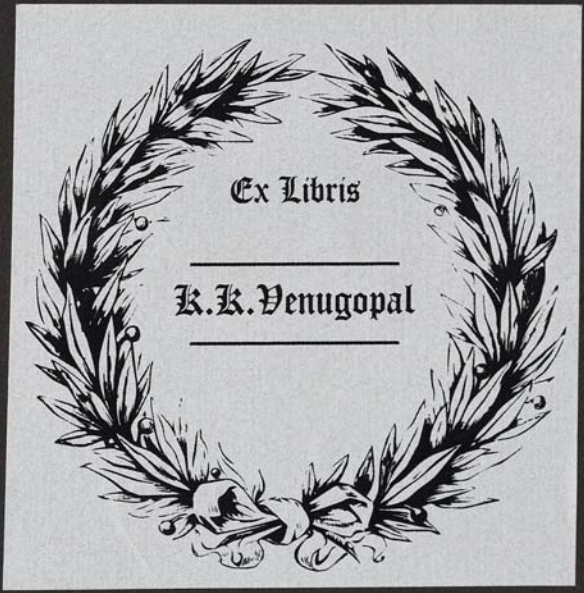
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HOW I KILLED THE TIGER.

THE TIGER.

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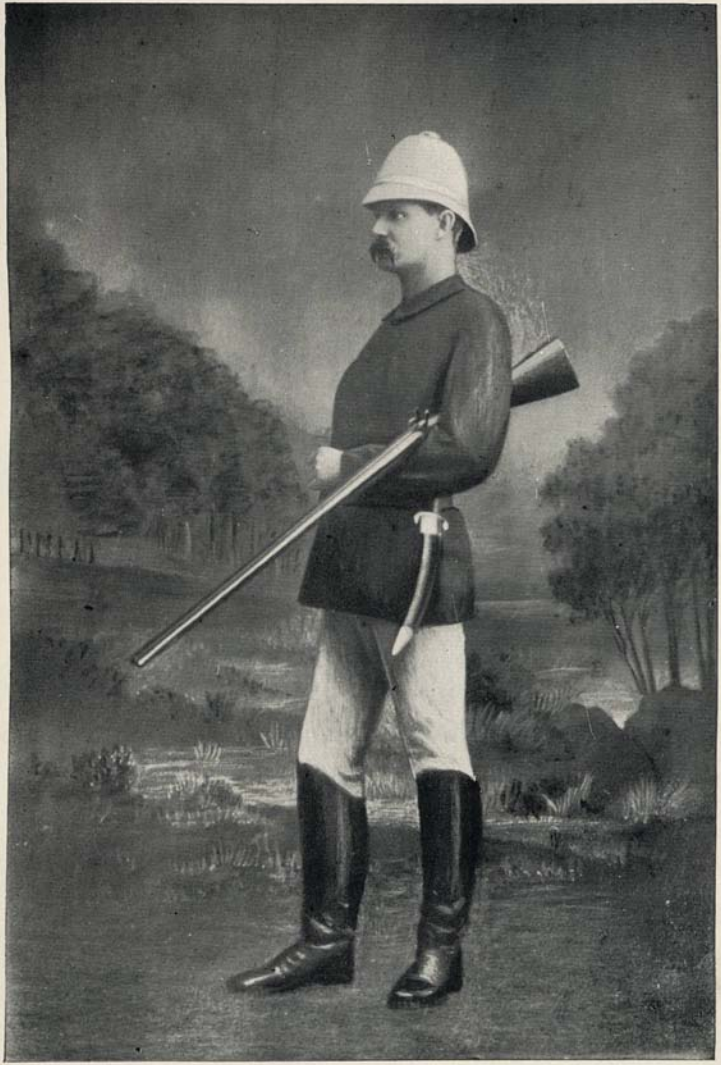

THE AUTHOR.

HOW I KILLED THE TIGER

BEING

AN ACCOUNT OF MY ENCOUNTER WITH A ROYAL BENGAL TIGER

WITH AN APPENDIX CONTAINING SOME GENERAL INFORMATION ABOUT INDIA.

BY

LIEUT.-COLONEL FRANK SHEFFIELD

Commanding 1st Cadet Battalion The Royal Fusiliers (City of London Regiment).

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HEAD QUARTERS—

1ST CADET BATTALION, THE ROYAL FUSILIERS,

(CITY OF LONDON REGIMENT)

POND STREET, HAMPSTEAD, N.W.

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1902

Dedicated to

A. J. BAINBRIDGE, Esq.,

BENGAL CIVIL SERVICE RETIRED,

THEN JUDGE OF MIDNAPORE,

AND

R. MATHEW, Esq., M.D.,

THEN CIVIL SURGEON OF MIDNAPORE,

IN MEMORY OF MUCH TIMELY KINDNESS RECEIVED

BY THEIR FAITHFUL FRIEND,

THE AUTHOR.

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HOW I KILLED THE TIGER.

APPENDIX.

The Tiger.

TIGER, tiger, burning bright
In the forests of the night,
What immortal hand or eye
Could frame thy fearful symmetry?

In what distant deeps or skies
Burnt the fire of thine eyes?
On what wings dare he aspire?
What the hand dare seize thy fire?

And what shoulder and what art
Could twist the sinews of thy heart?
And when thy heart began to beat,
What dread hand formed thy dread feet?

What the hammer? what the chain?
In what furnace was thy brain?
What the anvil? what dread grasp
Dare its deadly terrors clasp?

When the stars threw down their spears,
And watered heaven with their tears,
Did He smile His work to see?
Did He who made the lamb make thee?

Tiger, tiger, burning bright
In the forests of the night,
What immortal hand or eye
Did frame thy fearful symmetry?

—*William Blake.*

Introduction.

ON returning to England after a prolonged residence in India, one is struck—and I am sure all Anglo-Indians will bear me out in this—with the abysmal ignorance of the average Englishman upon everything concerning our vast Indian Possessions and Dependencies.

Our Indian Empire is unique; no other European power can boast of anything at all comparable with it. Yet so far from being a subject for enthusiastic pride, and for careful study, it is almost ignored. The British people, to take them in the bulk, are not only ignorant, but apathetic. This cold indifference was even more noticeable some twenty years ago than now. The modern Englishman has fallen into the rather lazy habit of extracting most of his information from novels. A brilliant romance will attract attention where works of great labour and research fail to achieve a remunerative sale. The modern

novelist has a great power and a great responsibility. Not to the historians, or the compilers of blue books, but to Rudyard Kipling, the poet and novelist, the growing public interest in India is due. He has "heard the East a-calling," and has made his countrymen hear the seductive voice too. I, with all Englishmen who have lived in India, cherish the hope that the vast land, with its teeming peoples, its mystic religions, its wonderful resources, and its rich variety of animal and vegetable life, will in time be better known to the people who are responsible for its government and welfare. For, without accurate knowledge, both legislation and philanthropy are often more mischievous than beneficial. I therefore make no apology for setting forth in the briefest manner possible some general information compiled from authentic sources, respecting British India, in an appendix.

