracking. This was in a bit of dense jungle where the earth was as bare, smooth, and hard as a base-ball ground, upon which the soft, rubber-like feet of the elephants left scarcely any impression. In this spot, the herd had scattered and fed all around over several acres, and the trackers had great difficulty in finding the direction finally taken by the herd. But they ciphered it out at last and on we went.

In passing through a stretch of fine, lofty, bamboo forest, we came to a place where the elephants had apparently started to make a clearing. On a space of nearly two acres in extent, nearly every bamboo, old and young, had been pulled down and smashed to splinters, and their long, green stems lay twisted, torn, and piled in dire confusion. Whole clumps had been pulled down, a stem at a time, just for fun. The place looked as if a small cyclone had struck it.

About noon we came upon a portion of the herd feeding upon a steep hill-side, and, taking up a position on the opposite slope but quite near by, we rested and watched them. Unfortunately there was no tusker in this lot, nor even a "muckna," or tuskless male. As we sat on the steep hill-side, the elephants fed toward us, but

below our position, and finally they passed along the bottom of the nullah almost at our feet, within ten yards of us. But we had seen the marks of tusks on several trees as we came along, and we knew there were tuskers in the herd somewhere.

Feeling sure these females would join the rest of the herd, we followed them, and about two miles farther on came upon the entire herd feeding in a dense patch of dead and fallen bamboos, rank weeds, grass, and young bamboo shoots. Curran Shola is full of just such patches, where the fallen bamboos have destroyed the shade and the moisture, and caused the place to grow up with rank grass, thick thorn bushes and trailing vines, the very worst place in the world in which to attack elephants.

We manœuvred around the herd until the elephants began to work out of that wretched brush patch into the open jungle which surrounded it, and then by making a very risky stalk I got close up to a splendid old tusker and fired at his temple. A total failure. Fool that I was, I undershot the brain because the elephant was below me. The tusker rushed into the thick patch, several other elephants rushed out of it toward me, then stopped and stood motionless for some seconds. Presently they turned about, went back into the thicket, and began feeding again.

We undertook to follow up the tusker, but it was very nervous work. We could not get along at all save by following the elephant paths, and a charge under such circumstances might easily have been fatal to some of us.

I posted Nangen up in a small tree, whence he could see all over the thicket, and with Vera leading the way and Channa at my heels with a spare gun, we went in. The bushes, grass, and weeds were, in places, nearly twice as high as our heads, and except for the elephant paths we could not see five yards in any direction. We kept a careful eye upon Nangen all the time, and it was well for us that we did so. All at once his arms began to fly about like the sails of a wind-mill, as he violently gesticulated at us and looked unutterable things. Directly we darted back to a place of safety, and the next moment two large elephants walked rapidly across the very spot from whence we first saw Nangen's warning pantomime. Then we concluded not to risk getting amongst twenty-five or thirty elephants in such a place as that was.

After a time the herd quitted that thicket, walked rapidly through the open jungle for a mile, and entered another of the same nature, only much worse. For an hour the elephants went

feeding up and down in that thorny tangle, crashing over the fallen bamboos, within thirty yards of us sometimes, but I dared not attack them. I supposed then that I was over-cautious, and that an older hunter would have gone at them as they were without delay; but I resolved I would not do it, cowardly or not. I have since found that even the oldest hands sometimes find their elephants in such cover that they dare not venture into it, and my caution was well-timed.

Once I screwed my courage up and ventured into the thicket for about forty paces, alone, but with my gun ready for instant use. Suddenly there rose, out of the thick bushes close before me, the end of a huge trunk with the tip bent forward, scenting the air. In an instant I was discovered, and the elephant gave a perfect bugle call, loud, clear, and thrilling. Directly the elephants went crashing wildly up and down over the fallen bamboos, making a fearful noise; I turned and ran for open ground, and at that moment there came a sharp clap of thunder. For a moment I believe my hair actually stood on end, for it seemed as if bedlam had broken loose; but I soon gained the shelter of a tree, and had a quiet smile at my fright. Shortly after this it began to rain in torrents, and being within about five miles of camp we went home.

Doraysawmy expressed himself as having been deeply concerned lest I should come to grief under the feet of an elephant, and my safe return took a great weight from his mind. That night he held a solemn council with Vera and Channa, enjoining them to take the greatest care of me. My trackers said to him, so he told me, that "it would not do at all for the sahib to get killed, for if he should, who would give them and their people rice and tobacco, arrack and money, to say nothing of fresh meat?" Yes, they said, they would be very careful of him.

The next morning at daybreak, equipped as before, we set out for the spot where we left the trail the previous evening. The chase that day led through the worst jungle I saw anywhere in India, and over the roughest ground.

Early in the day it took to the side of an immense ridge several miles in extent, half a mile from top to bottom, and everywhere very steep. The ridge was scored all along with deep nullahs, one after another, and the whole slope was a tangled mass of dead bamboo clumps, some fallen bodily and others still standing; rank, green bushes and vines, set with cruel, hook-like thorns, and tall grass everywhere, making the tangled density more complete.

Ahead of us that ridge-side seemed to stretch out interminably, and of the same desperate character all the way. Of course we could not stir a step through such thick stuff without following in an elephant trail, and in case of a charge we could not have run ten paces, except forward or back.

The dead bamboos lay in piles across our track, and, while the elephants stepped over them with ease, we were obliged to climb and scramble over as best we could. It really seemed that the trail led up hill all the time, and that the jungle was all thorns and briers to scratch and tear us.

About noon we overtook the herd, but in such cover we dared not think of attacking it. For three hours we followed along within hearing of it, hoping it would enter a more open tract somewhere in which we could dare to move about. Once we spent a laborious half-hour in trying to approach the herd from the upper side, but utterly failed. At last I began to feel quite exhausted, and my men also complained of being very tired. Getting fairly desperate, I determined to bring matters to a crisis immediately, no matter what the consequences might be, and then fortune favored us a little. The herd dispersed and began feeding on the side of a ridge which ran down the steep side of the mountain; the cover was more open, and the wind was in our favor.

I soon found three large elephants feeding together on the hill-side below me, and after watching them a few minutes I saw through the leaves a gleam of white tusks. Bidding all the men stop at the top of the hill, I went at the group alone, and five minutes later was crouching behind a small bush, within twenty feet of the tusker's head. He seemed to be a monster in size, and I thought his tusks were very fine also. He was standing almost broadside to me, but a thick green bough concealed nearly the whole of his head, and prevented my firing. In anxious suspense I crouched behind my little bush, with bated breath and finger on trigger, waiting for the old fellow to move on a single step and pass that branch. But he would not. I fretted and fumed inwardly, and was about to fire through the leaves and risk it, when a young, half-grown elephant pushed up alongside my tusker, reached out his trunk deliberately, laid hold of that identical green bough and swept it down! Thank you, my young friend!

In an instant I saw I had neither the fair temple nor forehead shot, but just between the two. Aiming about six inches above the eye, my old No. 8 woke the echoes the next moment, which was

followed by a grand rush on three sides of me. I wheeled around, ran up the hill a few paces to a small tree, and reloaded with all haste. I listened to hear a fall, but if there had been one the noise made by the fleeing herd would have drowned it. Fearing my shot had been a failure, and another laborious trial lay before us, I hurried down the hill again.

Victory! There lay my noble old tusker, stone dead! He had sunk down in his tracks and died without a struggle or a sound. My zinc bullet had passed entirely through skull and brain, and buried itself ten inches deep in the flesh of the neck. Our dangerous and tiresome chase was ended at last, successfully, and we all rejoiced.

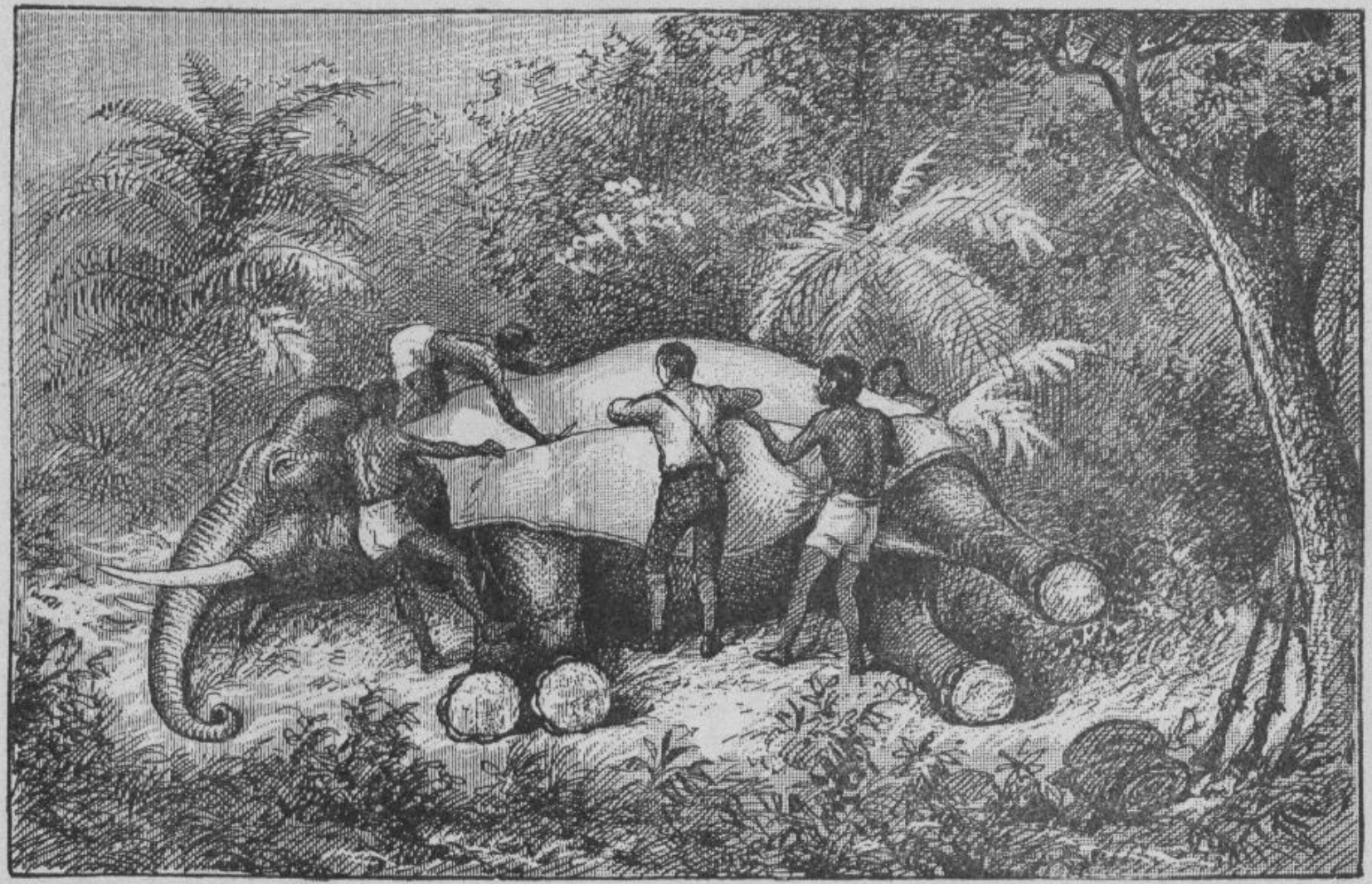
After the manner of griffins generally, I scrambled upon the top of the huge carcass, and opened a bottle of Bass' best in honor of the occasion. Then I called for a certain black bottle in one of the Mulcers' bundles which, as they well knew, had been carried for their especial benefit. There was a general smacking of lips as I produced a cup, drew the cork, and poured out—cocoanut oil! There was a stare of blank astonishment, a general murmur of disappointment and wrath at Doraysawmy, and the next moment, despite our chagrin, we all burst out laughing at the absurdity of the occurrence. My boy had simply given us a bottle of cocoanut oil instead of the arrack the souls of the Mulcers yearned for.

Our first care was to measure our prize, which we managed to accomplish with fair exactness. His dimensions were as follows:

Vertical height at shoulders	9	feet.		
Height at middle of back	9	"	6	inches.
Length, tip of trunk to tip of tail	22	"	10	"
Length of tusks	3	"	6	"

Although our elephant was a large one, his tusks were in reality rather short, but thick in proportion to their length.

It is no light task for six men to skin an elephant weighing four tons or more, in thick jungle, miles from any road, and preserve it, in spite of rain and sun, in a fit state to be transported and successfully mounted afterward. Many of my friends in India, and at home in the Establishment, had expressed the opinion that such a task could not be successfully accomplished under such circumstances Mr. Theobald was not only doubtful but quite certain that it could not be done. It is a very difficult matter to remove and preserve the skin of a large elephant, even in a menagerie, with all



SKINNING AN ELEPHANT. (*From a sketch by the Author.*)

possible assistance and appliances at hand, but it is infinitely more so in a rainy jungle. In fact, Professor Ward and I were about the only persons who believed it possible to accomplish what I had undertaken. For my part, all I asked then was that the fever would keep away from me for about ten days.

After a short rest, in which our previous fatigue was entirely forgotten, we got out our knives and went to work. The elephant lay fairly on his side, and the top of the carcass was just as high as the top of my head ;—"a mountain of mummy." I decided that it would be impracticable and unnecessary to remove the skin entire, although we could have done it, had it been desirable. I think it inadvisable to remove and handle an elephant skin entire, even under the most favorable circumstances, and were I called upon to skin an adult elephant in a menagerie, I should proceed precisely as we did then. We decided to cut the skin in three pieces, in such a way that when mounted none of the seams would show, and to this end we slit it open straight along the under side of the animal, straight along the middle of the back, and cut off the head, as the third piece, just at the crease in the neck. Dividing the skin along the middle of the back was terrible work, it being fully an inch and a half in thickness and indescribably tough. Then I congratulated myself upon having thin-bladed knives of the best shear steel, made especially for such work.

Of course each leg was slit from the sole of the foot, straight up the inside, to the opening along the breast and abdomen. When the opening cuts had all been made, we began at the middle of the back and skinned down the side which was uppermost, rolling the heavy skin over as we went along. When we reached the hip and the shoulder, we cut away a few cubic feet of flesh, cut off both the legs, and worked on down to the cut along the abdomen. After getting this half of the skin clear of the animal, we spread it out upon the ground and skinned the two legs without much trouble.

By the time we had accomplished this it was night, so we washed in the stream at the foot of the hill, built a large campfire, slung my hammock, ate our rice, and prepared to be comfortable. We camped just above the carcass, but quite near it, and while the Mulcers sat around the blazing fire, piling on dry bamboos and discussing the events of the day, I lay in my Ashantee hammock, swinging gently to and fro, gazing up at the green leaves dancing in the firelight. To be sure, I glanced occasionally at the huge red and white carcass just below us within the circle of

light, and in thinking of its fine proportions all the fatigues and dangers of the chase were forgotten, or remembered only with satisfaction and pride. The night was clear and balmy, and the stars came out and peeped down through the leaves to see what we were doing. A light breeze came from the west, setting all the leaves a-whispering, and the bamboos rubbing together with peculiar measured "creechy-crawchy" sounds, like the creakings of a ship's rigging. We were many miles from a human habitation of any kind, in a wholly unfrequented part of the forest, and our only neighbors were the wild beasts of the jungle; but as I rolled myself snugly in my blanket and surveyed the wild scene, I vowed that this was "the jolliest life that ever was led."

Just as we were about to settle down for the night, we were rather startled at hearing a loud, ringing trumpet-note issue from the jungle on our right, and rather near us, too. This did not greatly matter, only we hoped the herd would not come our way just then. But a moment later this call was answered by a similar note from the valley on our left, and then we knew we were just between the two portions of the divided herd, and the elephants were trying to get together again. Neither party was much more than a quarter of a mile from us, apparently, and the Mulcers began to grow uneasy. They built another large fire and piled on dry bamboos until both blazed high; and I concluded I would feel more comfortable if I swung my hammock just between the two.

But the elephants kept trumpeting and answering back across that half-mile of jungle, waking the silent echoes far and wide with their shrill bugle calls, until at last we saw that they were unmistakably approaching each other in a direct line for our camp.

Then we bestirred ourselves. The Mulcers piled a lot of blazing fagots at the foot of a thick clump of dead and dry bamboos which still stood upright close by. The dry branches and stems caught fire directly, and the flames climbed to the very top of the clump, roaring and crackling fiercely, and throwing out a great light all around. Then the Mulcers began to yell like demons, in which noise I also joined my gentle voice, and I am sure that, could my reader have passed that way just then, he would have taken us for a party of imps out on a midnight spree, and trying to frighten all the wild animals out of their senses.

As might be imagined, the elephants gave us a wide berth, but their trumpeting was kept up at intervals all through the night. The Mulcers sat up all night by turns, watching, and keeping up

the fires. In the small hours of the morning, when all was still, Channa quietly awakened me with the whispered words, "*Naree*, sahib!" In another moment I heard the low, deep growling of a tiger in the thick jungle near us, the second time I ever heard that sound in the forest. It was repeated at intervals, in the same half-angry, menacing tone in which a cat warns an intruder away from its prey. I felt that there was little danger of the tiger falling foul of us, because in the first place I knew he could not be a man-eater, and it was evident that he had been attracted to the spot by the scent of warm blood and the flesh of the elephant. He evidently recognized the fact that possession is nine points in law, and admitted the superiority of our claims by keeping away; but the next day we found his pugs, and saw where he had made his lair and lain him down to sleep within seventy yards of our camp.