My main purpose in writing this little book, was to place in a permanent form a description of my wonderful preservation from death in a chance encounter with a Royal Bengal Tiger. My life had been adventurous up to that time. I had shot big game of various kinds. But this episode, so marvellous in itself, so important in its influence upon my after life and character, marks the close of my career as a hunter of big game.

A contributory reason of much importance for the present publication of this volume, is the hope that the profits derived from its circulation may augment the fund being raised for the erection and furnishing of suitable buildings, at Hampstead, as the Headquarters of the 1st Cadet Battalion The Royal Fusiliers (City of London Regiment).

The raising of such a Battalion has the cordial approval of Field-Marshal Earl Roberts, Commander-in-Chief; Field-Marshal Viscount Wolseley, late Commander-in-Chief; and other high military authorities; and the author, having been appointed its Lieutenant-Colonel in command, is anxious that this work may attain a circulation that will secure a good proportion of the sinews of war. If in this way "Captain Pen" is enabled to render a friendly hand to "Captain Sword," the public interest will be the ultimate gainer.

Plate I.

WILL YOU SHOOT A TIGER?

Chapter I.

THE incident I am about to relate took place on the 28th January in the year 1871, at Palaspai, Midnapore. Midnapore is one of the largest and most important districts of Bengal. The town and station is seventy miles West of Calcutta. Its largest river, the Cossye, is two hundred and forty miles in length, and discharges itself into the Hoogly. The Hoogly river is formed by the junction of the Bhagaruttee and Tellinghee, two branches of the Ganges. It runs South to Calcutta; South-West to Diamond Harbour; East and South-West into the sea at Saugor roadstead, by an estuary fifteen miles wide. In its windings it reaches a length of one hundred and sixty miles. It receives the Dummoodah, three hundred and fifty miles long; Dalkissore, one hundred and seventy miles; and the Cossye, two hundred and forty miles. It was formerly navigable, for a line of battle ship, as far up as Chandernagore, a French town, twenty miles North of Calcutta; now vessels, drawing more than seventeen feet, are not safe in passing from Calcutta

to the sea by reason of the shoals, amongst the largest of which is that known as the James and Mary (Jahazmara, ship struck).

Calcutta is the capital of British India, and is built on the left, or eastern, bank of the Hoogly river. It is the seat of the Imperial Government, is a place of great trade, and has a Mint, a Cathedral, a Governor's House, a fortress, Town Hall, great hospitals, schools, and colleges, a botanical garden, customs office, High Court, and public monuments of Sir David Ouchterlony, Warren Hastings, and others.

Calcutta was the first concession to the British in that part of India. When they obtained it, it was only a miserable village known as Kalee Ghat, of which some believe its present name is a corruption. It is about eighty miles from the Bay of Bengal. On the 18th June, 1756, it was taken by Suraj-ud-Dowlah. Messrs. Drake and Minchin succeeded in making their escape with the women and children. Mr. Holwell held out for forty-eight hours longer, and he, with a hundred and forty-six other Englishmen, were imprisoned in a small guard-room, eighteen feet high, eighteen feet wide, and fourteen feet deep. On the following morning only twenty-three issued forth alive. The guard-room was thenceforward known as the Black Hole of Calcutta.

Chapter II.

I HAD been out shooting all the morning, and was wending my way back in a leisurely manner, when, about a couple of miles from my quarters, I came across a native, squatting on the river bank, and calmly smoking his hookah (Plate 1). The native pipe and apparatus for smoking the common hookah consists of a coooa-nut shell containing water, in which an upright reed, or wooden pipe, ornamented or otherwise, and about twelve inches long, is fixed, to support the tobacco holder and lighted charcoal. The perpendicular tube is grasped by the smoker, who draws the tobacco smoke through the water by means of a second reed or hole in the shell.

On seeing me with my gun, the native asked me if I would shoot a tiger, which he said was couched in a mulberry field (Mulberry Cultivation: see Appendix) about a mile distant. A little way from the field a whole crowd of natives were assembled. As it happened, I was only armed with an old fowling-piece, a capital weapon for

shooting birds, but of course of little use against such a formidable animal as a tiger. But finding that I had two explosive bullets in my pouch, and thinking it very likely that the tiger would turn out to be only a small leopard, I decided to go. A friend who was staying with me was dandering about a little further down the river. I therefore signalled to him to come up. The bullets I found were too large to fit the gun, so I began whittling them down with my knife to the required size. When my friend joined me we forded the river, and proceeded towards the crowd of natives (Plate 2). They were in a state of wild excitement, the Mundle, or head man, taking a prominent part in the tumult. The rivers in the East, I may mention, have a harmless and peaceful appearance in the dry season; but when the rains set in they are raging torrents, overflowing their banks, and sweeping everything before them. The divisions, or aisles as they are called, in the paddy fields (Plate 3) are for the purpose of keeping in the water, without which the paddy, or rice, could not grow. There are one or two kinds of rice, however, which grow on table lands. The aisles also serve during the rains as paths for walking or riding. When a horse has slipped off the narrow path a few times, and had an unpleasant flounder in the mud, he learns wisdom by the

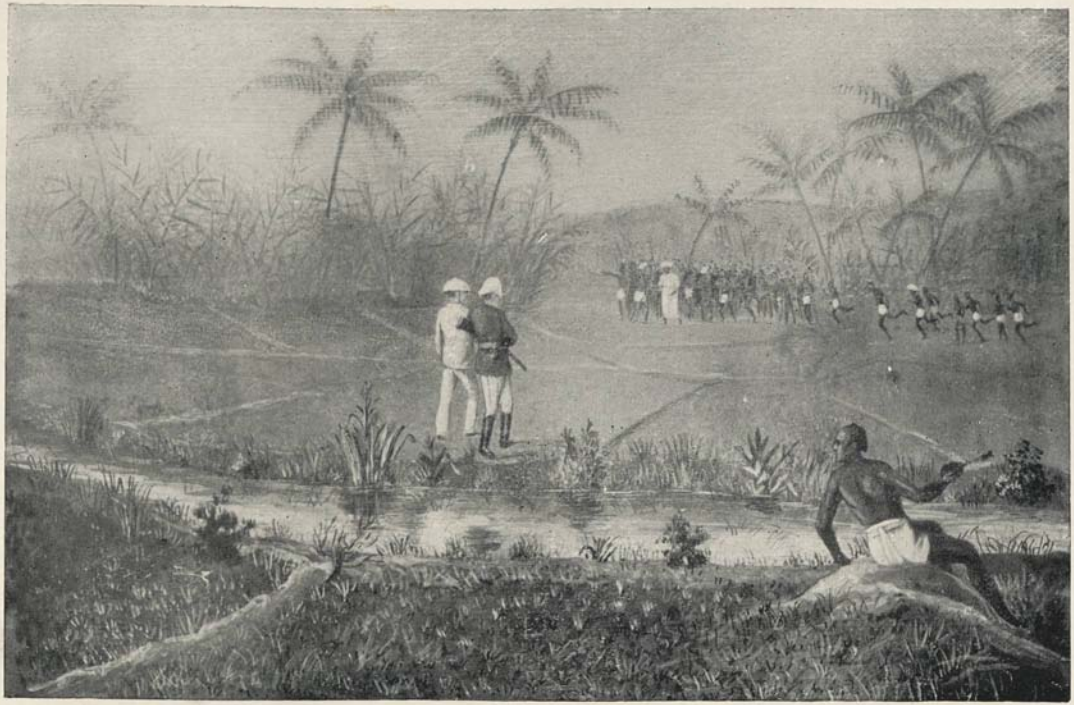


Plate II.

WHITTLING DOWN BULLETS.

things he has suffered, and soon becomes as expert as the horse at the Covent Garden Circus that walked the tight-rope. By the time I had shaped the bullets to fit the gun, we had arrived at the crowd of natives, who were in a condition of febrile excitement, chattering like a lot of magpies. I now loaded my gun, and by the time it was ready, the natives had quieted down a little. The Mundle was bursting with importance, and eager to impart information as to the tiger's whereabouts. It appeared that the tiger had been first sighted by the man who had gone up the cocoa-nut tree (Cocoa-nut Palms: see Appendix) to cut some fronds for thatching. On looking down from the top of the tree, he had espied the animal in the mulberry field, and, being himself well out of reach, he shouted with the full strength of his lungs, so that the villagers turned out *en masse*. I was still sceptical about the tiger, adhering to my original idea that it would turn out to be a leopard, as it is very unusual for tigers, unless they are man-eaters, to take up their quarters during the day-time in such an open spot as this, especially as the mulberry was at this season of the year destitute of leaf, and afforded very little shelter. The mulberry fields are generally surrounded by a Pogah, or bank, upon which bamboos are planted, and grow luxuriantly, forming

splendid barriers against the inroads of cattle. A few words here about the bamboo, the most gigantic of grasses. There are many species, which are applied to various useful purposes. Indeed it would be difficult to point out an object in which strength and elasticity are required, and for which lightness is no objection, for which the stems are not adapted in the countries where they grow. These are some of the uses to which the bamboo is applied—hollow cases, bows, arrows, quivers, lance shafts, masts of vessels, bed posts, walking sticks, the poles of palanquins, the floors and supporters of rustic bridges, scaling ladders, durable water pipes, rafts for floating heavy timber, the frame work of houses, floorings of houses, scaffolding, planking, uprights in houses, roofing, bamboo ware, fishing rods, handles of parasols, books, carts, musical instruments, paper, pencils, rulers, cups, baskets, cages, crab-nets, fish poles, pipe stems, sumpitan or blowing tubes, chairs, seats, screens, couches, cots, and tables. Parts of it too, can be candied, or used as pickles. The bamboo flowers once in thirty to sixty years, and dies. Its beauty when growing is as remarkable as is its usefulness when cut down.

One villager, a little pluckier than his fellows, volunteered to take me to a part of the field where there was an opening in the bamboo fence.

My friend suggested that the fat man, who was a noticeable figure in the crowd, should go; but the fat man did not receive the suggestion with enthusiasm. When I arrived at the opening, I saw within thirty yards of me a most magnificent Royal Bengal Tiger, of which the frontispiece of this book conveys a pretty accurate impression. He was lying down broadside on, his head slightly raised, and his weather eye taking careful stock of me (Plate 4). I took steady aim behind his shoulder, the most vulnerable part. The cap missed fire. The second cap also missed fire. The villager, not liking the look of things, skedaddled with great precipitation. I then walked off a few yards, primed the nipples, and re-capped. During these operations my friend was doing his utmost to dissuade me from going up again (Plate 5). But the opportunity was too good and too rare to be lost. I was afraid that if I sent for another gun, the tiger might take it into his head to slope. All being now ready, I walked up again, my prudent friend going in the opposite direction (Plate 6). The tiger had not budged an inch. I took steady aim at the same spot, just behind the shoulder, and fired (Plate 7). Instantly the tiger was on his hind legs, and uttered a terrific roar. My friend and the natives, without waiting to see the result,

bolted in all directions. The tiger came to the charge. Contrary to popular belief, tigers do not spring, they charge down, and when close to their prey rear up on their hind legs. I backed from the pogah so as to have him on even and open ground. When he was within five yards of me I made certain of bowling him over with a shot through the head (Plate 8). As ill-luck would have it, the gun again missed fire. The next second he was on me; one paw on my right shoulder, the other round my back, his enormous mouth making for my head. I struck him a heavy blow on the side of the head with the barrels of the gun, which brought his mouth on my shoulder (Plate 9). I felt his teeth crunch into the flesh. I fell, with the tiger on top of me. His mouth was touching my face, and every moment I expected to find my head in his mouth (Plate 10). I understood now how a mouse feels when clutched by a cat. In fact I was almost as helpless as a mouse. I was completely jammed under him, and I felt unable to support the pressure of his great bulk. My right hand alone was free. I seized him by the scruff of the neck, and struggled desperately to work from under him, intending to get my gun, and try another shot. But before I had succeeded in improving my position much, the tiger got up,

and was going away. I rose also, and found my left arm was hanging helpless. Now the tiger turned very suddenly, and it looked as if he was going to renew the attack. I still had a kick left in me, and was fully determined to make a hard fight for it (Plate 11). The tiger passed close to me, almost touching me in fact, and made for the mulberry field. At that instant I caught sight of my friend trying to get on a small mound at the foot of a cocoa-nut tree. Fright had so affected him that his legs seemed to refuse their office. The sight struck me as so ridiculous that in spite of my desperate condition, I could not help bursting into a laugh. I noticed a spot of blood behind the tiger's shoulder, and as he went over the pogah he fell (Plate 12) but managed to drag himself to the very spot where I had shot him. I congratulated myself that I had damaged him equally as much as he had damaged me. I walked off to a small mound and sat down. The reaction now came on, and produced a profuse perspiration. I was soon weltering in blood, too, from the bite through my shoulder and the claw wounds in various parts of my body (Plate 13). About two minutes after the tiger had returned to the spot where I shot him, the man up the cocoa-nut tree bawled out the welcome news that my enemy was dead. I