The next morning we went at the carcass almost as soon as it was light enough to see. We first cut out the entrails and vital organs, and with indescribable difficulty dragged the unwieldy mass a short distance down the hill. That done, we cut off a quantity of flesh from the breast and pelvis, then went to work with a series of levers, props, and ropes attached to the two remaining legs, and after about two hours' hard work, we succeeded in rolling the carcass completely over, with the head still on. One member of my gang, Corlee, had stayed at camp playing sick, so there were only five of us to manage that elephant. After rolling the body over, which we considered quite a feat of engineering skill, we soon removed the second half of the skin and partly skinned the legs. That done, we spread out the two sides of the skin, inside uppermost, covered them with green boughs so that the sun should not shine full upon them, and leaving the head as it was, started for Sungam about 2 P.M.

Just as we were starting, a misfortune overtook me. In picking up our traps Vera stepped upon a sharp knife that had been dropped in a pile of green leaves. The Mulcers are always barefooted, and the keen blade made an ugly gash in Vera's foot, severing a small vein which bled profusely. Being provided for all such slight emergencies, I at once took two stitches in the cut, applied court-plaster and cotton, bound it up, and we started for camp, cutting a path through the jungle as we went along. As I feared, the exertion made Vera's wound bleed profusely in spite of all I could do, but he insisted upon going on.

When within about two miles of camp we crossed a small rocky

stream, and I made Vera bathe his foot in the cold water while I cut a pair of forked sticks to serve him as crutches. A native of the East Indies has no more idea of a crutch, and how to use it, than of a quadrant. I was stooping down on a broad, sloping sheet of rock, trimming a stick with my hatchet, with Vera standing above and behind me, when he suddenly fainted from loss of blood, and the first thing I knew, he pitched forward full upon my back, knocking me flat upon the rock and half into the water. It was a lucky fall for him, for had it not been broken by me as it was, he would have pitched head first upon the rocks, and very likely broken his neck or cracked his skull.

We brought him round in due time, and leaving Nangen with him we started on to camp, to send back four men with my hammock slung to a pole to bring him in. I sent after him immediately upon reaching camp, but the men met him half way, walking slowly along, and a good dose of arrack helped him to accomplish the remaining distance. But he was utterly incapacitated for work for an indefinite time, and I lost his valuable services during the remainder of our task.

This was the first of a series of unnecessary and unlooked for misfortunes and difficulties which came upon me during the preparation of that elephant skin and skeleton. That night there was a social scandal and a grand row in the Mulcer camp, not far from our huts. About bed-time, while I was writing in my journal a record of the day's events, the usual murmur of voices in the huts across the river gradually swelled into a loud jangle, which rapidly increased in volume every moment until it became a perfect tempest of angry voices, pitched on their highest key. Very soon it became evident that an unusual commotion was afoot, for the lights suddenly went out, a bamboo hut was torn down, women and children began to scream, and we distinctly heard the sound of men struggling and blows falling upon bare flesh.

Thinking it high time to interfere, I called for Doraysawmy and the elephant doctor, and snatching up a lantern, we ran down the hill toward the Mulcer camp. The place was in total darkness, but the sounds which met our ears plainly indicated that the Mulcers had gotten up a little hades of their own. Our sudden appearance upon the scene, with a loud call for "order" from the doctor, caused most of the Mulcers to fall back, but the principals in the fight paid no attention. We soon pulled them apart, however, and commanded them to keep the peace. The boy Moreeah,

had been punished most of all, which afforded me no little satisfaction, for he had always been the worst grumbler in my gang, and made me the most trouble. More than once I was tempted to thrash him myself. After considerable trouble the camp was restored to a peace footing, and all hands settled down for the night.

The next morning, while making up the packs, I had a chill, which of course was followed by fever and a splitting headache. Can it be possible, I asked myself, that I am to lose that elephant skin on account of fever? It really did seem possible. Nothing short of my presence and assistance could save it from ruin within the next twenty-four hours. As my fever increased, I began to be discouraged. Doraysawmy finished making up the packs, consisting of the small tent, necessary provisions, and about a hundred pounds of salt and alum. When all was ready for a start I called up the men and told them we were ready, whereupon they sat down upon the ground, and all but Channa refused point blank to go! Here was a pretty situation for a man with the fever upon him!

CHAPTER XIX.

END OF THE ANIMALLAI CAMPAIGN.

Balky Mulcers.—Work on the Elephant again.—Wild Beast versus Tramp and Burglar.—My Mulcers go on a Strike.—Playing a Lone Hand.—Bringing the Men to Terms.—A Bloodless but Complete Victory.—Another Tiger about.—Treatment of the Elephant Skin.—The March out to Sungam.—The Season.—The Last of my Hunting Gang.—Descent from the Hills in a Storm.—Paradise Lost.—Fever Again.—Good-by to the Animallais.—My Collection of Mammals.

THE lazy rascals knew there was hard work ahead, and I was soon to leave the hills, and having accumulated a goodly number of rupees in my service they shrank from further exertion. This, too, in the face of the fact that I had doubled the wages of each man on the evening previous! When we started on the hunt I promised the men a present of five rupees each when we had killed an elephant and skinned it, and the men demanded their money then and there, declaring they would not go a step unless I paid it. Knowing full well they would immediately desert me if I complied, I firmly refused their demand, and declared that unless they all went with me, and at once, none of them would ever receive a single anna of the prize money.

They were stubborn as mules, and refused to stir. In the presence of them all, I called up a messenger and told Doraysawmy to order him, in their hearing, to start at once for Animallai village, and bring me ten chucklers (tanners) before night. He understood my game, and started at once, apparently on the errand. Animallai village was twenty miles away, and before a messenger could go and bring help from there, the skin of my elephant would be ruined by decomposition. An uncured elephant skin cannot lie long in hot weather without spoiling. While Doraysawmy and the elephant doctor were wrangling with the Mulcers, the sun kept climbing higher and higher above the tree tops, and I knew that a few hours more would seal the fate of the skin I had already worked so hard for.

My little ruse set the men to thinking. Their wives soon found out the situation, and with lame Vera to back them, came across the river to where the men squatted sullenly around the door of my hut, and attacked them with a perfect volley of abuse for their laziness and stupidity in throwing away their claims upon the sahib's rupees.

The combined pressure was more than the men could stand, and Doraysawmy soon announced their willingness to go. By the time they had their packs ready I had passed the turning-point in my fever, but felt miserably ill. Knowing, however, that if I showed how I felt, the men would refuse to go a step, and that I must get to that elephant or lose it, I took a stick to lean upon, and started on ahead at a snail's pace, with my brain throbbing and jumping at every step. I determined to walk as far as possible, and if I gave out entirely, would be carried the rest of the way. The day was clear and fine, I bathed my head in every stream we crossed, rested about twenty times, and finally climbed up the steep hill-side to the scene of the wreck.

By that time I felt much better, and without the loss of a moment, we got out our knives and went to work. We had a few hours of daylight left, and all worked like beavers. I had Channa and two others cut off the head and skin it carefully, while the rest of us—we were then seven in all—skinned the feet and cleaned the inside of the entire skin, removing from it a quantity of adherent flesh. Half an hour before sunset we had the entire skin ready for the preservatives. At that time it weighed not less than nine hundred pounds (I believe eleven hundred would be nearer the mark!), being in many places an inch and a quarter in thickness.

With a brush, I washed the skin over on both sides with a strong solution of arsenical soap and water, and then sprinkled salt over it in liberal quantities and rubbed it in vigorously with a flat stone. Both sides were treated in this way, after which we folded it up compactly and let it lie to absorb the preservatives. At sunset the skin was safe.

Then we pitched the little tent, slung my hammock inside, the men made a lair for themselves under a clump of bamboos close by, we ate our suppers and turned in.

During the night we heard elephants trumpeting in the valley below us, reminding me of the distant band-music one often hears in a city on summer evenings. This led me to wonder how many elephants, tigers, bears, deer, and wild boars were at that moment

wandering about the dark forest within a mile's radius of our camp. A goodly number, beyond doubt, enough to make my reader shudder, perhaps, at the bare thought of being there. But softly! Wild beasts are far better company than the drunken roughs, the thieves, burglars, incendiaries and murderers who surround you in the city, or the tramps, combining all these disagreeable vocations, who infest the country generally. If I am to choose between tramp and tiger, I will say, give me the tiger every time, for he is far more honest and respectable as a general thing, far less revengeful, and a better member of society every way.

We had saved the skin of our elephant, or were in a fair way to do so at least, but there remained the task of cutting out the bones of the skeleton also. Our animal had been dead three days, and he began to smell like Lazarus in the sepulchre. The carcass had become a perfect ammonia-generator on a large scale and the vapor soon became almost overpowering. It was necessary to cut out the bones very quickly, or advanced decomposition would very soon render it impossible.

My boy and I were up at daybreak, and after drinking a pint of good strong coffee I called the men. Instead of getting up and preparing to work, they merely sat up and stared at me in a sleepy, stupid way, without offering to obey. Doraysawmy exhorted them briskly to get up and go to work, for the carcass was beginning to smell bad.

The men replied, "How can we work on that stinking thing? It would make our stomachs sick!" Moreover, they declared they had only agreed to work on the skin, and that was done; they did not care to work on that thing for eight annas a day! Then, in my most commanding manner I commanded them to get up and help me. I commanded in splendid style, but they wouldn't obey! They merely gazed at me in sullen silence, stubborn as mules, and after a while lay down to sleep again.

It was a regular strike, from sheer laziness, and was perfectly exasperating. Should I take a stout stick and attempt to thrash them into obedience? If I did, they would of a certainty run away, and that would be a calamity indeed. I thought of a milder and far better plan, although I could not expect any results from it until the next day. An Indian native is proud and insolent so long as his stomach is full, and he has you in his power; but when it is empty, he is your humble servant. I told Doraysawmy to take no further notice of the men in any way, and after sharpening the

whole set of knives, I rolled up my sleeves, gave my olfactories leave to suspend work for the day, and went at the huge carcass as eagerly as if it had been a plum-pudding. It was high time, for it was almost ready to walk away of its own accord.

It was not Doraysawmy's duty to do work of that kind, and, being my cook, I greatly preferred that he should not; but the faithful fellow could not stand it to see his master work alone. He threw off his jacket, lit his pipe, rolled his sleeves high up and fell to work on the side opposite me. The Mulcers looked on in wonder. We worked like a couple of steam engines, and the flesh rolled off the skeleton in chunks half as large as ourselves. From time to time, I fired up with Bass' ale and port wine, and the longer the fever kept away the harder I worked. The Mulcers lay there within twenty yards of us, wrapped in their cloths, sleeping the sleep of innocence.

By four o'clock we had the entire body and pelvis roughed out, and the worst was over. Then the Mulcers got up, yawned, shook out their cloths and started down to work. We took no notice of them until the first comer picked up a knife, and then I bawled out at the top of my voice,

"Drop that knife!"

He dropped it. He did not understand the words, but the tone and gesture were unmistakable. The Mulcers were astonished.

"But we are going to work!" they said to Doraysawmy.

"The sahib says you shan't touch this elephant," he replied in a savage tone.

"Well, then we will go!"

The boy told me what they said, and in their own language I told them, "Go, you rascals!"

Then said Doraysawmy impressively, "If you Mulcers go off and leave the sahib alone in the jungle, Theobald Sahib will give each one of you six months in jail!"

There was far more truth than poetry in that statement, and the men knew it well. We knew they would not dare to go unless I abused them. Somehow, European sportsmen and Government officers have all natives so thoroughly trained that they have a wholesome fear of the consequences when they are tempted to abandon a white man in the jungle. Usually they will not do it under any circumstances, for I remember that when I wanted the Mudumallay Chetties to leave me alone with a dead bull bison while they went after more men, they refused point blank and

obliged me to accompany them. The Mulcers feared a day of reckoning would come, so they did not dare leave me in the lurch.

At night, while my boy was preparing my supper, the men timidly asked him for rice. We always kept the rice in my tent, and served it out every night, with their salt, tobacco, and money. To save trouble, I paid my men their wages every day. Their request was brought to me, and putting on an awful look I said "No!"

Then the men were stricken with penitence and confessed their sins, saying they had been very bad, their heads were all wrong, and they would never be so lazy again. But they got neither rice nor tobacco. As they were squatting around the door of my tent, watching every mouthful I took at supper-time, a happy thought struck me. I told my boy, and he went almost beside himself. He told the Mulcers to "bring the arrack cup," and they said "Oh! the sahib is going to give us arrack!" How they smiled, and smacked their lips! They brought the cup instantly, I took out a bottle of arrack, uncorked it, and poured out a good drink, looked at the men and saw that they eagerly followed my movements, then handed the cup to Doraysawmy. He drank it off, and smacked his lips fervently several times, while I quickly corked the bottle and put it back in the box. A murmur of mingled surprise, disappointment, and remonstrance arose from the group outside, and presently the men went slowly and sadly away to their own fire.

The next morning the Mulcers awoke hungry. They immediately came to me and announced that they would work if I would give them something to eat. I replied, "How can I give you food when you do not work? You must work before you eat my rice!"

Seeing there was no help for it, they took the knives and fell to work upon the half-cleaned elephant bones as though their souls had yearned for that business. I sent Doray and Channa off to Toony for fifty pounds of salt, and all day I stood over the remaining men, scowling fiercely but saying not a word, like a veritable overseer of slave times, grinding their knives at intervals, and watching their movements.

I never saw men more devoted to their work. They could not even spare time to talk to each other, except now and then to speak in a low tone of "conjee" (rice soup), with the reverence accorded to the name of a departed friend. When sunset came I told them to stop work; and after the knives had been cleaned and put away, wood collected for my camp-fire, and water brought from the

little rivulet, I served out a day's rations of rice and tobacco. They had had forty-eight hours between meals, and never were strikers more effectually cured. From that time until I left the hills, they worked faithfully, with never a grumble, and when on final settlement, I partly carried out my threat by stopping a rupee out of each man's prize money, they did not offer a word of complaint, but frankly admitted they had used me very ill.

The next day being my birthday, I took a holiday, and wrote up my journal. The only incident of the day was our hearing a tiger roaring in one of the ravines below us, not more than a quarter of a mile away. I declined to go after him in that thick underbrush, for had I gone in his neighborhood, he would probably have done a little hunting on his own account.

I had the men unroll the elephant skin, and we found it full of water, but beginning to harden quite properly, and after keeping them at work half a day, thinning down the thicker portions with their knives, we freely applied salt and powdered alum together upon both sides, and again folded it up. I found by experiments that the best way to preserve a very thick skin without a bath in which to soak it, is to treat it with salt first and let it lie a day or two before putting on any alum. Salt strikes through a thick hide where dry alum only goes half-way, leaving the other side to decompose. After decomposition has been arrested by salt, then it is best to apply powdered alum to harden the skin and dry it up completely.

After the men got through with their little strike, I had them clean all the elephant's bones very thoroughly, and after soaping them they were tied up into bundles and made ready to carry out. By the time we were ready to break up camp and move to Sungam, a gang of about twenty coolies arrived from Animallai to assist in carrying out our elephant skin and skeleton. Each of the large sections was slung under a couple of stout poles, and eight men were required for each section. Four more men carried the skin of the head, while my Mulcers carried my camp equipage and a few bones of the skeleton. Doraysawmy again showed his estimable qualities in helping me manage the packing up. It was a queer procession that marched down that steep hill and through the forest toward Sungam. This time I brought up the rear, to see that no valuable article was dropped and lost.

When we reached Sungam, the Mulcers had scarcely time to put down their loads before they were set upon by their wives,

who had heard all about the strike, and they were roundly abused for their laziness and neglect of their families. The men looked thoroughly ashamed, and each took his lecture very meekly. Poor wretches! it was probably the first time in their lives they ever felt fat enough to strike, and they wanted to see how it would feel to defy a white man and refuse to work.

The next day, part of the men went back and brought away all that remained of the skeleton, while I set the remaining ten, who belonged to the chuckler caste—tanners—at work upon the skin to thin it down still more. They all worked upon it three days, in which time they cut off several hundred pounds of the tough fibre. We now kept the skin spread out all the time, and it began to dry rapidly.

Having succeeded in adding to my collection of Indian mammals the skin of a full-sized male elephant in perfect condition, I was ready to leave the hills. It was then the first week in December, and I had had all the hunting I wanted. Mr. Theobald was gone, and so were nearly all the people attached to the Forest Department. We were then in the middle of the northeast monsoon, it rained a great deal, and the forest, being now almost deserted, seemed really gloomy. On the other hand, however, the elephants and bison had come down in great numbers from the higher ranges, and were quite thick all around Sungam and Toonacadavoo, where they were seldom seen earlier in the season. In many localities where, four months previous, I had hunted through grass not more than a foot high, it was then all of five or six feet. It always made me feel uneasy to walk through grass as high as my head, which could conceal a crouching tiger so closely one might almost stumble over it before seeing it. It is only the abundance of game that preserves the defenceless hill-people from being eaten one after another, and I have often wondered that the game-killing tigers do not occasionally strike down a man by mistake. There are plenty of tigers on the Animallais, for we often saw their pugs, but the cover for them is so continuous, and game so plentiful, that regular tiger hunting is out of the question, and perhaps always will be.

As soon as the elephant skin was dry enough to be transported, I sent for three bandies to meet me at the foot of the hills, and three more to cart my collection and camp equipage down. The day we were to start, we loaded the carts and were almost ready for a move, when a terrific rain-storm came up and delayed us for some hours. About noon it cleared up, however, and being very anxious to make a move, we set out. My Mulcers marched with us

for about five miles, to show their good will, and even in spite of their late waywardness I felt quite sorry to part from them. They were bound to me by the ties which only a hunter can understand, and I shall always have the "man-and-a-brother" feeling for my faithful and courageous companions of the chase. Together we had been in at the death of many a fine animal. They had always shown themselves plucky in the face of danger, and except in two instances, they had always been faithful and obedient. They begged me to come back soon and shoot some more elephants, and loudly lamented that I needed to go away at all. Poor wretches! it will be a long time, I fancy, before they have another such a "continual feast" of bison, deer, pig, and monkey as they grew fat upon during my four months' shooting on those hills. They are too poor to own fire-arms, or even to use them, hence the greater part of the time they hunger for flesh with game all around them.