then spied the natives coming towards me, and sung out to the foremost to get me a drink of water (Plate 14). By the time the water was brought, my friend and most of the natives were staring at me as if I was a stuck pig. I confess I was bleeding like one. After a long pull at the water, I considered my position, and came to the conclusion that the sooner I made tracks and got to my bungalow, which was more than two miles off, the better for me (Plate 15). I gave my friend instructions about bringing in the tiger, then fisted my arm, and started to walk home, with about half a dozen natives accompanying me. The ground was extremely rough, but I managed to do the distance, and was able to ford the river without any assistance. Arrived at my bungalow I had my upper garments, which were pretty well in shreds, torn off. My servants then set to work swabbing up the blood and bathing my wounds. When I had lighted a pipe and taken a survey of my condition, I felt pretty sure that I was in for a month's lay up. I had the satisfaction of knowing that I had rid the community of a dangerous pest. The tiger in India is looked upon as a common enemy. All classes are in mortal dread of him. He is in no way particular and makes no distinction between castes, though if he had his choice he would probably prefer a

MUNDLE GIVING INFORMATION.

Plate III.

good fat Baboo, something similar to the fat man in the illustrations, to a poor, lean, charcoal burner. There is, therefore, great rejoicing over the death of a tiger, and my friend found no difficulty in getting volunteers to bring the tiger in. Bamboos and ropes were speedily supplied, and as the work of slinging progressed, all the villagers from several villages round about came with their musical instruments to join in the Tamashah. When everything was ready, my friend headed the procession, followed by the tiger borne by twenty men, and swarms of natives tom-toming, blowing horns, dancing, and making various noises (Plate 16). By the appearance of the Mundle, one would suppose that he had not only shot the tiger but had eaten him too. The fat man is also, conspicuous in the front, and looks as if he had taken an important part in the affair. Perhaps he thought he had. Imagination is very strong with some people. During the famine in Orissa, when two or three millions of people died in 1865-6, a friend of mine, who held a high and responsible office in the station, and his wife, were making easy stages with me of ten or fourteen miles a day through a district where the famine was very bad. My friend and I rode on horseback, and the lady in a tonjon carried by bearers. Shortly after we had arrived at a place

called Gooteah, the bearers asked me if I would shoot them some boglahs (paddy birds about a foot and a half in height), which were on a large bund of water (a bund is an immense bank of earth put up to collect water, which is used for irrigation and various other purposes). I walked down to the bund, and took a raking shot, and the bearers picked up eighteen boglahs. This evidently struck my friend as being a remarkable feat, for on arriving at the station, he related to everybody the story of the wonderful shot he had made. Just a year afterwards we chanced to meet at precisely the same spot. "The last time I was here," he said, "I made a most remarkable shot." "Ah," I said, "I think I remember the circumstance." For a second he seemed to be struck all of a heap. "By the bye," he said, "I believe it was you."

The humour of the situation was so irresistible that we roared with laughter till the tears rolled down our cheeks.

I quite forgot the mauling I had received, when I heard the sound of the people rejoicing, and caught sight of my foe. When he was deposited at my feet, and laid out for measurement, I had the pleasure of looking at one of the most magnificent specimens of the Royal Bengal Tiger (Plate 17). He measured ten and a half feet from the tip of the nose to the tip of the tail. My friend

then superintended the operation of skinning him, after which he was cut open, as I was very desirous of seeing the effect of the bullet. I was greatly astonished to see that the whole of the tiger's inside was blown into a jelly. I never saw greater execution. You will remember that my gun was an old fowling-piece, and that the bullets I loaded it with were conical, with Jacobs's tube explosive shells inserted in the ends, also that the bullets were too big, and I had to reduce them with my knife. For Jacobs's shells to explode they must strike a hard substance precisely on the point. I have fired hundreds of them out of the most finished rifles, and in cases where they have not struck on the point, I have seen the bullets and shells knocked into cocked hats and all kinds of shapes, and no explosion. You will therefore perceive that the explosion of this shell was a perfect marvel. That the tiger should have had the strength to maul me as he did, after the terrible execution done by the explosive bullet, will give you some idea of the extraordinary vitality possessed by these animals. During my lay-up, an account appeared in "The Englishman," a Calcutta paper, of an Assam tea planter, who had shot a tiger on the opposite side of a river, twenty feet wide, clean through the heart. The tiger jumped the river, killed the planter, and died on top of him.

Chapter III.

MY position was serious. I was forty miles from the station, the nearest place where medical aid could be obtained, and my wounds required immediate attention. I sent in all directions for palkee-bearers to carry me to the station, but one after the other the messengers returned, saying they were all away, but it was expected that some would return the next day. At 9 p.m., eleven hours after the encounter, my wounds were still bleeding, and I was feeling extremely faint. I was obliged to have recourse to a primitive kind of surgery. I steeped some strips of lint in brandy, and stuffed them into the holes, when the bleeding stopped almost immediately. I then had a sheet torn up into strips, and my arm lashed close to my side. I then turned in, and took one hundred and twenty drops of laudanum, and was soon in the arms of Morpheus.

That arrangement like a box in the verandah (Plate 17) is a palkee. It has poles at each end by which it is carried on men's shoulders. These men

BOTH CAPS MISSED FIRE.

Plate IV.

are called palkee-bearers, who make it their profession from generation to generation. On what are termed dâk or (post) roads, relays of bearers are stationed every ten, fifteen, or twenty miles, as the case may be. But in the part where I was there were no dâk roads, so that the bearers you started with had to do the whole journey. The same set of bearers will easily do thirty or forty miles, and this upon a diet of boiled rice only. We think it rather a feat to walk forty miles merely carrying our own bodies. What should we think of carrying a heavy palkee that distance with a big man in it? Mentioning the palkee brings to my recollection a night journey I was taking through a very jungly part. When I awoke I found my palkee on the ground. After waiting a bit, I slid back one of the doors, and sung out to the bearers. No answer came. "Darkness there and nothing more." I thought it useless to put myself out, so turned over, and went to sleep again. The bearers did not return till daylight, when they told me they had discovered that a tiger was following them, so they put down my palkee, and bolted to the nearest village. The tiger, I suppose, did not much like the look of the palkee, and so passed on.

The next morning when I awoke I felt horribly seedy, and could eat nothing, barring a dry

biscuit, with a little weak tea. Up to the middle of the day no bearers had arrived, but towards evening the full complement of twenty-four came in. At 7 p.m. the torches were lighted. I got into my palkee, took another eighty drops of laudanum, and fell asleep. Those boxes (Plate 18) contained my clothes. They are made of tin, with wooden frames, and are called pittarrahs. You will notice that they nearly go up to a point; that is to make them convenient for slinging. The man who carries them is called a banghy-dar. He keeps up with the palkee-bearers, and carries eighty to a hundred pounds weight.

I did not awake till we were close to the station. I went to a friend's house, arriving at about nine a.m. My friend immediately sent off for the Civil Surgeon, who came accompanied by the Central Jail Doctor. The Civil Surgeon said I must go to his house, so that he might be able to give me every attention. I got into the palkee again, and on arriving at his house I was laid upon a bed. The doctor being afraid to extract the lint from the wounds, in case the bleeding should recommence, put me under what he called a course of irrigation, the object being to keep down inflammation. Cold water was poured over my wounds continually for three days

and nights, during which time I was lying in a pool of water. I was then lifted on to my feet, but I was as stiff as a poker. The lint was then successfully extracted, and my wounds dressed. From that time I became as if I were paralysed, not having the power to move any portion of my body, with the exception of my right arm. Hectic fever also set in, and my wounds suppurated extensively; but for some few days I was able to go through the performance of being lifted out of bed morning and evening to have my wounds dressed. In about ten days time I complained of great pain across the lower part of my back, which increased day by day. The doctor probed the affected part, but without any result. But it soon became evident that an immense abscess was forming, supposed to be from an internal bruise received in the fall when the tiger came over on top of me. Bed sores began to appear in various places on my back; several sinuses also formed at the wounds. A water-bed was procured, but too late for the bed-sores. I was getting worse daily, and could no longer be lifted out of bed. The doctors pronounced that in spite of my splendid constitution it would be impossible for me to pull through. The abscess increased rapidly, and extended all down my right leg to my toes until the skin

became as tight as a drum, and appeared ready to burst. I could only lie in the one position on my back, and the pain I suffered from the abscess was beyond all description. I can only liken it to an immense hawser half eaten into me. I begged the doctors to lance the great abscess. They had several consultations, but were afraid that if they did so the air would get in, and cause it to mortify. Six weeks had now elapsed, and the doctor's wife being unwell, he decided to take her to Darjeeling. I was then left in the charge of the Central Jail Doctor and the assistant Civil Surgeon. Two or three days after the doctor had left, the Judge of the station dropped in to see me. Finding me all alone and very low, he asked me if I would go to his house, which was about two miles distant. I gladly accepted his invitation, provided he could manage to get me there. He then measured the bedstead, and found that it would just go through the door, so he went and prepared a room, and came back with several bearers and two stout bamboos. My bedstead, with me on it, was then carried into the compound. The bamboos were passed under it, and I was hoisted on to the bearers' shoulders (Plate 19). It was a most lovely morning, and I enjoyed the ride in the fresh air immensely after my prolonged

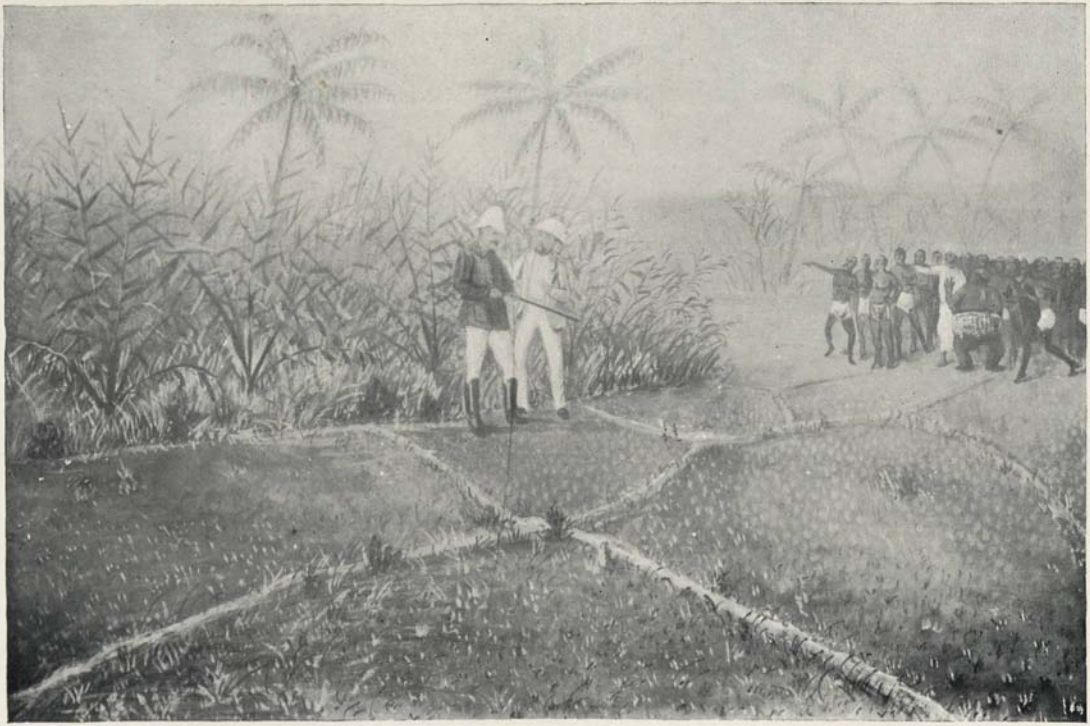


Plate V.

PRIMING THE NIPPLES.

confinement. This is about the prettiest station in India, and on this occasion, as we slowly proceeded up avenue after avenue, it appeared to me extremely charming. The room prepared for me was about thirty feet by twenty, with three large windows down to the ground, looking on to a large garden full of magnificent flowers. But even under these happier conditions I did not improve. One night soon after my arrival, when I was about at my very worst, I awoke in intense pain. I felt as if all my wounds and bedsores were being punctured with red-hot needles. I called out to my servant, asking him to bring a light to see what was up. He lifted up the mosquito curtains and found the bed swarming with little red ants of a most rapacious kind (Ants: see Appendix). He set to work vigorously to brush them out, when the candle came in contact with the curtains, and in a second they were in a blaze (Plate 20). Fortunately my servant was equal to the occasion, he frantically tore them down, and so preserved me from being considerably burned. It seemed as if fate was not yet tired of persecuting me. This peril of death by fire was rather a trial coming on top of my other sufferings. To guard against another attack from the red ants I had the legs of the bedstead placed in brass bowls of water. That

apparatus over the bed is a punkah. There is a rope attached to it, and it is pulled by what is termed a punkah-wallah, and creates a splendid current of air, without which we could not exist in the hot weather.