When our train reached the top of the pass and began to descend the winding, slippery, and dangerous road, heavy clouds swept against the mountain side, enveloping us in their disagreeable mist, which very soon gave way to more serious moisture as the rain began to descend upon us in blinding sheets. Luckily I had packed into one of the bandies the articles which it was absolutely necessary to keep dry, and this load I effectually covered with my tent-cloth and rubber blankets. Of course we were all drenched to the skin, and the rain was very cold. Half-way down the ghaut, one of our bandies took a sudden slide in rounding a sharp curve, and came within *two inches* of going over a precipice and smashing the whole outfit. The road had become a running tream and progress was very unsafe.

Thus was our Paradise lost. Like the pair that was driven from Eden, we went down the rugged road in storm and darkness, into the cheerless and inhospitable plains. How different from the gloom surrounding our departure was the balmy sunshine of our first ascent, when all nature seemed to smile.

Just at dark we reached Ardivarum, at the foot of the ghaut, thoroughly bedraggled, and chilled to the bone. The other bandies were waiting for us, and we lost no time in transferring our freight to them. Doraysawmy was attacked with a severe chill which made his teeth chatter for two hours. Luckily we found at Ardivarum a fourth bandy, and I struck a bargain with the driver to take my boy and me to Animallai. We put into it our camp-chest and box of clothes, and, leaving the heavily loaded carts

to follow on, we set out. It was a miserably cold and tedious ride of ten miles, but we reached our haven at last, and at midnight landed in a good, tight bungalow. We soon put on dry clothes, and after a hot supper we found there was yet something left to live for.

But our ducking cost us dearly, or it did me at least. The next day but one, after my bandies had arrived, everything been safely housed, and the elephant skin folded up permanently, I began to shake and burn. During the next five days the fever shook me up more violently than ever before. The quinine I took to check it acted every time as an emetic, and I cast up accounts about six or seven times daily. My boy became quite alarmed at last, and threatened to take the matter into his own hands, and have me carried forthwith to Coimbatore to be doctored; but I persuaded him to wait a little. I say persuaded, because I had no power to prevent his having me carried anywhere. A famine officer, Mr. Huddleston, stationed in Palachy, heard of my unfortunate predicament and came forthwith to see me. I had previously met him under very pleasant circumstances, and it was with great difficulty that I prevented his carrying me off, *nolens volens*, to his bungalow, to be doctored and cared for. I persuaded him also to give me a little time, and in a few days my fever began to abate. Mr. Huddleston insisted upon dividing his choicest stores with me, and kept me supplied with the best the country afforded. He, too, had hunted "ravine deer," black buck, and nil-gai around Etawah in the ravines, and had bagged several leopards in the same district. He was a very keen sportsman, and while I was convalescing he used to gallop over on horseback and spend his spare time with me, talking of the chase, which I verily believe helped me more than medicine.

I remained at Animallai until I was able to get about again, and then I gave my collection a final overhauling and packed it up in some large packing-cases which I procured from Coimbatore.*

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* I found that my Animallai collection contained the following mammals, skins or skeletons:—2 Elephants (*Elephas Indicus*); 2 Tigers (*Felis tigris*); 1 Jungle cat (*Felis chaus*); 1 Tree cat (*Paradoxurus musanga*); 8 Bison (*Bos gaurus*); 4 Muntjac (*Cervulus aureus*); 5 Sambur deer (*Rusa aristotelis*); 14 Spotted deer (*Cervus axis*); 1 Neilgherry wild goat (*Hemitragus hylocrius*); 1 Black bear (*Ursus labiatus*); 2 Wild boar (*Sus Indicus*); 3 Madras langurs (*Semnopithecus leucoprymnus*); 38 Black langurs (*Semnopithecus cucullatus*); 1 Madras monkey (*Macacus radiatus*); 1 Flying squirrel (*Pteromys petaurista*); 5 Malabar squirrels (*Sciurus Malabaricus*); 22 Flying foxes (*Pteropus Edwardsii*); 2 Indian hares (*Lepus nigricollis*).

The elephant skin I had carefully folded before drying, so that I was able to pack the whole of it in a box measuring 2 feet 6 inches by 2 feet 6 inches by 2 feet, and the whole weighed only two hundred and ten pounds. I may add here that in 1880 this skin was mounted at Professor Ward's establishment in Rochester, by another taxidermist, Mr. J. F. D. Bailly, and myself, requiring four months' labor, and the old tusker who fell under such romantic circumstances on the Animallai slope now stands, still "monarch of all he surveys," in the Museum of Comparative Zoology, of Harvard University, Cambridge, Mass.

At last the day came for me to leave, bag and baggage, for Madras. Usually, in my wanderings in the tropics, when the time comes for me to turn my back upon a given locality, I am able to do so without a sigh, or a single wish ever to return and have my experiences over again. Very often, I am glad to think that I am leaving a place forever; but not so with the Animallais. When the time came for me to take my last look at the precipitous range which loomed up like a wall all along the south, shrouded in a soft blue vapor, I felt the sad conviction that never again would I carry a rifle into such another hunter's paradise as that. The jungles had treated me kindly in yielding up so much, and from that day until my last I shall always have a longing to fight those battles over again.

By dint of the greatest determination, I managed to hold my head up long enough to ship my cases of specimens at Coimbatore, and take the train for Madras. I was not able to call on the Collector, Mr. Wedderburn, to express my thanks for his official kindness to me, and to report my success, but was obliged to make my acknowledgments in writing. After enjoying another fever fit at Madras, I shipped my Southern India collection, five wagon-loads of big boxes, for Rochester, via London, on a Peninsula and Oriental steamer, bestowed my blessing and twenty rupees backsheesh upon Doraysawmy, the gentleman's god, and took passage on a steamer bound for Ceylon.

CHAPTER XX.

THE INDIAN ELEPHANT.

Geographical Distribution.—Indian and African Species Compared.—The Ceylon Elephant.—The Capture of Wild Elephants.—Breeding in Captivity.—Gestation of the Elephant.—Duration of Life.—Growth and Height.—Size of Tusks.—Classes of Elephants.—Uses.—Table of Values.—Intellectual Capacity and Temper.—Elephants at Work in a Timber Forest.—Feeding Elephants.—Cost of Keeping.—"Must," or Temporary Insanity—"Rogue" Elephants.—How an Elephant Kills a Man.—Swimming Power of Elephants.

DURING my stay in Southern India I was so frequently brought in contact with elephants, both tame and wild, that I was able to study them with some care. As a fitting appendix to the record of my experience in the "Elephant Mountains" (Animallais), I will endeavor to give a brief sketch of this interesting animal.

According to the classification of most naturalists, there are only two species of elephants now living, the Indian and the African, both of which are very much smaller than their extinct ancestors, the mammoth (*Elephas primogenius*) of Europe and Asia, and the *Elephas ganesa* of Northern India. The Indian variety (*Elephas Indicus*) is found in a wild state in most of the large forest tracts from the Terai, at the foot of the Himalayas, to within a few miles of Cape Comorin, and also throughout Assam, Burmah, and Siam, and almost the entire length of the Malay Peninsula. In Southern India, elephants are most abundant on the Animallai Hills, in the Wainaad Forest, Coorg, and part of Mysore, particularly the Billigarungan Hills. In the north, they are common in the Bhootan Hills, Assam, and the mountains of Chittagong, and in the Territory of Selangore, near the lower end of the Malay Peninsula they are so numerous and mischievous that an elephant hunter is welcomed by the officers of the government and the natives as well. Elephants are also found in Ceylon in great numbers, and in Sumatra and Borneo, of which hereafter.

The African elephant is still abundant in Africa generally south of the Sahara, except that near the Cape they have been driven back into the interior by the colonial settlements, extending from the Orange River to the Limpopo, and likewise on the west from Senegambia to the mouth of the Niger. On every side their numbers are decreasing with great rapidity, and those that remain are being rapidly crowded toward the heart of Africa. Even there the natives make war upon them, as far as they are able, for the sake of their ivory. Next to the traffic in slaves, ivory-hunting is the most important business carried on in the interior of the continent. Like the gold-hunters of California, those who engage in it penetrate the most remote and dangerous wildernesses, braving the dangers of death from starvation, fever, and poisoned arrows in their adventurous search for tusks.

In a brief comparison of the two species, the following are the most striking points of difference :

The African elephant is undeniably larger than the Indian. Sir Samuel Baker informs us that both males and females of the former average about one foot taller than the latter, of which not more than one male in a thousand attains a vertical shoulder height of ten feet. The African elephant has a convex forehead, that amounts to a decided hump in the middle of the face, the head is peaked at the top, and the ears are of such enormous size that they meet and overlap each other above the shoulders. The Indian variety has a very broad, concave forehead, and the head has a deep, central furrow lengthwise along the top, by reason of which the crown is surmounted by two large rounded humps. The ears are not quite half the size of those which literally cover the entire neck and fore-shoulders of the African individual, and the species are easily distinguishable by this point alone. There are various anatomical differences which it is unnecessary to state here.

The Ceylon elephant differs from that of India proper in so many points as to necessitate the belief that it is a distinct variety. Hundreds of new species have been founded, and acceptably, upon far slighter differences than we find here. In the first place, while nine out of every ten male Indian elephants have tusks, not one out of every fifty Ceylon elephants possesses them, and Sir Samuel Baker goes so far as to assert that they are present in only one animal out of every three hundred. The Ceylon elephant has twenty pairs of ribs and twenty dorsal vertebræ, against nineteen of each in the Indian species, while the latter possesses one more sacral

vertebra than the former. The Ceylon elephant is, without doubt, of smaller average size than its congener of the peninsula, and I believe it could be proven that the same difference in size exists between these two that is found between the Indian and the African.

Strange to say, the elephant which inhabits Sumatra exactly resembles that of Ceylon in point of structure, and many eminent naturalists regard this coincidence as strong evidence in support of the theory that the two islands were once connected by a vast continent. It is, however, much easier to account for the presence of the Ceylon elephant in Sumatra by supposing it to have been originally transported from the former island in a domestic state and afterward allowed to run wild.

The Indian elephant in a wild state is now an inhabitant of Northeastern Borneo, but it is highly probable that in a few centuries all the records will be lost or obscured which now inform us that more than a hundred years ago the East India Company sent some elephants as a present to the Sultan of Sulu, and he, fearing the huge beasts would devour the whole annual crop of his little island, had them landed on the coast of Borneo, at Cape Unsang, where they were to be cared for by his subjects. It is easy to conjecture how long an indolent Malay would exert himself to feed an utterly useless animal with the appetite of an elephant, and how soon the animals would be turned loose to feed themselves in the jungle ; nor is it difficult to imagine the naturalists of the twenty-third century regarding the presence of the Indian elephant in Borneo as proof positive that that great island was once connected with the mainland of Asia and Ceylon by a continent.

Up to this time, the African elephant has never been systematically captured alive and trained to service by the natives, but in Ceylon, India, Burmah, and Siam, elephant-catching has been carried on regularly from time immemorial. About the time of the English occupation, the island of Ceylon contained, almost beyond question, as many wild elephants as the whole of the peninsula of Hindustan, whole districts being completely overrun with them. Great numbers were caught in corrals, sometimes as many as one hundred and sixty head at a single drive, and even as late as the last decade but one, the number exported annually amounted to an average of one hundred and ninety-three. Since the English occupation, thousands have been slaughtered by sportsmen, and thousands more captured and exported, until finally, in 1870, the Colonial authorities decided that the proper limit of destruction

had been reached, and a fine was imposed upon the shooting of elephants.

In former times, elephants were so numerous in Southern India that the Madras Government paid a reward of £7 per head for their destruction. Had this law remained in force up to this time, it is quite sure there would now be very few of the animals remaining in the Presidency, and their complete extinction would be but a question of a few years. In 1873 an act was passed to prevent their destruction, and they are now protected in all parts of India and Ceylon.

In Hindustan, elephants have been caught in the Coimbatore District under the direction of the collector, Mr. Wedderburn ; in Mysore by Mr. G. P. Sanderson under government authority and support ; and in Chittagong, also, an annual catch has been made on government account for many years past. Smaller operations have also been conducted by private individuals (natives) in the same region with official sanction. It is far cheaper, and more expeditious, to catch elephants for service than to breed and rear them, on account of the fact that an elephant is from fifteen to twenty-five years in coming to maturity.

The plan pursued in capturing a wild herd is, like the shooting of one's first elephant, very easy to understand, but very difficult to execute. In a tract of forest which is periodically visited by large herds, a spot is selected with reference to the natural advantages of the ground, such as streams of water, or high banks, and some days or weeks before the elephants are expected, a large force of natives is set to work to build an enclosure. A keddah, as it is termed in India, is constructed by enclosing several acres of forest with a stockade ten to twelve feet high, built of stout posts set close together and strongly braced on the outside, the whole being firmly lashed together with green bark or creepers. At the proper place, usually on an elephant path, a wide gateway is left, and either a heavy gate is made and suspended above the opening, ready to be instantly dropped, or else a number of stout sliding bars are arranged. From each side of the gate, a long guiding wing is built, similar to the stockade itself, the two diverging and extending some distance out into the open forest.

When a wild herd wanders near enough to this huge trap, and on the gate side, an army of native beaters, from three hundred to two thousand men, with tom-toms, rusty firearms, and brazen throats, surround the elephants on three sides, and by judicious

use of their noises, drive them into the enclosure, after which the gate is instantly closed and secured.

A keddah is never so strongly built but that the larger elephants could break through it anywhere, by a combined and determined rush, and when a herd is caught, the defence of the stockade immediately becomes a matter of great importance. The beaters surround it with firearms, torches, and long poles, and whenever an attack is threatened upon any given point, the men rally there promptly, and frighten the assailant away. Judging from what I have heard, I should think native music (!) would be a most excellent thing to employ in defending a keddah. It is so thoroughly frightful that I think even the most determined elephant would run from it.

When the captives have finally abandoned their frantic efforts to escape, and stand huddled together in a terrified group in the centre of the enclosure, the tame elephants and the noosers are introduced at the gate, and one by one the wild ones are singled out and surrounded. Usually three or four tame elephants completely surround one of the others and hold him in his place, while the noosers slip down, quietly tie his feet together with strong, soft ropes, and before he is fully aware of the situation he is ready to be marched out of the keddah between two of the tame animals. Most wild elephants are completely tamed, and ready for work, within three or four months after capture, and not unfrequently good-tempered animals can be ridden with safety in a few days. It is, however, a matter requiring more time to bring an elephant up to the perfection of training. Sanderson declares that the largest and oldest elephants are frequently the most easily tamed, as they are less apprehensive than the younger ones.

There are other ways in which elephants are caught now and then, namely, in pitfalls and by hunting with tame females. The former method is no longer followed except among the most benighted natives, and the latter can succeed only under the most exceptional and favorable circumstances.

It is so much more economical and expeditious to catch wild elephants and train them, than it would be to breed and rear them in captivity, no particular attention is paid to the latter means of keeping up the supply of serviceable animals. Notwithstanding this, elephants are frequently born in captivity, and have been ever since the days of Pliny. On the Animallais, five were born in one year in the stud belonging to the Forest Department, all of

which lived. Sanderson mentions the birth of eight calves (between September and November) in a herd of fifty-five elephants he captured in Mysore. Even in the United States, under the most unfavorable circumstances for elephants, two have been born very recently in a menagerie, and are still alive.

The period of gestation in the elephant is about twenty-two months. The fœtus at twelve months is almost jet black, the teeth are destitute of the cementing *crusta petrosa*, and therefore the enamelled plates, called laminæ in the mature molar, are entirely separate from each other, lying one upon the other in the cavity of the jaw. At birth, the baby elephant is from thirty to thirty-six inches high and weighs from one hundred and forty-five to two hundred pounds. All those I have seen, both wild and in captivity, have been of a dark brown color, several shades darker than adult animals, and were usually quite hairy, especially upon the back and head.

The female elephant reaches the age of puberty at fifteen years, but continues to grow for several years after. An elephant may be said to attain its full growth between the ages of eighteen and twenty-four years in captivity, and between twenty-four and thirty in a wild state. Although there is no possible way of verifying the accuracy of this statement so far as the wild elephants are concerned, it certainly stands to reason that those in captivity, by reason of overwork, underfeeding, exposure to the heat of the sun, and irregularities in their treatment, will stop growing much earlier than the wild animals. It is well known that captive elephants stop growing between the ages first mentioned above, and more than this, that elephants reared in captivity seldom reach the extreme limit of size, which is found only in animals captured after their full growth has been attained. It may therefore be made as a general statement, that the elephant acquires his perfection of form, size, and general physique at about the same age as does a well-developed white man of the temperate zone.

At sixty years of age the elephant is considered to be in the prime of life. According to Sanderson, experienced natives believe that elephants generally live to about eighty years of age, and but rarely attain an age of one hundred and twenty years; his own opinion, however, is, that under favorable circumstances the animal attains an age of one hundred and fifty years.

As is the case with nearly all large animals, the height of the Indian elephant is usually recorded in exceptional figures, which,

being far higher than the average adult animal, convey an erroneous impression. Even the best scientific writers are apt to fall into the habit of giving the largest measurements fairly attainable, which therefore brings the average animal far below the standard they set up. I can scarcely recall an instance of having shot a mammal, even out of a score of the same species, which came up to the measurements recorded by Jerdon in his "Mammals of India."

The height of the male *Elephas Indicus* should be recorded as 9 feet 6 inches, vertical measurement, at the shoulder, and the female 8 feet, for these figures represent the height of from eight to twelve individuals to be found in every hundred; in other words, animals which can be seen without searching throughout the length and breadth of India.