Shortly after this the doctor returned from Darjeeling. I took upon myself to tell him that he must lance the abscess, no matter what the result might be, as I could not bear the pain any longer. The three doctors then had a consultation, and the next morning I was put under chloroform, and the operation performed. When I recovered consciousness, the hole was plugged up, and I was told they had drawn off three-and-a-half soup plates of matter. The next morning the doctor was round to see me early, he fully expected to find that I had slipped my moorings in the night. He was peering at me over the head of the bed when he was electrified by hearing me call out *Choto Hazaree lao*. (In India it is customary to take tea and toast when we get up, which is called *Choto Hazaree*, early or small breakfast.) For three weeks a soup plate of matter was drawn off night and morning from the abscess. The discharge then turned into an oily stuff, and it was only then that I was considered out of danger, so that up to that time my life hung by a thread.

I now began gradually to recuperate; but after another two months I was still in the same paralysed state. My feet were quite turned up, and it was predicted that if I recovered I should be a cripple. To relieve the intolerable lassitude and tedium that I suffered from I amused myself with carpentry. I got a carpenter to help me, and made a reading apparatus to fix on my bedstead. I then made an invalid couch—that is I planned it in my head, and marked out every piece of wood for the guidance of the carpenter. The couch turned into almost everything, even to a most luxurious arm-chair; by the time it was finished, I had sufficiently recovered to be carried out on it into the compound. I then made a table to draw over the couch, which enabled me to write, and lastly I made a crutch. I was still almost helpless. I was propped on to my feet, with the crutch under my right arm, and though at first I had no more power to put one foot before another than a baby, by dint of persevering day after day the feat was at length accomplished (Plate 21). I made such rapid progress that a walking stick soon took the place of the crutch (Plate 22).

As soon as I had sufficiently recovered to take the journey to Calcutta it was decided that I should go home as the wounds did not show any

disposition to heal. My passage was accordingly taken in a steamer going through the Suez Canal. On arriving at Calcutta, Sir Joseph Fayrer examined me, and gave me some good advice.

The voyage home extended over two months, and by the time I arrived at Holyhead my wounds had just healed. I took up my quarters in the north of Ireland on the coast, and as I had benefitted so much by the voyage, I thought it advisable to go in for yachting and fishing. I could not have done better, for in a few months I could rough it with the hardiest native in that part.

I was obliged to take from sixty to eighty drops of laudanum every night for six months. The dose was then reduced to thirty drops for about a week before it was discontinued altogether.

Up to the time of being mauled, though I had had many hair-breadth escapes, and several heavy chastisements, I was more irreligious than any heathen. But that night, when weak with loss of blood, I took that big dose of laudanum, and turned in, I had a hazy impression that my Saviour was close to me. It was the commencement of my conversion, and throughout my illness I had the privilege of being visited daily by the American Baptist, and the Church of England missionaries, from whom I derived great comfort. Had I continued without Christ, I could not have

GOING UP AGAIN.

Plate VI.

borne the terrible pain. Night after night when suffering intensely, I called upon Him until I was relieved.

Words fail me to describe the extraordinary kindness and attention I received from the three doctors, the Judge, and his wife; also from several of the officials of the station. By the grace of God and their kindness I was restored to health and strength. I can only give expression to my feelings of gratitude by saying that I would readily undergo a similar mauling and terrible sufferings to experience the same blessings, and that I owe a debt I can never hope to repay.

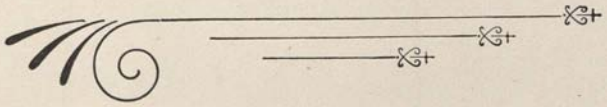


Plate VII.

FIRING.

APPENDIX.

Historical Sketch of British India.

WHEN the British first set foot in India the foundations of the old Moghul Empire were crumbling away. Wars of conquest had devastated the land. Robber chiefs had made a practice of invading the territories of their peaceful neighbours, carrying desolation with them. But with the establishing of factories, and the hiring of trained soldiers to defend them, the formation of a central power was accomplished, which gradually grew in strength sufficient to control the wild chieftains, and to extend its power from Cape Comorin to the Indus. The British administration in India has been that of a purely military government, and its entire policy has been conformed to military necessities. Only since the middle of the nineteenth century has the state of the country permitted its rulers to throw the energy of the Government into the path of peaceful development of its natural resources. In the year 1664 a

British force first came in contact with the natives of India. Sivaji attacked and plundered Surat. On this occasion Sir George Oxenden won the admiration of Aurungzeb by an extraordinary display of courage. Since then wars have been almost incessant, and many a name has become illustrious.

Since the conquest of the Punjab by Lord Dalhousie in 1849, and of Pegu in 1852, the boundaries of the British Empire in India, excluding Aden and the Straits Settlements, have been the Suliman range, the Karakorum, the water-shed of the Himalaya, Nepaul and Bhootan on the north; the sea on the west and south; and a line marked by no natural features, stretching from the Yoma range irregularly in a south-east direction through Burmah to the tenth parallel of latitude. Roughly, British India may be said to be included within Lat. 8° and 37° N.; and Long. 66°44′ and 99°30′ E., involving eleven thousand two hundred and sixty miles by external boundary. From Tenasserim by the Himalaya to Cape Monze in Sindh, the "land" frontier is four thousand six hundred and eighty miles, while the "coast" line from the Straits Settlements to Kurrachee is six thousand five hundred and eighty. The length of India from the Indus to Cape Comorin, on the meridian

of 75°, is one thousand nine hundred miles. The extreme breadth is one thousand eight hundred miles, on the parallel of 28°. The whole peninsula contains an area of about one million five hundred and fifty-seven thousand square miles, and a population of two hundred and forty millions, or one hundred and fifty-four to the mile. All this immense population is, with the exception of small territories held by Portugal and France, governed by Great Britain.

British India is administered, chiefly directly, by British officials, under a Viceroy and Governor-General, but to some extent indirectly through feudatory Native Chiefs, guided by British officers. British India, as it stood in the middle of the nineteenth century, was won by the East India Company, which had been established in 1599. The beginnings of this colossal trading corporation were small. In the year 1636 Mr. Boughton, a ship's surgeon, obtained the privilege of planting factories in Bengal. The Presidency of Madras was constituted in 1639; the Presidency of Bombay in 1662; and the Presidency of Bengal in 1682. In 1773 the Governor of Bengal was made Governor-General of India, with certain powers, chiefly political and financial, over the other two. In 1784 a Board of Control was created in Britain, composed of the King of

Great Britain's Ministers, who, in that capacity, bore the title of Commissioners for the Affairs of India, and this system continued until the year 1858, when British India was brought under the direct control of the Crown. During that interval, however, the Home Government of India had consisted of a Board of eighteen members, and was called the Directors of the East India Company, and the President of the Board of Control. The Directors had nearly all the patronage as to appointments in their hands, except the higher offices and commands which were made in communication with the Ministry, who likewise originated and controlled all questions of peace and war. They also possessed the power of reversing the acts of the East India Company, and the Government of India, and of sending out instructions on special matters to the Governor-General without consulting the Directors. Between the first formation of an English East Indian Company and the year 1858 the following were the chief historical events:

In 1664 the French East India Company was formed. Their capital was built at Pondicherry in 1674.

In 1667 the first mention of tea occurs in the Company's records. In a despatch to their agent at Bantam of twenty-fourth of January he is

TIGER CHARGING.

Plate VIII.

ordered to send home one hundred pounds of tea, the best he can get.

In 1667 the Charter was renewed, and fresh authority was granted to establish a mint at Bombay.

In 1681 Sir Joseph Child published a treatise in which it appears that the Company then had five hundred and fifty-six partners, thirty-six ships of from one hundred to seven hundred and seventy-five tons, and that the customs duties on the Trade amounted to between £60,000 and £70,000 a year.

In 1686 Sir Joseph Child's attempt to acquire territorial empire in India proved abortive.

In 1693 a fresh Charter was granted. In 1698 a new Company was formed. (In 1702 the Companies were amalgamated under the title of the United Company of Merchants of England trading to the East Indies.)

In 1698 the Company acquired a grant from a grandson of Aurungzeb, of Calcutta, and two adjoining villages, with leave to exercise judiciary powers over the inhabitants and erect fortifications. These were given the name of Fort William.

Now we come to an event which shines out like a beacon light in the history of British India. In 1757 Clive fought the battle of Plassey. With

only one thousand European troops, two thousand Sepoys, and eight field-pieces, he completely defeated the army of Surajah Dowlah, consisting of fifty-thousand foot, eighteen-thousand horse, and fifty heavy cannon. By this victory Bengal, Behar, and Orissa, were thrown into British hands.

The great East India Company continued to thrive and grow in power till its dissolution in 1858, when all its rights passed to the British Government. In its wars of conquest the Company had been almost continuously successful. A severe reverse was sustained, however, in Afghanistan in 1841, when many thousands of soldiers perished in the retreat. But their severest trial occurred in 1857-8, in which years the native army revolted, and many of the native races both Hindu and Mahommedan rebelled. In 1857 the number of British soldiers in India had been allowed to fall very low, and it was supposed that the disaffected soldiery of the Bengal Army took that opportunity to mutiny. Various causes have been suggested to account for that disaffection; but there is a general impression that our defeats in Afghanistan had made the native troops think slightingly of British power and prowess. Undoubtedly a great change had been taking place in the temper of a naturally arrogant oriental race, who respect (almost worship) might,

by introducing amongst them rules and regulations suitable only for an army drawn from natives in an advanced state of civilisation. The contest for supremacy was severe and long continued.

In May, 1857, there were in India: European soldiers, forty-five thousand; Native, two hundred and forty-four thousand; Semi-Military Police, eighty thousand.

About two hundred and fifty thousand Native Soldiery were arrayed against the British power in 1857. The British force was composed of forty-five thousand Europeans, and some sixty-thousand reliable native soldiery. These last were increased to about one hundred and fifty thousand native soldiers by the addition of the Sikh Army from the Punjab, and before July, 1858, there were over eighty-thousand British troops in India. After the revolt was quelled there was a reduction of the Native Army, and by November, 1866, it had fallen to one hundred and thirty-five thousand men with only twelve guns, as against one hundred and fifty in 1857.

The successive stages of the revolt, and the re-establishment of British authority are detailed below:

The revolt of the Bengal Native Army was commenced at Berhampoor by the 19th Bengal Native Infantry, on February 26th, 1857.

Revolt continued by the outbreak of the Native Cavalry at Meerut, on May 10th.

The Delhi massacre occurred on May 11th.

The Shah-Jehanapore massacre took place on May 31st.

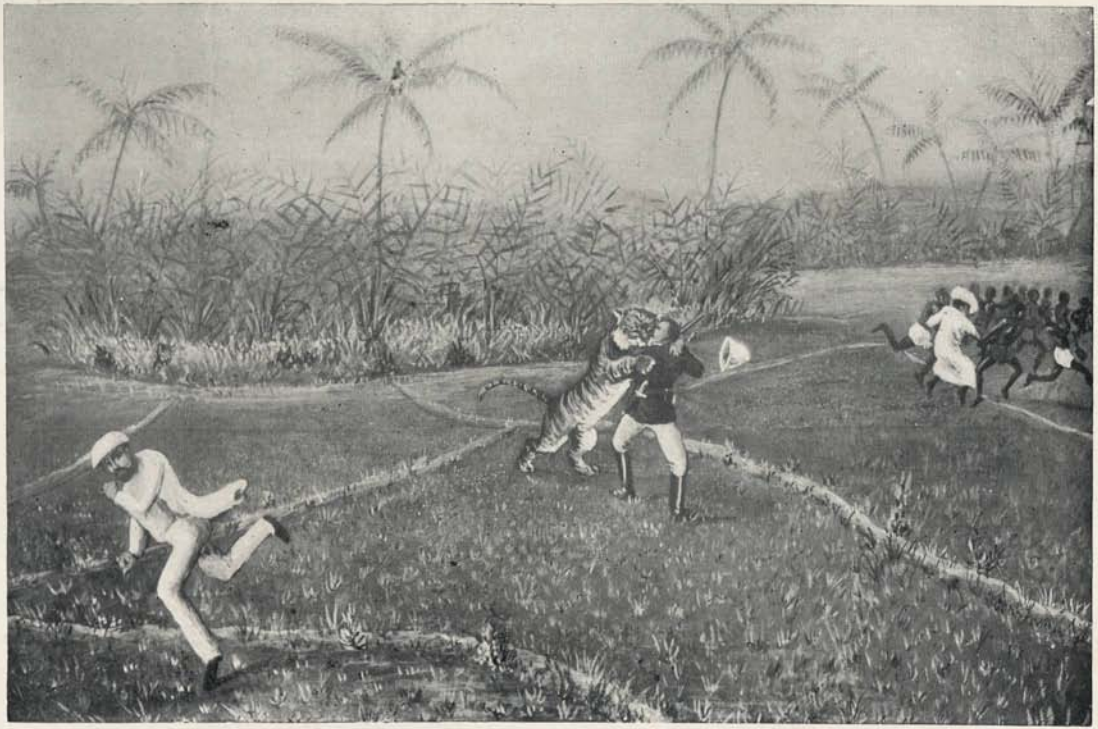
On June 5th, the mutiny broke out at Jhansi, the massacre occurred on the 8th June.