The height of the Indian elephant is nearly everywhere recorded as being from 10 to 10½ feet. The largest animal of the species ever measured by reliable hands was a tusker described by Mr. Corse in 1799 as belonging to Asaph-ul-Daula, a former Vizier of Oudh, which really measured 10 feet 6 inches, perpendicularly, at the shoulder. This animal was merely one out of ten thousand, and it would be quite as sensible to measure Chang, and record the height of Chinamen as being seven and a half feet, as to say that the Indian elephant is as tall as the Vizier's giant.

As furnishing the most positive and accurate information on this point, I take pleasure in quoting the following paragraphs from Mr. G. P. Sanderson's delightful book, "Thirteen Years Among the Wild Beasts of India." In this work the author has given us the freshest, fullest, and most accurate information ever penned concerning the Indian elephant, as well as the most charming story of jungle life I have ever read. On page 55 he writes as follows:

"Out of some hundreds of tame and newly-caught elephants which I have seen in the south of India and in Bengal, also from Burmah and the different parts of India, and of which I have carefully measured all the largest individuals, I have not seen one 10 feet in vertical height at the shoulders. The largest was an elephant in the Madras Commissariat stud at Hoonsoor, which measured 9 feet 10 inches. The next largest are two tuskers belonging to his Highness the Maharajah of Mysore, each 9 feet 8 inches, captured in Mysore some forty years ago and still alive.

"Of females, the largest I have measured, two leggy animals in the stud at Dacca, were respectively 8 feet 5 inches, and 8 feet 3 inches. As illustrating how exceptional this height is in females,

I may say that out of one hundred and forty elephants captured by me in keddahs in Mysore and Bengal in 1874 and 1876, the tallest females were just 8 feet. The above are vertical measurements at the shoulder. . . . . There is little doubt that there is not an elephant 10 feet at the shoulder in India."

Mr. Corse also makes the following statement:

"During the war with Tippoo Sultan, of the one hundred and fifty elephants under the management of Captain Sandys not one was 10 feet high, and only a few males 9½ feet high."

The following table, showing the rate of an elephant's growth, has been compiled from sources of undoubted authenticity—chiefly from the two authors quoted above—and is submitted in the belief that the figures are correct.

TABLE OF GROWTH OF A MALE ELEPHANT.

Period of Life.	Height at Shoulders.		Weight.
	Feet.	Inches.	Pounds.
At birth	2	11	200
When one year old	3	10	....
When two years old	4	6	....
When three years old	5	0	940
When four years old	5	5	....
When five years old	5	10	....
When six years old	6	1½	2,725
When seven years old	6	4	....
When eleven years old	7	0	4,313
When eighteen years old	8	6	....
When thirty years old	9	6	8,804

As may readily be inferred from the relative size of the species, the African elephant has the larger tusks. The largest tusk taken by Gordon Cumming during his famous hunt for ivory was 10 feet 8 inches long and weighed one hundred and seventy-three pounds. I have never seen a well-authenticated record of a larger single tusk, although Cuvier, on hearsay evidence, mentions a tusk sold in Amsterdam as weighing three hundred pounds. It was very probably a pair. The tusks of the Indian elephant are, in general terms, about half the average length and weight of the African. The largest tusk ever taken in India, so far as can be ascertained, was 8 feet in length and weighed ninety pounds, which may be regarded as one out of ten thousand. The largest taken by Sanderson out of twenty elephants shot, was five feet in length and weighed thirty-seven and one-half pounds, which may justly be considered a

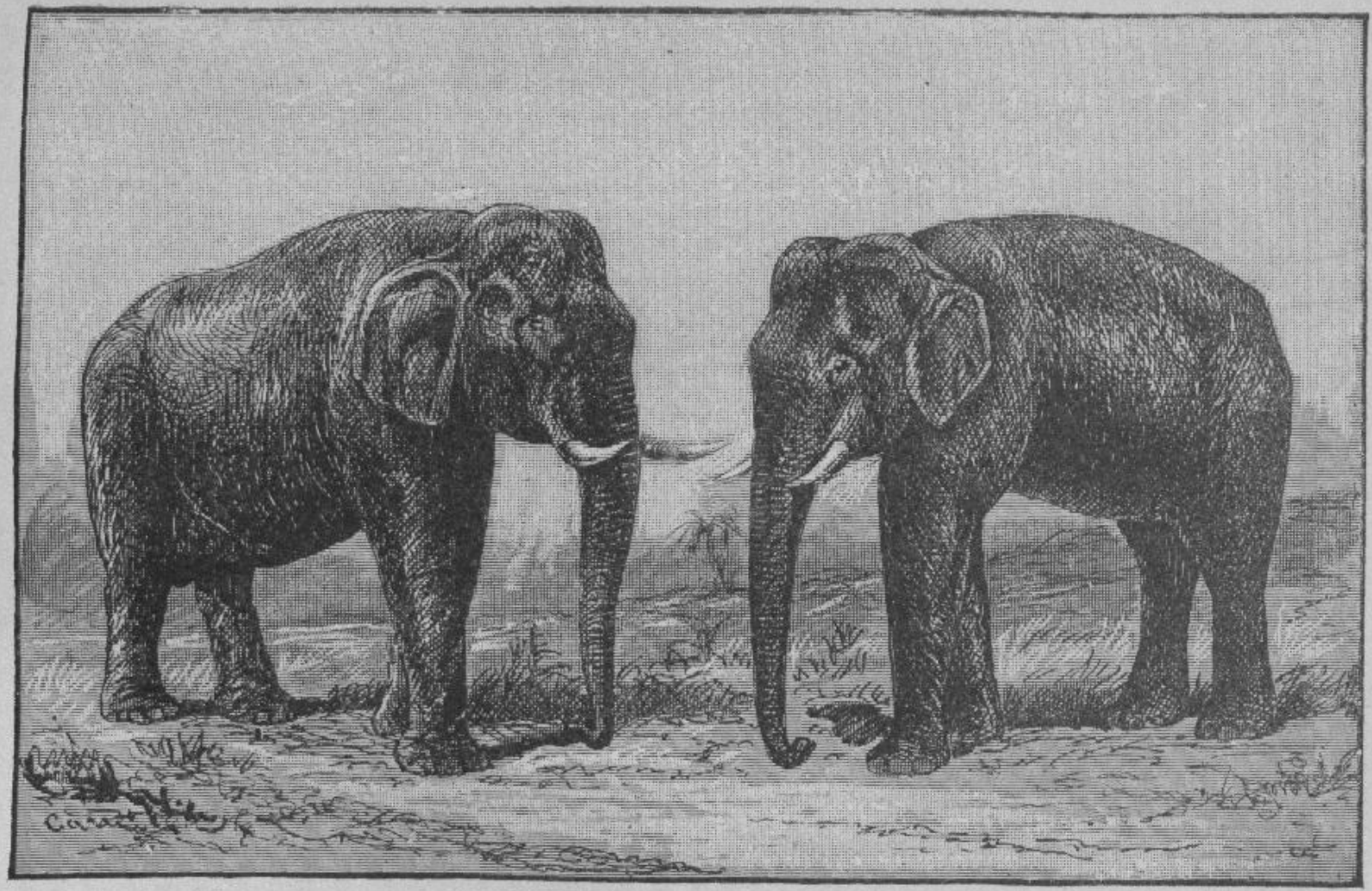
tusk far above the average size. In a pile of nearly a hundred Indian elephant tusks which I saw in the Custom House at Bombay, not one measured five feet in length, and most of them were under four feet.

In Hindustan, all male elephants have tusks, except about one out of every ten, which, on account of their absence, is called a "muckna." The tips of the tusks project beyond the lip of the male animal almost as soon as born, and I have even seen them showing very distinctly in a half-grown fœtus. Sanderson asserts, well supported by the best of evidence, that these baby tusks are never shed, notwithstanding the common assertion to the contrary. The female elephants and the mucknas all have miniature tusks, the points of which at first project a few inches beyond the lip, but they are very soon broken short off at the lip, leaving a rough, jagged end which is much used in barking trees, etc.

The natives of India divide elephants into three very distinct castes, or classes, with as much precision as do the most captious breeders of fancy animals, and all local prices are based upon this classification. Commercially, all tame elephants are divided into two classes, those for use, and those for show. For the same reason that every English gentleman of distinction has a long retinue of choice initial letters marching in solemn procession after his name, every Indian prince or nobleman keeps a train of showy elephants to add to his prestige. Lately, however, the elephants, besides being very expensive to keep, have become very high-priced, and the English Government, with commendable forethought, has commenced to distribute initials among the native rajahs and maharajahs to take the place of the animals. I believe that among the more enlightened natives, "C. S. I." is considered equal to three first class tuskers.

All other things being equal, the price paid for an elephant in the Indian market depends almost wholly upon the points of the animal, or, in other words, upon his class. Sanderson says: "Elephants are divided by natives into three castes or breeds, distinguished by their physical conformation; these are termed in Bengal, Koomeriah, Dwasala, and Meerga, which terms may be considered to signify thorough-bred, half-bred, and third-rate.

"Whole herds frequently consist of Dwasalas, but never of Koomeriahs or Meergas alone; these, I have found, occur respectively in the proportion of from ten to fifteen per cent. among ordinary elephants.



A KOOMERIAH ELEPHANT AND A MEERGA.

(High caste.) (Low caste.)

(After G. P. Sanderson.)

"The Koomeriah, or thorough-bred, takes the first place; he alone can reach extreme excellence, but all the points required for perfection are very rarely found in one individual. He is, among elephants, what the thorough-bred is among horses, saving that his is a natural, not cultivated superiority. The points of the Koomeriah are; barrel deep and of great girth; legs short (especially the hind ones) and colossal, the front pair convex on the front side from the development of muscles; back straight and flat but sloping from shoulder to tail, as an upstanding elephant must be high in front; head and chest massive; neck thick and short; trunk broad at the base and proportionately heavy throughout; bump between the eyes prominent; cheeks full; the eye full, bright, and kindly; hind-quarters square and plump; the skin rumpled, thick, inclining to folds at the root of the tail, and soft. If the face, base of trunk, and ears be blotched with cream-colored markings, the animal's value is thereby enhanced. The tail must be long but not touch the ground, and be well feathered.

"The Dwasala class comprises all animals below this standard but which do not present such marked imperfection as to cause them to rank as Meergas, or third-rates; all ordinary elephants (about seventy per cent.) are Dwasalas.

"A pronounced Meerga is the opposite to the Koomeriah. He is leggy, lank, and weedy, with an arched, sharp-ridged back, difficult to load and liable to galling; his trunk is thin, flabby, and pendulous; his neck long and lean; he falls off behind; and his hide is thin. His head is small, which is a bad point in any elephant; his eye is piggish and restless. His whole appearance is unthrifty and no amount of feeding or care makes him look fat. The Meerga, however, has his uses; from his length of leg and lightness he is generally speedy; the heavier Koomeriah is usually slow and stately in his paces." *

In India, elephants still form the most imposing feature of every ceremonial procession which involves a display of the "pride, pomp and circumstance" of a native ruler or prince. Of all created animals, the lordly elephant alone was born to wear splendid trappings of gold cloth surmounted by a magnificent howdah of gold and silver, a perfect diadem in itself, and carry princes upon his back. At such times the king of beasts is fairly crowned, and no monarch in royal purple ever walks with more majestic tread or bears him-

* Wild Beasts of India, p. 84.

self with more kingly dignity than he. Delhi saw a goodly sight, the like of which will probably never occur again, when it beheld during the Imperial Assemblage of January 1, 1877, a procession of elephants, the finest in all India, splendidly caparisoned and surmounted by magnificent howdahs, in which sat the swarthy princes of a score of native states, bedecked with the most gorgeous colors and glittering with jewels. On such occasions as this the elephant is in his proper sphere.

Aside from the purpose mentioned above, the trained elephant is of great value both to the government and private individuals for dragging timber in forests and piling it at the depots, carrying and drawing pieces of artillery, and also carrying stores on military campaigns, particularly in mountainous regions.

In 1870 the government of Ceylon imposed an export duty of £20 per head on elephants, which has completely stopped the annual supply of India from that source, and caused a great advance in prices in the Madras and Bengal markets. Since the prices of elephants of the same size and age depend upon their class, it is impossible to state more than their relative values. In the following table I have endeavored to give the ruling prices in India at this date (1882) according to sex and size, indicating the range of prices in each case.

I need hardly say that in the United States, elephants do not figure either in Lord Mayor's processions or timber forests, and are of value to the showman only.

Quality.	Height at shoulders.		Value in India.	Value in America.*
	Feet.	Inches.		
Baby, during first year	2½ to 3	0	£20 to £40	$100,000
Female, four years old	5	6	25 to 35	2,500
Female, seven years old	6	4	50 to 75	3,000
Female, eleven years old	6	10	100 to 150	3,500
Female, eighteen years old	7	8	150 to 175	4,000
Female, over twenty-five years old.	8	3	200 to 275	4,500
Tusker, four years old	5	6	50 to 80	3,000
Tusker, seven years old	6	4	100 to 200	3,500
Tusker, eleven years old	7	0	300 to 500	4,000
Tusker, eighteen years old	8	6	600 to 800	5,000
Tusker, over twenty-five years old.	9	4	800 to 1,200	7,000
Tusker, highest class	9½ to 10	0	1,200 to 2,000	15,000

* Statement furnished by Mr. P. T. Barnum.

The elephant is the most patient and obedient of all animals, and by far the most intelligent. He has more ability to reason from cause to effect than most other animals of docile temperament, and he is, beyond all question, the most capable of being taught and the most willing to obey after he has been taught. To me it is a matter of surprise that Mr. Sanderson, who has, I presume, more personal knowledge of the animal both tame and wild than any European living, should place so low an estimate upon his mind. He declares that "its sagacity is of a very mediocre description," and also that "its reasoning faculties are far below those of the dog, and possibly other animals."

From this view, which I think is due to the fact that "familiarity breeds contempt," I differ very widely. My acquaintance with tame elephants has created in my mind a respect for their intellectual qualities which I never could have acquired in any other way. A trained dog or horse is such a rarity, even among the thousands of their species, that it is considered a proper object to exhibit at a circus. A horse which will promptly back at the word of command, or a dog which will bark or stand on its hind legs when told to do so, is considered quite accomplished; but in India, any well-trained elephant, at a word or touch from his driver, who sits astride his neck, will "hand up," "kneel," "speak" (trumpet), "salaam" (salute with his trunk), stop, back, lie down, pull down an obstructing branch, gather fodder and "hand up" to his attendant, turn or lift a log, or drag it by taking its drag-rope between its teeth. He will also protect his attendants or attack a common enemy with fury. I think I am safe in asserting that there are in India to-day, scores of captive elephants who are capable of performing all the services enumerated above. But of course there are many which are not so intelligent.

Contrast this with the performances of our most intelligent breed of dogs, the pointer. Even when taken young and trained under the most favorable circumstances, they are at best capable of being taught only a few things, as to "go on," to "charge," to go in a given direction, and retrieve. The extreme difficulty of teaching a dog anything after he has passed his puppy-hood is so universally acknowledged as to have given rise to the familiar proverb, "It is hard to teach an old dog new tricks." What a strong contrast is seen in the wild "koomeriah" elephant, caught when he was about sixty years old (by Mr. Sanderson), who "was easily managed a few days after his capture." Of all animals in the world

what other would have so quickly learned that mind is superior to matter, that man is master of the dumb brutes, or would have succumbed so gracefully to the inevitable?

While staying at Sungam, the elephant camp and timber depot on the Animallais, I had a fine opportunity to watch the elephants at work and to learn something of their management. Many an hour I spent in the timber yard, quite fascinated by the sight of those giants at work. The first work of the elephant is in the jungle where there are no roads for carts. The teak-trees have been felled and hewn into timbers from 9 to 12 inches square and 15 to 20 feet long, with a handle called a "drag-hole" at one end, through which the drag-rope is passed and made fast. The drag-rope is about two and a half inches in diameter and eighteen feet long, and is made by the Mulcers from the inner bark of a tree called "vaca nar" (*Sterculia villosa*). These ropes are very strong, unaffected by wetting, but are also quite soft, so that the elephants use them without injuring their lips. One end of the rope is made fast in the drag-hole of the log to be moved, the elephant seizes the free end with his trunk and places it between his huge molars, and with the log almost by his side he bends his head toward it, grips the rope firmly between his teeth, and drags it along. If he is a tusker he puts the rope over his tusk next the log, which gives him considerable leverage. When the rope is about to slip between the teeth, or the jaws begin to tire at a critical moment, I have often seen the elephant wrap his trunk tightly around the rope and pull vigorously with it, apparently to assist his jaws.

This method of working elephants always seemed to me a heathenish and stupid one, and I do not see how it can be characterized in any other way. Instead of walking straight away with the log, as the animal would undoubtedly do in proper harness, the poor beast is obliged to stop every fifty yards to rest his jaws and neck, upon which the whole strain comes. It is entirely unnatural for any animal to draw a load from the head, with its neck bent around *sidewise*, instead of from the shoulder or the girth.

In turning square timber a tusker puts his tusks under the edge, lifts upward and forward at an angle of forty-five degrees and easily throws it over; but the female or muckna, having no tusks, has to kneel, place the base of the trunk, not the forehead, against the side of the log, and by a downward and forward pressure against the upper edge of the log, push it over. In either case the work is done in less than a minute, if there be no special

difficulty to overcome. In the Sungam timber depot, all the work of piling and arranging the logs in regular order, at equal distances apart, with the right side uppermost, was performed by elephants, under the direction of their mahouts. A word of command, a silent touch of the hand or knee was enough. There was no loud bawling nor angry swearing at the laborers, such as would have been absolutely necessary had they been Barbadoes or Demerara negroes, nor was there any insulting back-talk or insubordination, such as those abominable scallawags are wont to indulge in. In fact, the elephants worked like intelligent human beings of the better sort.

The elephants of the Forest Department were every night allowed to run loose in the jungle around the camp to feed upon the succulent bamboo shoots and grass, by which they secured their own green fodder, and rendered the services of the usual grass-cutters unnecessary. Every morning they were hunted up and brought in by their mahouts and taken to the stream to bathe. They were made to lie down where the water was deepest and enjoy a full bath and good washing, after which they were ready for breakfast. Another attendant always remained in camp to prepare the cooked food for the herd. The daily allowance of rice for each elephant was one maund, or twenty-four pounds. The entire daily allowance was cooked at once in a huge copper kettle, and when thoroughly boiled, each elephant's share was made up into four or five balls the size of a man's head, and the whole breakfast was laid out on a mat spread near the kettle. The seven or eight elephants then marched up and took their places around the mat facing inward, two on each side, and with the utmost gravity and perfection of "table-manners," stood still to be waited upon in turn. One by one, the cook lifted the balls of rice and placed them carefully in the mouths of the elephants, who always gracefully elevated their trunks while receiving them, and remained quietly until the meal was finished. I often assisted in this interesting performance, and the huge animals never showed me the least incivility.

When a mahout wishes to mount his elephant, he gives a word of command, at which the animal lifts one of his fore-feet and bends it upward, the bare-footed driver steps upon it nimbly, seizes the elephant by the ear and scrambles up the foreleg to his place. On account of my thick-soled shoes, I could not swarm up an elephant's leg in that way, and being without a ladder the elephants always knelt to enable me to reach the riding pad.

Except in forests like the Animallais, where there are no culti-

vated fields to be trespassed upon, elephants cannot be turned loose at night to browse at will, but must be furnished with a daily supply of green fodder, grass, leaves, sugar-cane, or in lieu of that, dry fodder, in a smaller quantity. The daily government allowance in Bengal is 400 pounds of green fodder, or 240 pounds of dry, while in Madras it is only 250 pounds and 125 pounds respectively for elephants of the same size and internal capacity. Mr. Sanderson has proven, by careful experiments in feeding elephants, that the government allowance in both the Presidencies is wholly insufficient for the actual wants of the animal. He found that during eight consecutive days, eight female elephants consumed a daily average of 650 pounds of green fodder each, and a large tusker consumed 800 pounds of the same food in eighteen hours. In addition to this the animals had each 18 pounds of grain daily.

The following figures show the cost of keeping an adult female elephant in the Madras Commissariat Department, per month:

1 mahout (driver)	9 Rupees.
1 grass-cutter	6 "
25 pounds rice per diem (30 pounds per rupee)	25 "
Salt, oil, and medicines	2 "
Fodder, average monthly purchase	6 "
	48 "

The rupee is equal to about forty-four cents in gold, which would make the cost of keeping an elephant about $21.12 per month in our currency.

Male elephants which have passed the age of puberty, twenty years or thereabouts, are subject to fits of "must," or temporary insanity, when they are not sufficiently worked or exercised, and sometimes even when they are. According to all accounts, elephants of advanced age are most subject to these dangerous paroxysms, and the fits vary in duration from four or five weeks to four or five months. They also vary in intensity from dull lethargy in one animal, to the most murderous fury in another. The approach of "must" is indicated by the discharge of a peculiar yellow matter from a small orifice behind the eye, upon the appearance of which the elephant is closely watched, if not chained up altogether.

An elephant in a violent fit of "must" sometimes becomes the incarnation of murderous and destructive deviltry. Many of the so-called "rogue" elephants are, no doubt, old males who from over-eating and lazy habits have been attacked by fits of "must." Sanderson mentions an elephant at Mandla, near Jubbulpore, which

a few years ago "killed an immense number of people" before its bloody career was ended by two officers.

In Mr. Dawson's fascinating volume, "Neilgherry Sporting Reminiscences," there is a very interesting account from the pen of General Morgan, of the doings of a "must" elephant at Mudumallay (where I did my first bison-shooting), in January, 1870. The elephant went mad, almost killed his mahout, and had inaugurated a perfect reign of terror at the karkhana when General Morgan appeared upon the scene. For fifteen days all work had been stopped, and the station was almost entirely deserted. The vicious brute had smashed down huts, upset carts, broken into the writer's bungalow to get at some sugar (I wish he had caught Ramasawmy!) and every person whom he scented was immediately charged, although strange to say no one was killed. General Morgan was charged almost immediately upon his arrival, but sent a bullet into the animal's forehead above the brain, which caused him to retreat. At another time it required two bullets to stop a more determined charge, upon receiving which the brute fled to the jungle. In the meantime a number of elephants were sent for, and when they came, ten days later, the vicious beast was surrounded and captured without accident. General Morgan's account of the event concludes as follows:

"When he broke loose, I asked the mahout how it happened, as he was nearly killed at the time. He said: 'I was just going to mount, when he knocked me off his foreleg and pressed me down upon the ground across the loins with his tusk (he was a muckna). I exclaimed, "O Rama! (name of the elephant), spare me, have pity on me! How often have I given you jaggery (sugar) and cocoanut! Have I not ever been kind to you? Have I ever defrauded you of your just rights? O Rama! remember I was always good to you and spare me this time!" On which Rama relaxed the awful pressure on my loins and I got up, made him a salaam, and walked away, though I felt as if my back was broken.' Apparently the mahout had treated him fairly, or certainly the elephant had never let him go. The cavadie, or grass-cutter, would have fared differently had he fallen into Rama's hands, for the pain of many a prod from his spear was fresh in Rama's memory, and he no sooner let go the mahout than he took up the scent of the unfortunate cavadie, and hunted him like a dog. The man escaped that day with difficulty. The elephant winded him at a distance of more than two hundred yards, and he was nearly caught, so that finally the cavadie had to abandon the forest, and take refuge across a river ten miles away."

Occasionally a solitary elephant, in nearly every case a male, takes to tearing down huts, maliciously destroying crops and killing people, by which he speedily earns for himself the title of "a rogue." Judging from what I have heard about such individuals, I believe it could be proven that no elephant becomes a rogue unless he is suffering from some acute ailment, or else a fit of "must." A sportsman once showed me a tusk he had extracted from a famous rogue, the condition of which afforded a ready explanation of the animal's vicious temper. At some late period of his life a heavy ball had been fired into the base of his right tusk, shattering the ivory, splitting the tusk and driving sharp splinters of it into the medullary pulp. The pain must have been excruciating, and yet, like human toothache, it could not kill.

An angry elephant usually kills a man by treading or kneeling upon his body, and crushing it to a jelly. Occasionally, however, the victim is subjected to still more terrible torture, as the following passage from Mr. Sanderson's work will show:

"He (the Kakankote rogue) had now returned, evidently not improved in temper, and had marked his arrival by killing a Kurraba, a relative of one of the trackers I had with me on our late expedition. The Kurraba was surprised while digging roots in the jungle, but would probably not have been caught had he been alone. Two youthful aborigines were with him, and it was after putting them up a tree, and attempting to follow, that he was pulled down and torn limb from limb by the elephant. The Kurrabas who found the body, said that the elephant had held the unfortunate man down with one fore-foot, whilst with his trunk he tore legs and arms from their sockets, and jerked them to some distance."

This was the third man killed by the Kakankote rogue, who was himself speedily hunted down and killed by Mr. Sanderson.

One of the strangest features of the elephant is its swimming power. With a colossal body and legs, and with feet almost wholly unadapted to making progress through the water, the elephant swims better than any other terrestrial quadruped. Upon this point, Mr. Sanderson writes as follows:

"A batch of seventy-nine (elephants) that I despatched from Dacca to Barrackpur, near Calcutta, had the Ganges and several of its large tidal branches to cross. In the longest swim they were six hours without touching the bottom; after a rest on a sand-bank, they completed the swim in three more. Not one was lost. I have heard of even more remarkable swims than this."

CHAPTER XXVII.

HUNTING IN THE INTERIOR OF SELANGORE.

A Trip to the Interior.—Road to Kwala Lumpor.—The Town.—"The Captain Cheena."—A Bonanza in Champagne.—Sungei Batu.—A Foolish Feat.—Our House.—Feasting on Durians.—A Jacoon House and Family.—Resemblance to the Dyaks.—An Impromptu Elephant Hunt.—Attack in a Swamp.—Death of a Young Tusker.—Plague of Flies.—Another Elephant Hunt.—A Close Shave and a Ludicrous Performance.—Discovery and Exploration of Three Fine Caves.—Cathedral Cave.—Mammals.—Visit to a Tin Mine.—Chinese *versus* Malays.—Political Condition of Selangore.—Statistics.—Snakes.—Good-by to Klang.—Mr. Robert Campbell, my Good Genius.

On again reaching Klang I found there Captain Douglas, the British Resident, who, much to my advantage, was kind enough to interest himself in the object of my visit. Through his co-operation Mr. Syers obtained fourteen days' leave of absence for the trip we had planned to take into the interior, and, on the evening of June 27th, we started up the river in Mr. Syers' boat. Four Malays pulled the boat, while we lay down and slept comfortably until we reached Damensara, eighteen miles up, where we tied up till morning. From the Police Station at that point a good carriage road leads east seventeen miles to Kwala Lumpor, the largest town in the territory, in the centre of the mining district.

After our cup of coffee at the police station, I hastily skinned a *Macacus nemestrinus* (broque monkey), which I bought alive of one of the policemen, and then we started for the other end of the road. Mr. Syers had his two ponies in readiness, and we rode them, leaving our luggage to follow on a cart.

The road lay through very dense, high forest, composed of large and very lofty trees (among which the camphor was often noticed), growing very thickly together, while the ground underneath was choked with an undergrowth of thorny palms, rattans and brush so thick it seemed that nothing larger than a cat could get through it. Nowhere was there the smallest opening in

this dark and damp mass of vegetation, and it made me shudder to think of attempting to go through it. Surely, I thought, we will not attempt to hunt in such forest as that.

Six miles from the river, we came to another police station, Kooboo Ladah, where we halted to wait for the baggage to come up. Two miles farther on we reached the end of the road,* where we found a gang of government coolies waiting to carry our luggage the remainder of the distance. Without these men, whose services were thoughtfully supplied by Captain Douglas, we should have been obliged to pay a ruinously exorbitant price for coolie hire, almost as much as our baggage was worth.

For the remainder of the way, we had only a very rough bridle path through hilly jungle and across many muddy little streams. At the twelfth mile we passed the Sungei Batu police station, very prettily situated in a highly romantic spot.

After passing two or three clearings, we reached the top of a long, steep hill, and, at its foot, Kwala Lumpor lay before us, on the opposite bank of the river Klang, here reduced in size to a narrow but deep creek. A sampan came across to ferry us over, while our ponies swam beside it, and at 5 P.M. we were at our resting place for the night.

All along the river bank, the houses of the Malays stand in a solid row on piles ten feet high, directly over the swift and muddy current. The houses elsewhere throughout the town are walled with mud, and very steeply roofed with attaps (shingles made of nipa-palm leaves), so that a view of the town from any side discloses very little except high, brown roofs slanting steeply up. In the centre of the town is a large market where fruits, vegetables, meats and various abominations of Chinese cookery are sold. The vegetables are sweet potatoes, yams of various kinds, beans, melons, cucumbers, radishes, Chinese cabbage, onions, egg-plant and "lady's fingers." The fruits were the durian, mangosteen, pine-apple, banana, and plantain, oranges (of foreign growth), limes, "papayah," and other small kinds not known by English names.

In the centre of the market-place are a lot of gambling-tables, which, a little later in the evening, were crowded with Chinamen earnestly engaged in the noble pastime of "fighting the tiger." The principal streets are lined with Chinese shops, and are uniformly clean and tidily kept. The streets inhabited by the Malays

* This road was completed soon after to Kwala Lumpor.

can be recognized at sight by the accumulation of dirt and malodorous rubbish, and the dilapidated appearance of the houses.

We went straight to the house of the Captain China (pronounced Cheena), the man of importance in the district, who is governor of the Chinese in every sense of the word. His title is Sri Indra Purkasah Wi Jayah Bucktie ("Fair-fighting Chief and Hero"), and his name, Yap Ah Loy, commonly called by Europeans the Captain China. In return for his services to the district in opening new roads and preserving good order, with his own police force, the government allows him a royalty of $1 on every bhara (which equals three piculs, or four hundred pounds) of tin exported, and from this source, and also from his eleven tin mines, he is said to be the wealthiest man in the territory. He has in his employ sixteen hundred and twenty-seven men, and entertains at his house, in true European style, every white man who visits Kwala Lumpor. Unfortunately he was absent at that time, but his people received us quite as if he had been there, and made us comfortable with a fine dinner, an abundance of excellent champagne and good beds.

The next morning, while in the largest Chinese store in the place, buying provisions for our stay in the jungle, we struck a bonanza. We found Mumm's champagne for sale at sixty cents a quart, and India pale ale at fifteen cents per pint! How they ever managed to sell either at such ridiculously low prices we could not understand, and, to ease our consciences before victimizing the dealer, we told him he must have made a mistake in marking his goods. No, that was the price, and we could have all we wanted. It would have been flying in the face of a kind Providence to have neglected such an opportunity as comes but once in a lifetime.

Engaging the strongest coolie we could find we loaded him with champagne (at sixty cents per quart!), and marched him ahead of us into the jungle. It was the proudest moment of my life. I may never strike oil, or gold-bearing quartz, or draw a prize in the Louisiana lottery; but I have struck Jules Mumm's best at sixty cents a quart. My only regret is that I did not fill a tub and take a bath in it, for champagne is the only artificial drink I really like.

Having slept and breakfasted at Kwala Lumpor, we saddled our ponies, and prepared to move on six miles farther to Batu. Not having enough government coolies, we had to hire two Chinamen, who charged us $2.00 for carrying a sixty-pound box six miles.

We crossed the river again, rode along a bridle-path through

some dense jungle and one or two clearings, and presently reached Batu, on the Klang River, our journey's end. And right there we did the most foolish thing we could possibly have done, for attempting which we both deserved to have our necks broken. There is a narrow foot-bridge across the river, a single line of planks a foot wide, supported on posts about eight feet high over the bed of the river, and without any railings whatever. Mr. Syers asked if we should ride our ponies over the bridge instead of fording, and I told him to do as he liked, and I would follow. Fool that he was, he started to ride across the bridge, "just for a lark," and, fool that I was, I followed. The least nervousness, or a mis-step on the part of either pony, would have thrown us all over pell-mell, and, considering everything, it is a wonder we got safely over. Not satisfied with this, and to tempt fate still farther, we presently recrossed in the same way. The next day we were amazed at our folly, and ascribed our safety to the Providence which watches over fools and drunken men.

At Batu there are four Malay houses and two Chinese. The headman was absent in Klang, but his wife proved herself a woman capable of meeting an emergency, and forthwith had one of the Malay families vacate their residence, which stood a good distance away from the others in a very pretty grove of durian trees on the high bank of the river. The family moved out, bag and baggage, in twenty minutes, and we moved in with quite as much furniture and general luggage as the dispossessed. The floor was of bamboo slats, tied down to the sleepers, an inch apart, and raised on posts five feet above the ground. The walls were of bark, and the roof of attap. The principal room, in which Mr. Syers and I hung our hammocks, was cool and comfortable, but rather dark from lack of windows. In the other room were quartered our companions, consisting of two Malay policemen, one of them a smart, active young fellow named Yahop—a keen sportsman withal; my boy Francis, Syers' Chinese boy, Cat's Face, cook and servant, and also his Malay horse-keeper, a good servant at all times. The ponies were stabled very comfortably underneath the house.

The jungle all around Batu, although swampy in places, was so open that one could go through it on foot with tolerable ease. Here and there were patches of low and thin forest, broken occasionally with fine grassy glades, such as large animals love to visit for a sight of the sun and sky. But we soon found that beyond this fine ground lay a wide tract of swampy forest, very difficult

to traverse, and very bad ground on which to attack dangerous game.

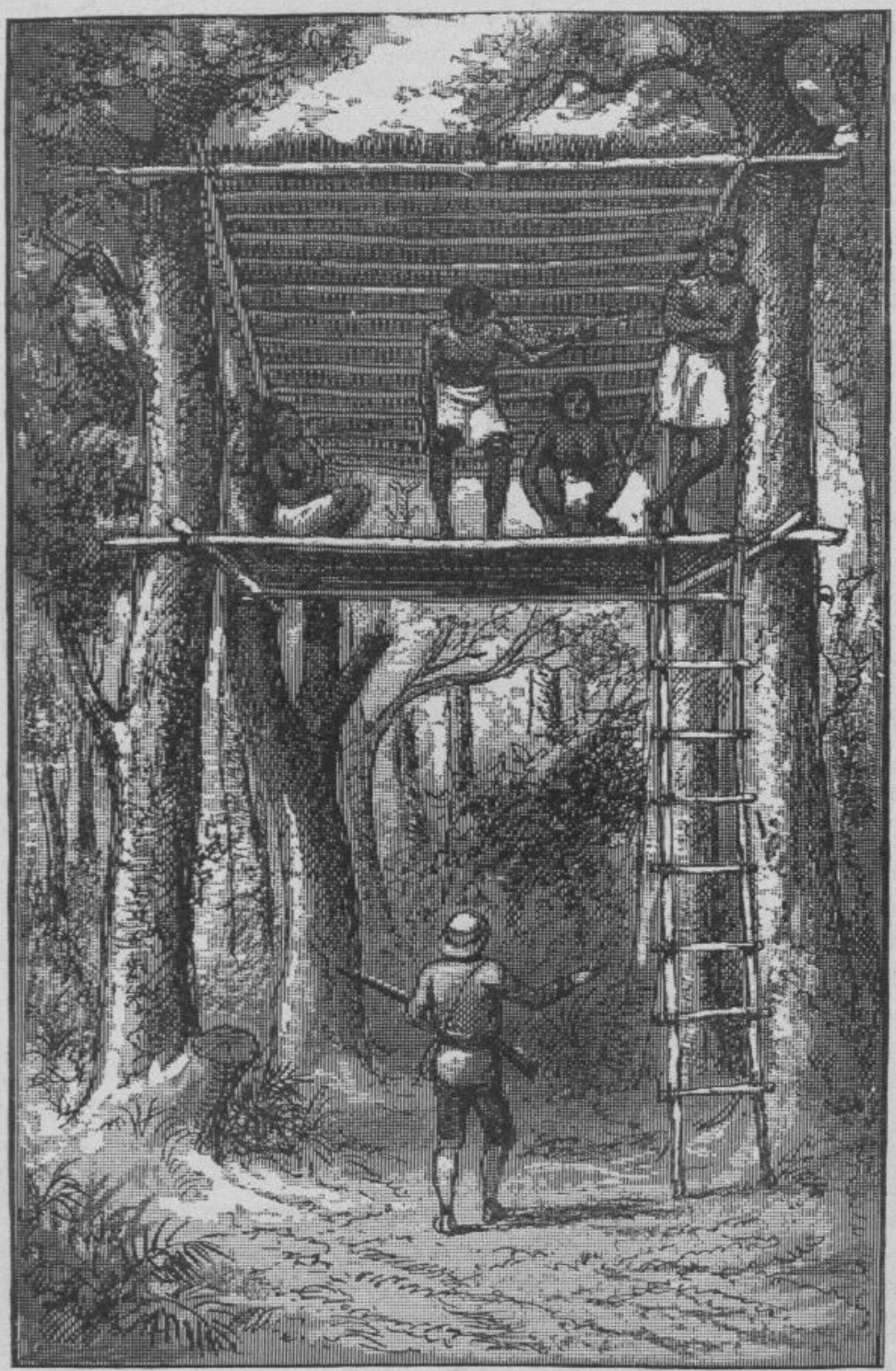
The day of our arrival we did nothing; but set out bright and early the following morning with a Malay guide who knew the locality well. We went to look the ground over, and if possible find wild cattle.

For an hour, our guide led us along a muddy path, through very thick jungle, and finally we halted at a place where there were a number of durian trees, and a party of Malays gathering the ripe fruit as fast as it fell. Being an animal of largely frugivorous habits, I have marked that day with a white stone as being the one on which I ate my first durian.

It is said that most Europeans have to learn to like this celebrated fruit. Ye gods! Learn to sip nectar from a blushing maiden's lips, if you must, but if you are fond of fruit at all, you will not need to be taught to eat what is at once the most delicate in substance, and delicious and aromatic in flavor, of all the many good fruits of the tropics.

This remarkable fruit (*Durio zibethinus*) grows upon a tall forest tree, sixty to eighty feet in height, having a smooth, naked trunk, and otherwise a general resemblance to our hickory. The fruit is very much the same in size and shape as a pineapple, but the entire outside is a bristling array of dark-green, conical spines, three-fourths of an inch high and very sharp. Sometimes, however, the fruit is smaller, and quite round. It is a painful matter to hold a durian except by the stem, and I would about as soon have a six-pound shot fall upon me as one of them. This wholly abominable pod smells even more offensive than it looks, the odor given off being like that of a barrel of onions at its most aggressive stage. Many people are unable to eat durians at all, on this account, but my first one disappeared so suddenly as to greatly astonish and amuse the spectators.

The fruit hangs upon the tree until it ripens and falls of its own accord, and then the husk is pulled open very easily from the blossom end toward the stem, which discloses five longitudinal compartments or cells, in each of which is a row of large chestnut-shaped seeds, about five in each shell, each of which is thickly coated with a soft, grayish, pulpy mass, which is the edible portion. In consistency it resembles flour paste, but in flavor it resembles nothing under the sun. There are, indeed, faint suggestions of black walnuts and rich cream, chocolate and sugar, but all these



A JACOON HOUSE. (*From Author's sketch.*)

are lost in the flavor peculiar to the fruit itself, indescribable both in delicacy and richness. If there are no durians in heaven it will be the fault of the husk, not the kernel.

The Malays had built a lofty platform of poles to which they could retreat from wild beasts, and also sleep upon at night, and as fast as the durians fell they gathered them. They sold them on the ground, seventeen for a dollar, at which price I invested a dollar forthwith. No Anglo-Indian is half as fond of "brandy-and-soda" as I am of fruit, and I am sure the number of durians exported that week must have fallen off considerably.

While hunting through the forest in search of wild cattle or rhinoceros spoor we came upon the strangest human habitation I ever beheld. It was a Jacoon house, if we may dignify such a structure by that name, and the family was at home. The site had been selected with reference to four small trees, which grew so as to form the four corners of a square about nine feet each way. Twelve feet from the ground four stout saplings had been lashed to the trees to form the foundation of the house, and upon them was lashed the flooring of small green poles. Six feet above it was a roof of green thatch, sloping shed-like from front to back. There were no walls whatever to this remarkable dwelling, which was reached by means of a rude ladder. Upon this platform we found three men, two women, a nursing baby, a miserable little dog, two or three old parongs, some sumpitans and poisoned arrows, and a fire smouldering on a bed of earth at one corner. There were no mats of any kind, and the people slept on the bare poles. The men were naked, with the exception of a dirty loin-cloth, but the women were satisfactorily covered with mantles of dingy cotton cloth.

In physique, physiognomy and habits the Jacoons so closely resemble the forest people (Dyaks) of Borneo as to lead one to believe they have descended, and that, too, by no very long line of ancestry, from some of the numerous sub-tribes now flourishing in that great island. Judging from Mr. Bock's admirable portraits and description of the Poonans, the Jacoons are as much like them as it is possible for two separated tribes to be like each other. The Poonans, like all the Dyaks, have progressed through Borneo from south to north, and it is more likely that the Jacoons are accidental, perhaps involuntary, emigrants from Borneo than that the reverse has been the case.

The Jacoons are a very peaceable, almost timid, people, very ignorant, and wholly averse to living in villages, however small.

They are nowhere numerous, the total number in Selangore being estimated at only seventy. They subsist wholly upon the fruit and vegetable products of the jungle, and the game they kill with their sumpitans, or blow-guns and poisoned arrows. Some of them are said to be very expert in the use of this singular weapon. The present Rajah Brooke states that he once saw a Jacoon drive an arrow into a single crow-quill at a distance of fifteen yards! We learned accidentally, a few days later, that the Jacoons are very fond of bats, and were stopping at that place in order to capture them in some large caves near by.

They were very accommodating people, and our party held quite an animated conversation with them upon the subject of wild game, as they sat perched aloft and looking down upon us. Fortunately they knew the value of money, and we engaged two of the men to act as our guides when we went in quest of wild cattle, rhinoceros, and other animals. One of them came down forthwith and led us a long tramp through the silent and gloomy forest for the remainder of the day, but we saw nothing worth shooting. Much to our disappointment, the Jacoons said there were, at that time, no rhinocerous in that region, but plenty of elephants.

The next morning about daybreak, as we were dozing comfortably in our hammocks, our sleepy ears were suddenly saluted by a clear, ringing note, like a blast of a hunter's horn, coming from the thick jungle half a mile away. We were instantly galvanized into action.

"Elephants!" we both exclaimed in the same breath, as we sprang out of our hammocks, and into our clothes. Never was a reveille responded to with more alacrity.

We swallowed our coffee, albeit rather hastily, crammed down a substantial breakfast, buckled on our hunting-gear, and mustered the men, who were ready as soon as we were. The Jacoons were not there yet, but no matter; I knew we could track up a herd without them. Leaving orders for the Jacoons to track us up if they came, and overtake us as soon as possible, we hurriedly set out.

To our surprise it took us nearly an hour to find the trail of the herd, and even when we did it was apparently two to three hours old. Evidently we had lost our bearings, to begin with. There was nothing to do but follow up the spoor as we found it, so away we went. Our whole party was there, except Mr. Syers' cook, Cat's Face.

My weapon was a rather ancient Sneider rifle, and Syers was

armed with a double rifle carrying the same cartridge, good enough for deer, but very light for elephants.

The trail led us through thick forest for a while, but very soon entered a clearer tract and passed through the very grove of durian trees we had visited the day before. Our Malay friends, the durian gatherers, hailed our warlike appearance with delight, and gathered in an excited group around the ruins of their pole platform, which the rascally elephants had torn down with their trunks just before daybreak. They pulled it down as a sort of elephantine joke on the Malays, just to show them they had not built beyond their reach. The Malays, however, regarded it as anything but a joke to be compelled to quit their platform, climb up into the tree-tops and sit there for several hours in a badly scared condition. No wonder they begged us to shoot all the beasts, one by one, which we solemnly promised to do.

Within the next hour, the trail led us up and down through the more open jungle, four times across the river, and for some distance along its pebbly banks. At one time, nearly an hour was lost in trying to carry the trail across a stretch of hard, bare ground, where it got inextricably mixed with a number of other trails made by elephants which had fed about at random. Dispersing, we searched carefully, scrutinizing every broken twig and blade of grass in our effort to find the direction finally taken by the herd. At last we found where our elephants had marched off into the grassy jungle along *an old trail* for some distance. No wonder we were at fault.

At this juncture up came the Jacoons. "You vagabonds," exclaimed Mr. Syers in Malay, "why didn't you come up an hour ago and save us all this trouble?"

"The white gentlemen walked so fast we thought we would never come up with them," they answered very frankly.

The trail then led straight away for a tract of low, swampy forest, and the character of the jungle changed entirely. Near the edge of the swamp huge, spreading clumps of thorny palms grew in great abundance, and rendered our progress difficult and painful. Strangely enough, however, the farther we got into the swamp the thinner became the undergrowth, until presently it almost entirely disappeared, and in its stead we found uprooted trees, decayed tree-trunks, dead branches, and gnarled surface-roots. The trail had disappeared entirely under a foot of water, save when it crossed a bit of dry ground. We were wading along in water

half way to our knees, with slow and tiresome progress, when suddenly the old Jacoon ahead of us stopped, and with his parong pointed through the forest.

"There they are, boys!" exclaimed Syers, in an excited whisper.

A hundred yards away across the tangle of fallen trees and dead branches we plainly saw the massive dark-gray forms of nine wild elephants. They were standing in the water, leisurely browsing upon the juicy aquatic plants that grew here and there, and wholly unconscious of our presence. It was a fearful place for an attack, either upon them or by them. Greatly to our amusement our brave Jacoons immediately swarmed up the nearest saplings, and the other members of the party fell back in good order and concealed themselves.

As the reader is possibly aware, I had had trouble with elephants before, but this was my friend Syers' first experience with such colossal game. Like a true sportsman and green hand at elephants, he was for attacking the herd instantly, before it took alarm and ran away, and I had great difficulty in even partially restraining him.

We quickly looked the herd over and saw that the only tusker in it was a rather small one, with short tusks, but fortunately he was the one nearest us. It seemed like an utter impossibility to get near enough for a sure shot through that open swamp; but, selecting our line of attack, and keeping carefully behind the tree-trunks as long as possible, we crouched low and stole forward. In spite of our caution, a stick would snap every now and then, and our feet make a noisy disturbance in the water. Mr. Syers, who was eager and excited, took the lead, altogether too rapidly I thought, and I followed, almost upon his heels.

At last we reached a large tree at the foot of which was a bit of bare ground. Syers stepped up on it and cocked both barrels of his rifle. The elephant was in clear view forty yards away, but his hind quarters were toward us and his head was hidden by the root of an upturned tree. Syers threw his rifle up to his cheek with a look that meant business, and was glancing along the barrels for a shot, when I gave him a dig in the ribs and hurriedly whispered:

"Confound it, man, don't fire yet!"

"Why, I can hit him here well enough," he protested, in an excited whisper.

"But you couldn't possibly kill him. We must get up to that root close by his head before we fire."

I hardly knew whether to be vexed or amused at my good friend's impetuosity, for I felt that as an old elephant hunter of four months' standing (and running also!) he should have allowed me to lead the attack. I shall always regard it as a hunter's miracle that we succeeded in approaching that animal when making so much noise and going ahead so precipitately in open cover.

With every nerve strained to highest tension, we crept out recklessly toward the upturned root, crouching almost into the water, and after a few moments of breathless anxiety we reached it and were within twelve paces of our elephant. I was totally surprised at his not seeing, hearing, nor scenting us. He was utterly unconscious of our presence until we both stepped from our cover, aimed quickly at his temple and fired together.

The great beast gave a tremendous start as the bullets crashed into his skull, threw his trunk aloft with a thrilling scream and wheeled toward us.

Before he had time to make a single step forward we aimed for the fatal spot over the eye and fired again. Down sank the ponderous head, the legs gave way, and the huge beast settled down where he stood and rested in the mud, back uppermost, with his feet doubled under him.

We instantly reloaded and came to a "ready," just as the tough old pachyderm began to slightly recover and struggle to regain his feet. Choosing our positions this time, a couple of shots behind the ear penetrated his brain and settled matters. With a convulsive shudder and a deep groan the great creature slowly sank back upon the ground, moved his trunk feebly a few moments, fetched a deep sigh and expired.

Of course all the other elephants had bolted at the first alarm, and were by that time far away. Our followers came running up, grinning from ear to ear at our success, and when they surrounded the fallen giant their exclamations of astonishment were loud and fervent. We could not measure our game, but according to the circumference of his fore foot, and his general appearance, he was about eight feet in height at the shoulders. His back was thickly encrusted all over with a half-inch coating of dried mud, the wise provision of a sagacious animal against the attacks of the swarm of huge gad-flies which buzzed about him. They bit the blood out of us more than once, and annoyed us exceedingly while we were at work on the dead elephant.

In a pouring rain, we cut off his head and took his skull, cervi-

cal vertebræ, and feet—quite enough of that sort of thing in that pestilential swamp. We carried home all except the skull, which we left to be brought out the next day by a party of Malays.

We reached home thoroughly tired, hungry, and bedraggled, but Jules Mumm and Cat's Face came to our rescue, and as Syers and I sat on the slatted floor and banqueted from the top of our camp chest we ran the chase all over again.

The next day the elephant's skull was carried out of the jungle, and I stayed at home to clean it carefully with knife and scraper, while Mr. Syers went off on an unsuccessful hunt after wild cattle.

The day following that we had another go at elephants. We overtook a herd, and attacked it in thick cover, bareheaded, in a pouring rain which half blinded us. The only tusker in the herd was small and young, and I was for letting him go, but my eager companion insisted that elephants were a nuisance in Selangore, and ought to be killed off for that reason if no other. We fired at the young tusker, but failed to bring him down, and the herd made off very deliberately. They thought our firing was thunder, or at least a part of the storm. I was willing to let them go, but Syers voted to follow them up, so I assented with every appearance of satisfaction. For three mortal hours we went at our best speed along that trail, through mud and water a foot deep, through bog and brake, over fallen trees, and through thickets of thorny palms, until finally, when quite tired out, we came up to the elephants in the densest of cover.

As we were advancing promptly to the attack, across a bit of open ground with the herd on our left, we heard a sudden crashing in the bushes on our right, and in another instant saw a young seven-foot elephant coming full tilt, straight toward us, and not twenty yards away. I thought, "Merciful heavens! The beast is charging us!" and we instantly threw up our guns to fire. I took a quick aim at his forehead, and was in the act of pressing the trigger, when the elephant, then within twenty feet of us, suddenly sheered off at a right angle to his former course, and fairly humped himself to get safely away. He went at a splendid gait, directly away from us.

"All right, my young friend, its a bargain!" thought I, thankfully. "You let me alone and I'll do the same by"——bang! went Syers' rifle, with an infernal roar just beside my ear, aimed at the fast retreating elephant. Had he shot him in the hind quarter? The animal gave a shrill little scream, humped his back still higher,

pulled his throttle wide open, and rushed off through the jungle like a runaway locomotive.

I turned to Syers in astonishment.

"What on earth did you shoot for, and where did you hit him?"

"Why, confound it, I thought he was going to run over us, and he scared me so I put a ball through the butt of his ear to pay him off."

I enjoyed a good laugh at my vindictive friend's expense, in which he joined very heartily, for I certainly never saw a more absurd performance in the hunting field. The idea of his firing a ball at that little elephant, who was already doing his best to get away from us, was comical, to say the least, and the joke lasted many a day.

On the way home we made a very interesting discovery, quite by accident. We fell in with an old Malay and some Jacoons, who walked along with us for some distance. As we were going through the forest, a short distance from the foot of a gray limestone cliff about two hundred feet high, covered on the top with forest, we noticed in the air a very curious, pungent odor, like guano, the cause of which we could not divine. Mr. Syers turned to the old Malay, who was familiar with the neighborhood, and inquired:

"What is it that stinks so?"

"Bats' dung, sir."

"Bats' dung! Where is it?"

"In the cave yonder in the rocks, sir."

"Why did you not tell us of it the other time we were here, old simpleton?"

"I didn't know you wanted to know about it, sir," said the old fellow, innocently.

We turned about directly and made for the cliff, under the old man's guidance. The cave was soon reached. We climbed up forty feet or so over a huge pile of angular rocks that had fallen from the face of the cliff, and on going down a sharp incline found ourselves underneath a huge mass of bare limestone rock, leaning at an angle of forty-five degrees against the side of the cliff, forming a cavernous arch, open at both ends and a hundred feet high. It was hung with smooth, dull-gray stalactites, which, when broken off, showed such a clean white limestone formation that it might almost be called marble.

From near the bottom of this curiously formed arch a wide

opening led into the cave proper. We procured a torch of dry bamboo and entered forthwith. This cave, which it seems is called Gua Belah, or the Double Cave, is about sixty feet wide, a hundred and fifty feet long, to where it terminates in a narrow cleft in the rock, and about forty feet high at the highest point. The ground plan of the cavern is therefore an isosceles triangle. The walls were smooth, of a light-gray color, and without stalactites. The floor was covered to an unknown depth with a layer of loose and dry bat guano, which gave off the odor we had noticed half a mile away.

The cave was full of bats (*Eonycteris spilla*) which left their resting places on the walls as we entered, and flew round and round above us in a roaring swarm, at times coming within a foot of our faces. Our footsteps fell noiselessly on the soft and spongy bed of guano, and had we been provided with sticks we could have easily knocked many bats from the walls. There must have been two thousand of them there. In the outer cavern we easily shot a number of specimens as they clung to the rocks high above us.

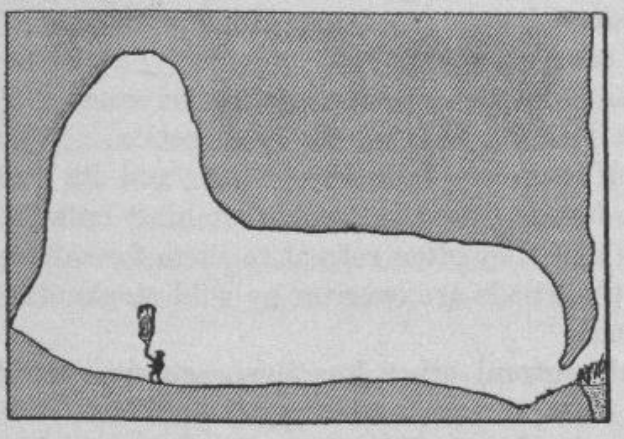
Not far from that cave was another in the same mountain, which we visited on the following day. The mouth was simply a hole in the base of the rocky wall, leading straight into a low, but very extensive, cavern, which must have been an acre and a half in extent. The low roof reminded me of a mine, and the numerous galleries and narrow passages leading off on either side rather heightened the resemblance. In the light of our torches the roof was yellowish-white and very clean looking, generally smooth, and without stalactites. The floor also was bare rock.

We found the mouth of the cave entirely stopped with branches —excepting one opening about a foot square—and were informed that, after thus blocking the mouth, the Jacoons send two or three men inside to scare the bats out so they can be knocked down by the sticks of those who stand outside at the opening. We tried the same dodge in order to get a few more perfect specimens, and easily secured five by this knock-down process. The scheme is so easy to work, however, and so successful that the Jacoons have almost entirely depopulated the cave of its winged inhabitants.

After leaving this cave, which is called "Gua Lada," or Chilli Cave, we were conducted through a mile of very wet jungle to a third cave, called "Gua Lambong," which is really a very fine cavern. At the mouth there is a perfect little vestibule scooped out of the solid rock by the hand of nature for the express accommoda-

tion of the party who will keep a stand there for the sale of refreshments, photographs, and torches to the tourists who will visit the cave during the next century.

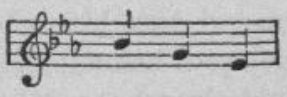
On entering the cave at the yawning black hole, we found ourselves in a grand cathedral, whose floor, walls, and roof were of smooth white limestone rock. Descending for a few yards from the mouth we came to a clear stream of water rippling across the rocky floor and seeking an exit near the mouth. Crossing this, we



walked forward along a grand gallery, with clean and level floor, perpendicular walls and gothic roof, like the nave of a cathedral, fifty feet wide and sixty feet high. At the farther end of the gallery—which was by our estimate about three hundred feet in length —the roof suddenly rose in a great round dome ninety or a hundred feet in height, completing so perfectly the resemblance of St. Peter's, at Rome, that had I the privilege of naming the cavern I could call it nothing else than Cathedral Cave. The accompanying diagram represents a vertical section, as nearly as could be obtained without measurements.

We stood for some time gazing in silence about us, quite awed by the grandeur of the natural rock-temple we had discovered.

Remembering the Baptistry at Pisa, and, recalling its beautiful echo, I sang out clear and strong,



Sol mi do.

The echo of the three notes mingled directly in a beautiful chord, wonderfully prolonged, like the sound of three voices winging their way upward until they were lost in the distance. The illusion was

perfect and the effect of the echo highly weird and impressive. It seemed fully a quarter of a minute that the echo reverberated in the top of that rocky dome. As a further experiment, Mr. Syers discharged his rifle, and the report sounded like a deep boom of thunder, prolonged and rolling, echoing in the dome and at the farther end of the long gallery with a long-continued roar.

Under the dome the floor began to rise as we progressed, and sloped up all the rest of the way to where the cavern terminated in a narrow cleft. This portion of the floor was covered with a thick deposit of bat guano, loose and dry, but there were very few bats in the cave.

All these caves are about three miles east of Batu, and nine from Kwala Lumpor, in a northerly direction. The whole hill is a solid mass of white crystalline limestone, and its greatest height is about three hundred feet. Besides catching bats in the caves, the Jacoons say that they often retreat to them for safety at certain seasons when the woods are overrun by wild elephants and other dangerous animals.

We made several other hunting excursions in different directions from Batu, always under good guidance, but, although we often saw the tracks of wild cattle, we were never fortunate enough to fall in with the animals themselves. The inevitable krah monkey (*Macacus cynomolgus*) was often seen and sometimes shot.

Squirrels were plentiful, and besides two other species (*Sciurus ephippium* and *bicolor*) we shot several specimens of the beautiful black and white *Sciurus Rafflesi*.

The Malays and Jacoons brought us many specimens of the pretty little mouse-deer (*Tragulus napu* and *kanchil*), several small Felinæ (*Felis marmorata* and *Bengalensis*), and two species of civet cat (*Viverra*), all of which they caught in traps for our especial benefit. We collected a few bright birds also, and one rhinoceros hornbill.

Having spent a week at Batu with both pleasure and profit, we sent our elephant bones, rock specimens from the caves and other dead weight down to Klang by the river, while we packed up and returned to Kwala Lumpor. On the ride back Mr. Syers' pony went down when at full gallop and gave him a terrible fall, which, but for the protection of his thick pith helmet, might have resulted very seriously. It would have sent almost any other man to bed for a week, but my plucky friend insisted on his ability to carry out the programme, and would scarcely let me rub him with my favorite remedy.

On reaching Kwala he took me off four miles south to see a number of tin mines. The road was good all the way, and lay through open uplands of dark alluvial soil. We passed several fine fields of sugar-cane, two of tobacco, and my guide pointed out several coffee bushes hanging full of berries. There were houses and huts of both Malays and Chinese scattered along the road, and the two could always be distinguished at a glance. Those of the Chinese were always in good repair, and surrounded by flourishing and beautifully-kept vegetable gardens of one to two acres in extent. The houses of the Malays were always in bad repair, and their gardens, when they had any, were neglected and weedy. Every Chinaman we met or saw was carrying something, or else at work in his garden. Every Malay was either strolling along empty-handed, or else loafing in the door of his hut. If Selangore were my territory I would give it to the Chinese. Before returning, however, we were astonished beyond measure at seeing two Malays actually at work in a garden, and we stopped and gazed at them in incredulous amazement.

The first tin mine is about four miles from Kwala, situated in the middle of a "flat," near the foot of a range of hills.

The tin is found in the form of dark-colored sand or fine gravel about fifteen feet below the surface, and is reached by simply removing all the over-lying strata of soil, clay, and gravel. The tin lay in a bed, like a vein of coal, about two feet in thickness. The water which runs into the excavation is pumped out by an overshot water-wheel and an endless chain, a very ingenious contrivance which I cannot take time to describe. In the smelting-shed near by the tin is simply melted out and run into ingots of a size and shape convenient to handle.

On reaching Kwala again we found the "Captain Cheena" at home, and he sat us down to a superb dinner, consisting of soup, fish, roast capon, roast duck, green peas, potatoes, cucumbers, pork chops, curry and rice, a monster tart, mangosteens, durians, bananas and champagne. The captain does not speak English, so I lost the benefit of a conversation with him.

The next day we returned to Klang, and after a day's rest I began to get ready to "move on."

We were again entertained at dinner by Captain and Mrs. Douglas at the Residency, and spent a most enjoyable evening. Although the country is perfectly tranquil, the Malays are a trifle uncertain and the Chinese also, as the murder of Europeans not

long since in Perak, and later at the Dindings, has rendered painfully evident. A body guard of six stalwart policemen from Mr. Syers' force watches over the Residency night and day, so that there is little to fear from foes without. Captain Douglas has entered, heart and soul, into the development of the territory of which he is virtually the governor; and it is gratifying to see such a promising country in such good hands. Under the control of the shiftless Malays its resources would never have been developed.

It takes the British Government to rule such places and make them habitable for producers, and worth something to the world.

Nominally, the old Sultan of Selangore is still a sultan, and ruler of the country, but actually he is a mere figure-head, living off in a corner at Selangore, and quietly enjoying the royalty of $2,000 per month, which is paid him out of the revenues of the country which he is not competent to govern and develop. His son, the heir apparent to the figure-headship, has a much larger harem than his sultanic papa, and also some notions of his own about government, which may result in giving the country a backset if he ever acquires the power to put them in force.

The Territory of Selangore has a coast line of one hundred and twenty miles, and it extends into the interior about fifty miles, where it joins Pahang, another territory of the same political complexion. Its population in 1880 was fifteen thousand. The chief productions of the country are tin, gutta, rattans, rice, gambier (pepper), and tobacco. The principal industries are tin-mining, gardening, and gambling. The average monthly production of tin is six hundred bharas, or two hundred and forty thousand pounds. The soil of the interior is certainly very rich, and I should think could be made to produce sugar-cane, tobacco, and perhaps coffee also, with great profit.

As a sort of parting send-off, we were dined the last evening of our stay by Mr. Turney, Treasurer of Selangore and his estimable lady. This is what the Klang people mean by being "civil" to strangers. Healthy civility surely, but the odds are every time in favor of the stranger.

Almost my only disappointment in Selangore was that, from first to last, we found no snakes in the jungle. I fondly hoped to meet a python in his native wilds and see what he would do, or at least an *Ophiophagus elaps*—snake-eating cobra—but neither did we see. My imagination had pictured the forests of the East Indies as producing a big snake for every square mile, but they are almost as

scarce as snakes in Ireland. In all my jungle wanderings in the far east I did not encounter a snake four feet long, although I looked for them very hopefully. It was disgusting after all the big snake stories I had heard. The only snake I saw in Selangore was a vicious little viperine affair, eight inches long, which I killed with a prayer-book in Captain Douglas' drawing room at the Residency, while kneeling at prayers one Sunday evening. He came wriggling toward me across the matting, and I took him in. Just before my visit Mr. Syers killed three cobras in his house in the fort, which had taken up quarters under the floor. Fortunately I am not at all nervous, and this discovery did not disturb my slumbers in the least.

On the last day of my stay, an old Malay came into the fort dragging the headless body of a python which measured twelve feet six inches. He was walking through the jungle, and in passing by a hollow tree, the snake thrust its head out of a hole near the bottom. He whipped out his parong and very neatly decapitated the reptile at a single blow. I bought the body and sent him back for the head, which he presently produced, and at the last moment we removed the skin and preserved it for mounting. The jungle had relented and given me a snake after all.

A few months later I saw in Singapore a fine living *Ophiophagus elaps*, about seven feet long, which Captain Douglas had sent down to the Museum—the third specimen of that species he had secured.

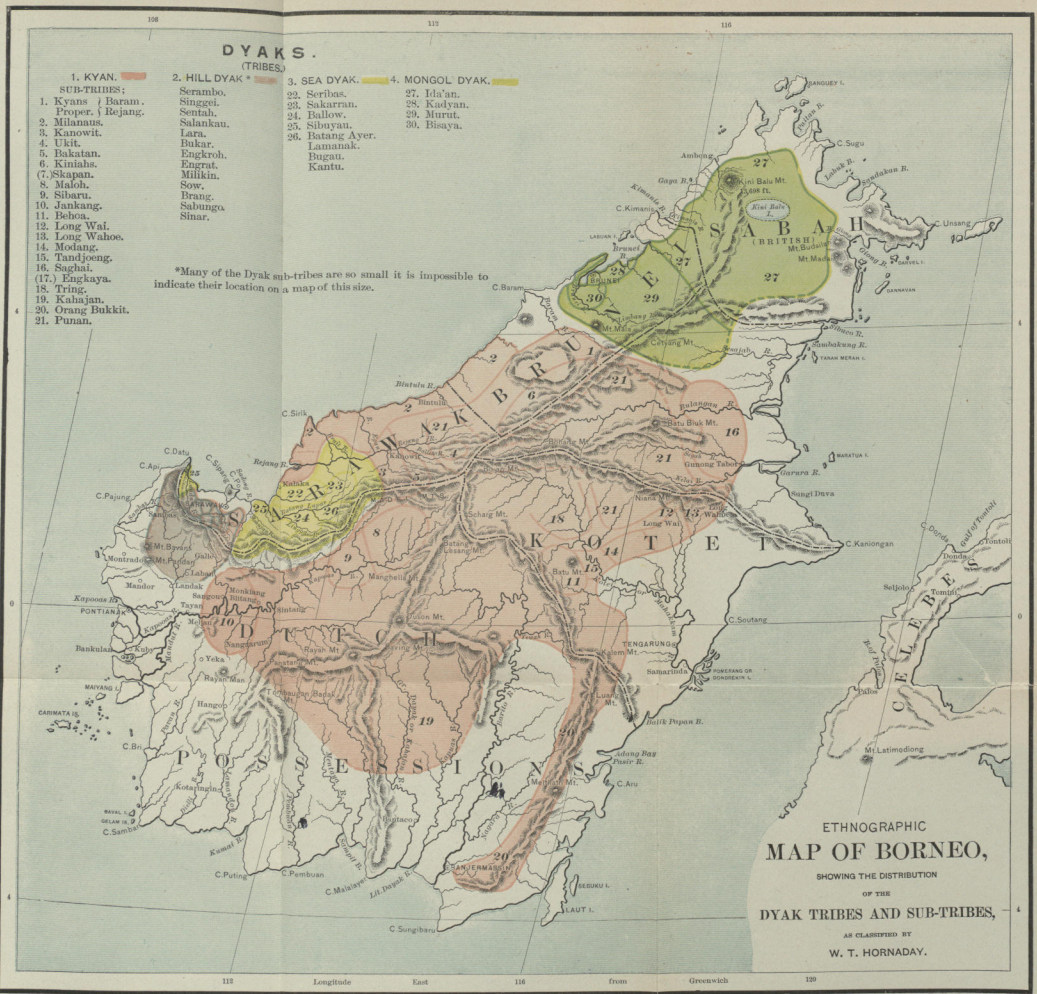
When the time came for me to leave Klang I was in no way thankful to go. My visit had been so pleasant that I was really sorry that I could not stay longer. My collection made a very satisfactory showing for six weeks' work, and Mr. Syers' hearty hospitality had made the place seem like a home. He himself was the most interesting specimen I found in this territory, and as a character study he was "immense." In point of modest reminiscence of "dangers he had passed, and moving accidents by flood and field," he was another Othello, a fit type for the hero of a stalwart romance.

But my time came, and I had to leave his rambling, roomy, and cool bungalow in the fort; the Malay bugler who used to practise the "Dead March in Saul" every morning; the drills and parades; and the jolly friend who entertained me so patiently to the last. At parting, he gave me a Malay kris, and a "pig-tail" which he cut from the head of a Chinese murderer just before hanging him, as souvenirs of the visit.

Three days later I reached Singapore once more, and prepared to depart for Borneo.

At this point I desire to mention the kindness of Mr. Robert Campbell, now, alas! numbered with the silent majority, who was my good genius all the time I remained within his reach. I was a total stranger to him until a London firm placed a sum of money to my credit with the firm of Messrs. Martin, Dyce & Co., of which he was the head. When the time came for me to start to Borneo the balance remaining to my credit was not at all sufficient for the trip, and my good friend insisted upon advancing all that I needed. From that time until I started home I spent my funds faster than they came, and every time I became embarrassed Mr. Campbell generously came to my relief. But for his self-forgetful generosity I should more than once have found myself in most unpleasant straits, due, I admit, to my own fault in disregarding Professor Ward's instructions, and going ahead full speed with my work instead of resting and waiting for funds. All thanks to Robert Campbell, and the firm of Martin, Dyce & Co. Thank heaven that my faith in humanity is so often and so handsomely justified!

But it passes my understanding how any stranger, who under such circumstances is trusted without any security, can be so unspeakably contemptible as to defraud his benefactors, as I have known some to do.


DYAKS.
(TRIBES.)
1. KYAN.
SUB-TRIBES;
1. Kyans { Baram. Proper. { Rejang.
2. Milanaus.
3. Kanowit.
4. Ukit.
5. Bakatan.
6. Kiniahs.
(7.) Skapan.
8. Maloh.
9. Sibaru.
10. Jankang.
11. Behoa.
12. Long Wai.
13. Long Wahoe.
14. Modang.
15. Tandjoeng.
16. Saghai.
(17.) Engkaya.
18. Tring.
19. Kahajan.
20. Orang Bukkit.
21. Punan.
2. HILL DYAK *
Serambo.
Singgei.
Sentah.
Salankau.
Lara.
Bukar.
Engkroh.
Engrat.
Milikin.
Sow.
Brang.
Sabungo.
Sinar.
3. SEA DYAK.
22. Seribas.
23. Sakarran.
24. Ballow.
25. Sibuyau.
26. Batang Ayer.
Lamanak.
Bugau.
Kantu.
4. MONGOL DYAK.
27. Ida'an.
28. Kadyan.
29. Murut.
30. Bisaya.
*Many of the Dyak sub-tribes are so small it is impossible to indicate their location on a map of this size.
ETHNOGRAPHIC
MAP OF BORNEO,
SHOWING THE DISTRIBUTION
OF THE
DYAK TRIBES AND SUB-TRIBES,
AS CLASSIFIED BY
W. T. HORNADAY.
Longitude East from Greenwich
Strulhers, Sereons & Co., Engr's, N.Y.

CHAPTER XXIX.

FROM SARAWAK TO THE SADONG.

Hunting near Kuching.—Crocodiles in the Sarawak.—A Dangerous Pest.—War of Extermination.—From Sarawak to the Sadong.—The Simujan Village.—A Hunt for an Orang-utan.—In the Swamp.—On the Mountain.—Valuable Information at Last.

WHILE I remained a few days at Sarawak to gather information about the orang-utan and other animals before making a start for the jungles, I purchased from a Malay a very good small boat to use as a hunting-boat, and made several excursions up and down the river.

I was surprised at finding proboscis monkeys (*Nasalis larvatus*) along the west bank of the river, not more than two miles below the town. I fired my rifle at one we found sunning himself at the edge of the jungle, knocked him off his perch in a twinkling, and the next moment we sprang ashore, or at least into two feet of soft mud, and waded landward. We reached the edge of the undergrowth and endeavored to penetrate it, but after a long struggle with the thorny tangle we gave up beaten, and the monkey got away. We found another monkey, the krah (*Macacus cynomolgus*), quite numerous along the river, but, the mud was so deep and the jungle so thick and thorny that we failed to secure more than one specimen. Had this been my only opportunity we would have secured good specimens of both species regardless of difficulties; but we knew we would have better chances elsewhere.

A few specimens were brought to me at the hotel, among which was a fine female *Manis Javanica*, here called "tingeling," with a tiny young one clinging to her. The latter was quite a prize, being of a good size to preserve entire in alcohol, while the mother furnished a fine skeleton. Squirrels are abundant along the river, and my new hunter distinguished himself by bringing in half a dozen. Turtles and beetles were brought to me by the Malay small boy,

and for a few days we did a thriving business. Two professional crocodile hunters brought in a *Crocodilus porosus* eleven feet long, and delivered it to Mr. Buck, the superintendent of police, for the government reward of thirty-five cents per foot. The reptile was alive, but securely bound, and Mr. Buck kindly placed it at my disposal. Having just taken a goodly number of the same species at Selangore, I decided to take the head only, and a Malay was called to decapitate the animal as it lay. He drew his "parong latok," a very heavy sword with an edge like a razor, and with two terrific blows severed the crocodile's head from its body.

Owing to the fact that the crocodiles which infest all the rivers of Sarawak Territory are voracious man-eaters and destroy several lives annually, the government is waging a war of extermination against the species, and with telling effect. During that year (1878) 266 crocodiles were brought to Kuching for the reward, 153 of which were caught in the Sarawak River and its branches, and 113 in the Samarahan; 53 were caught by one man, a Malay named Mau, and 48 by another named Bujang, both of whom follow that business exclusively. Nearly all were taken with the "alir," on the same plan as that we pursued in Selangore, described in Chapter XXVI. The largest crocodile taken that year measured 13 feet 10 inches, and of the whole number only two others exceeded 13 feet. Two were between twelve and thirteen feet, ten between eleven and twelve, and eighteen between ten and eleven, while the remaining two hundred and thirty-three were under ten feet, the majority measuring from seven to nine feet. The amount paid out in rewards was $738.28.

Mr. Crocker gave me a huge skull of *Crocodilus porosus*, which was 2 feet 10 inches in length, and must have come from a specimen not less than sixteen feet long. Besides the salt-water crocodile, a true gavial (*Tomistoma Schlegellii*), is found growing to a great size in the Sarawak River and the Rejang, and perhaps, in nearly all the large rivers of the territory above tidal influence. I procured of Mr. A. Hart Everett, the naturalist, a very large skull of this species from the Upper Sarawak, which measured 3 feet 3 inches in length. This species, however, is much more rare than the other, and I did not succeed in securing a fresh specimen.

The information that I received concerning the orang-utan was to the effect that they inhabit the valleys of the rivers Sadong and Batang Lupar, but not the Sarawak or Samarahan, and are usually seen in the fruit season. But the fruit season had passed months

before my arrival, the orangs had retired to the depth of the forest, and no one could give me the least information as to where they had gone, or how I could manage to find them. Three or four were killed annually on the Sadong or its tributaries, and I decided to visit that locality in search of others. Mr. Crocker, the resident of Sarawak proper, very kindly offered me the government house on the Sadong as a residence and base of operations during my stay in that region, an offer which I was very glad to accept. In addition to this he also offered me a passage in the government schooner *Gertrude*, then about to make a trip to Sadong for a cargo of coal.

One day about sunset, we dropped down the river with the ebbing tide and, catching a light breeze at the river mouth, stood out to sea. All the next day we moved quietly along, and at sunset stood in and came to anchor at the mouth of the Sadong, to wait for the flowing tide to carry us up. Late that night I was dimly conscious of the fact that something was done about the anchor, and it seemed to me that the very next minute our vessel brought up with a loud "bump" and a violent jerk. "Run aground!" I said to myself, and went on deck to see what the trouble was. It was gray dawn of another day, a mist was slowly rising from the river, and the cocks were crowing loudly among the weather-beaten attap roofs that lined the river banks. We were at anchor in the mouth of the Simujan River, where it enters the Sadong, about twenty miles up. Along the left bank of the stream were about thirty Malay houses, nestling among the cocoanut-trees, forming the Malay kampong, while on the opposite side about half as many dwellings and shops built close up to the edge of the bank made up the Chinese kampong. As is the rule throughout Sarawak, the Chinese own nearly all the shops and do nearly all the trading. What the Malays do for a living I never could imagine.

The government house stands a hundred yards above the confluence of the two rivers, and I was surprised at finding it so well-built, roomy, and comfortable. It was built to accommodate such of the government officers as might have occasion to visit this locality in the discharge of their duties. As usual the house stands on posts six feet high, and the space underneath is quite well adapted to such work as skinning and skeletonizing animals. It contains two suites of rooms, and a latticed verandah in front of each sleeping apartment, which is a capital place for keeping pet monkeys and orang-utans.

At the front of the house the steps lead up into a spacious audience-room, from the door of which there is a fine view of several miles directly down the Sadong, here a mighty river half a mile wide. The house is used as a police station by a detachment of half a dozen men, whose duties consist mainly in striking the hours on a deep-toned gong which hangs in the verandah. Ah me! that gong! As I recall its deep mellow "boom," which was always music to my ears, there rise before me pictures of half-naked Dyaks, red-haired orang-utans, dark-green jungle, wet trousers, canned salmon, green peas, and Bass' pale ale.

The grounds in front of the house are tastefully laid out, and quite filled with flowering shrubs and curious plants from the surrounding jungle, all of which seem to thrive without care.

The virgin jungle comes up to within a hundred yards of the house at the back, and the Malay kampong nestles at its edge. Near the house stands the government rice store, where the Dyak revenue (of one dollar's worth of rice per family) is received and stored. The whole establishment was then in charge of Mr. Eng Quee, the government writer, a Chinese half-caste, to whom I brought, from Mr. Crocker, a letter which proved an open sesame to all the privileges the place afforded. No one could be more obliging than I found Mr. Eng Quee, and he was of infinite service to me.

An hour after we landed, the Malay headman of the village came to pay his respects; and a little later a party of Dyaks came to be questioned regarding the possibilities of finding orang-utans. In his own country this animal is universally called the "mias," although he is occasionally referred to by the Malays as an "orang-utan," which means, literally, jungle-man, from "orang" man, and "utan" jungle.

The English name of the mias is a corruption of the Malay, commonly written as "orang-outang."

None of the Dyaks or Malays could give any definite information as to the abundance of these animals in the Sadong valley, their present whereabouts, or the best ways and means of finding them.

They assured me there were "mias somewhere in the jungle," but they could not tell me where to seek them. They thought I might kill at least one every week, which was quite encouraging, and I thought I would be satisfied with as good luck as that would be. I gave powder and lead to such of the Dyaks and Malays as were willing to hunt orangs for me, and started them out.

Two miles from the Chinese kampong, on the eastern side of the Simujan, is the government coal mine, to which a wooden tramway leads through the swamps, the only railway in all Borneo. With a letter in my pocket to Mr. Walters, the superintendent of the mine, I started to walk up the tramway, and half way to the mine I found the gentleman himself coming to see me. We were friends in five minutes. He entered heartily into my plans, and gave me much valuable information and advice. Our acquaintance throughout was a most pleasant one, and I never wearied of his sketches of jungle life. But on the subject of orang-utan hunting he confessed himself at fault. He had seen many orangs and killed several, but for several months he had not even heard of any in that vicinity.

Two days later he hurriedly sent word to me that a mias had just been seen in the jungle about two miles above the mine. In less than an hour we were at the mine, and, accompanied by Mr. Walters and several Dyaks and Malays, we set out under considerable excitement to find the animal. We followed a rugged forest path until we reached the spot, but the mias was nowhere to be seen. We divided our party and hunted about until nightfall, but found nothing save a fresh mias' nest, and so returned in disappointment.

The next day we determined to try the experiment of hunting through the forest at random. Early in the morning there arrived a Dyak named Dundang, who has the reputation of being a very successful hunter. He was a fine specimen, though too muscular to be considered a typical Dyak. His entire costume consisted of a yard-wide strip of bark-cloth wound around his loins and passed between his thighs with the ends falling down apron-wise in front. His head-gear was a strip of faded pink calico wound around his head and partly confining his long jet-black locks. He was accompanied by another Dyak, and, with them to guide us, Perera and I set out for a tramp.

No sooner had we fairly turned our backs on the coolie quarters at the mines than we were in the jungle. We had decided to try the swamp forest first, and if that yielded us nothing we would take to the low mountain which rises out of it like an island. We plunged into the swamp and for several hours waded through its miry mazes, but saw no animals save one monkey and a few small birds and insects for which we cared nothing.

The trees were rather low, as a rule, but grew very thickly to-

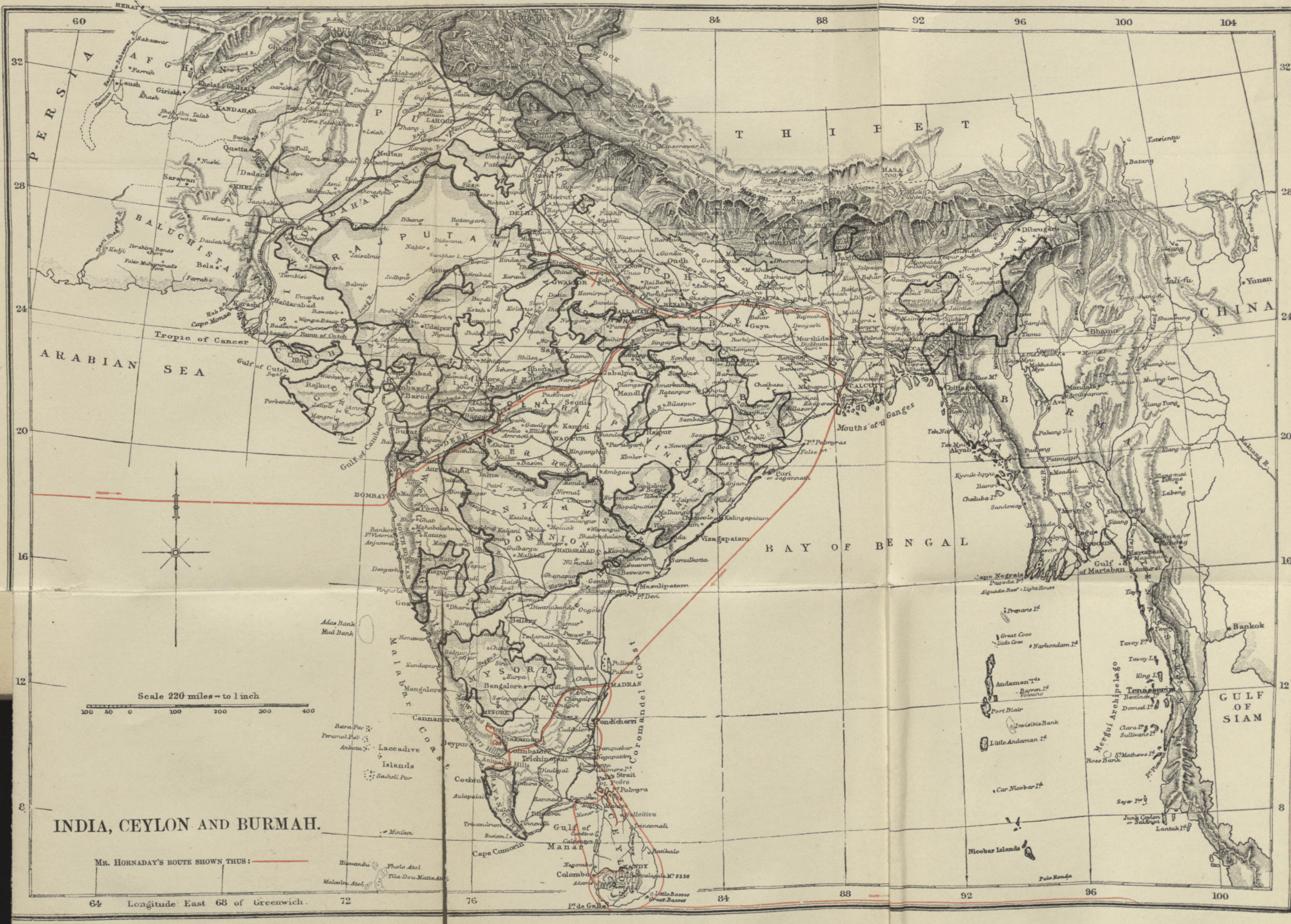
gether, so that their tops formed a compact mass of green foliage which shut out every ray of sunlight from the ground below. Instead of tangled and spreading brushwood, the undergrowth consisted of saplings, with the stems of rattans, rope-like creepers and lianas hanging from the tree-tops or twining in awkward, angular fashion around their trunks. The ground beneath was little more than a net-work of gnarled roots, rising out of a thick pulp of water and decayed vegetable matter often a foot deep. It was not water, for it was too thick to be called a liquid; it was not mud, for there was scarcely any soil in it; but it was as wet as water and soft as the softest mud. It is this vegetable pulp which, when washed into the rivers of Borneo, is immediately dissolved, and imparts to the streams near the coast their murky brown color.

Almost the entire island of Borneo is quite encircled by a belt of swamp forest such as the above, extending back from the seashore a distance of fifteen to forty miles, where the land rises and asserts itself. Along the coast of Sarawak, particularly between the Sambas and Batang Lupar Rivers, isolated hills and lofty peaks rise abruptly from the level forest here and there—evergreen islands rising out of an evergreen sea. Along the seashore, the jungle is low and scrubby, but it reaches quite down to tide-mark. Where the beach is clean and sandy it is fringed with graceful casuarinas (*C. littorea*), here called the arrooree tree; but where the shore is of mud, as it is between the Sadong and Batang Lupar, the mangrove forms the boundary of the jungle. A few miles back from the sea the jungle rapidly rises in height and attains its greatest altitude on the hills.

Progress on foot through the swamp is slow and difficult at best, and even the man who prides himself on his ability to follow wherever a native can lead, will find his powers of endurance put to the test when he starts out to follow a naked Dyak through his native swamps. It seems strange that any terrestrial quadruped should voluntarily make its home in these gloomy fastnesses, where there is not even a spot of dry ground large enough for a lair, and yet the sambur deer (*Rusa equina*), the wild hog, and the tiny Java deer are abundant in this very swamp. I say abundant, because several were taken there during my stay, although on the day of which I am now speaking we saw not one. The only animal we saw was a large monkey with a short tail, called a pig-tailed macaque (*Macacus nemestrinus*), which I shot and skinned.

A day in the swamp, together with two or three shorter excur-

sions, convinced me that my way to the orang-utan did not lie in that direction. Then we tried the mountain back of the coal mine. We traversed its entire length, hunted over its top and along its sides, over sticks and stones, and across rocky gorges, but not a sign of mias could we discover. After a week spent in such hunting at random, without any success, we gave it up. Once more I began to interview the natives as fast as I could catch them, Dyaks, Malays, and Chinese as well, as to the present whereabouts of the mias. I elicited no information which I considered valuable until one day two Dyaks arrived from the head-waters of the Simujan River to buy rice at the government store-house. They informed me that they saw two mias as they came down the river, that they often saw them near their village at Padang Lake, and they gave it as their opinion that if I would go up there and hunt for three or four days I might get two or three mias, and perhaps more. "Two or three!" I held my breath in suspense until they brought out their figures, and when they said "two or three" I could have hugged them. Had they said I would find them in "millions, sir, millions!" they would have blasted all my hopes for that river. But the Dyak statement had a ring of truth in it, and I instantly decided to put their advice to the test. I felt so certain it would "pan out" well that I made arrangements to start up the river immediately, and prepared for a prolonged absence.


INDIA, CEYLON AND BURMAH.
MR. HORNADAY'S ROUTE SHOWN THUS:
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Longitude East 68 of Greenwich
PERSIA
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BALUCHISTAN
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GULF OF SIAM
Tropic of Cancer
Gulf of Cutch
Gulf of Cambay
Gulf of Martaban
Gulf of Manar
Mouths of the Ganges
Malabar Coast
Coromandel Coast
Laccadive Islands
Mergui Archipelago
Nicobar Islands
Andaman Is.
Little Andaman I.
Car Nicobar I.
Cape Comorin
Cape Negrais
MYSORE
BOMBAY
CALCUTTA
MADRAS
DELHI
LUCKNOW
ALLAHABAD
KANDY
Colombo
Pondicherri
Bangalore
Cochin
Goa
Surat
Nagpur
Jabalpur
Chittagong
Akyab
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Multan
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Negapatam
Masulipatam
Vizagapatam
Cuttack
Puri or Jagannath
Patna
Benares
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Gwalior
Indore
Baroda
Poonah
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