The massacre of the Futtehgur fugitives at Cawnpore was on June 12th. Many other massacres took place, at Cawnpore, by Nána Sáhib on June 27th; on July 15th the women and children were murdered at Cawnpore, by the orders of Nána Sáhib.

The capture of Delhi took place on September 20th, Brigadier-General Nicholson, who led the assault, being killed.

On September 25th the columns under Generals Outram and Havelock relieved the besieged residents and garrison in Lucknow.

On November 17th, Sir Colin Campbell, acting in conjunction with the garrison, defeated the rebels, and effected the second relief of Lucknow. By the 22nd the whole garrison had left the residency without the loss of a single man. Before the end of the month he had also relieved Cawnpore and severely defeated the Gwalior contingent. Sir Colin Campbell now turned his attention to the conquest of the entire city of



TIGER MAULING MY LEFT SHOULDER.

Plate IX

Lucknow. This was not accomplished until March 19th, 1858. The conquest of Lucknow was practically the close of the Mutiny, but the war still lingered on in Central India. The operations were carried on by Sir Hugh Rose. Early in the year he re-took Gwalior and restored Scindia. With the death of the heroic Ranee of Jhansi, who was killed in battle, the campaign came to an end.

Tantia Topee, Nána Sáhib's lieutenant, was captured in April, 1859, and hanged.

The old King of Delhi was sent a prisoner to Rangoon.

On May 1st, 1859, the end of the Mutiny was celebrated in England by public thanksgiving and rejoicings.

The Government of the East Indies was transferred to the British Crown on September 1st, 1858, and on November 1st it was proclaimed throughout India that its Government had been transferred from the East India Company to the British Sovereign.

The Bengal Native Army was re-organized on November 9th, 1859.

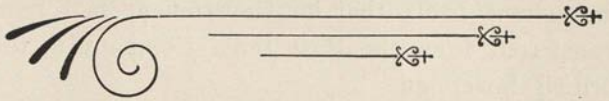
On the 20th August, 1860, the Indian and British armies were amalgamated.

The Governor was raised to the rank of Viceroy. The supreme Courts of Calcutta, Madras and

Bombay were amalgamated with the Courts of the Sadr Adalut of the three Presidencies, and the united body was designated the High Court of Judicature.

The native soldiers were reduced in number as the organisation of the semi-military policy progressed.

Many reforms were brought about by successive governments. The Indian Civil Service and the British Army were both thrown open to competition. Patronage gave place to competitive examinations. The India as we know it to-day dates from the suppression of the mutiny.



TIGER ON THE TOP OF ME.

Plate X.

The Aborigines of India—Race—Language.

THERE are large nations, and innumerable smaller nations scattered all over India, whose origin, and date of arrival in the country is wholly unknown. It may be pretty safely assumed, however, that the bulk of these immigrants came from regions beyond the Himalayas on the north, at various times, ranging between three thousand and one thousand years before the Christian era. The small bodies in the N.W. corner of the Peninsula appear to be of Western origin, coming in all probability from ancient Babylonia. There are people in the southern parts of the peninsula of India and Malacca, with marked negro features. These may also be found in the Archipelago Islands; there are traces of them also in the valleys of Northern India. This suggests the idea that there had once been a great negro wave setting to the east. The great bulk of the settlers in India—labourers, farmers, foresters, shepherds, milkmen, artificers, and

professional classes, seem to have come from the N.W., by way of Kabul and Candahar, down the valleys of the Indus, of the Ganges and Brahmaputra, and to have streamed through the gaps in the Himalayas, and from the practice rigidly followed of living apart in castes, who neither eat together nor intermarry, each of the immigrant Hindu tribes and races are now as distinctly marked in their isolation, as on the day of their first appearance. Even the Mahommedans, who have less of such strict caste habits, although they also to a considerable extent follow the ancient custom of marrying only amongst their own people, are still readily distinguished; tall, powerful, fair men of the Afghans; fair robust Moghuls from Tartary; fair slender nowaits from Southern Persia; the darker men of Arab origin; and the powerful, large-framed traders, known in the south as Labbe. All these, amongst the Hindus, Brahmans, Chetris, Vesyas and Sudras; and amongst the Mahommedans, Syeds, Shaikhs, Moghuls, and Pathans, are in great nations. But, throughout all India, in hamlets, in forests and the plains, in towns, in mountain valleys, and on the mountains, are innumerable smaller bodies or tribes, with forms and habits, and following pursuits, quite distinct from each other. There is no doubt, however, that the languages show two

great divisions, Arian and Turanian. Mr. Hodgson asserts that of seven of the southern tongues, five belong to the cultivated class, viz.: Tamil, Malayalam, Telugu, Carnataca, Tulava; and two belong to the uncultivated class, viz.: Curgi and Todava. With regard to the cultivated tongues of the south, Mr. Elliot observes that the aptitude of the people at present to substitute prakritic words for aboriginal ones is such a stumbling-block in the search for affinities, as to require pains and knowledge to avoid; and he instances (among others) the common use of the borrowed word *rakta* for blood, in lieu of the native term *nethar*, of which latter alone we are enabled to trace the unquestionable ethnic relationship of the Gouds (even those north of the Vindhya) with the remote southerners, speaking Teluga, Canadi, and Tulava. The Himalayan languages form an exception to this assumed general prevalence of the Tamulian type of speech. On the subject of the local limits and mutual influence at the present day of the cultivated languages of the south upon each other, Mr. Elliot remarks that "all the southern dialects become considerably intermixed as they approach each other's limits. Thus, the three words for egg used indifferently by the people speaking Canarese (*matte, tetti, gadda*) are evidently obtained, the first term from the Tamulian,

matta; the last from the Telugi, *gadda.* This intermixture, which is of ordinary occurrence in all cognate tongues, is here promoted specially by extensive colonization of different races, as of the Telugus into Southern India under the Bijanagar dynasty, where they still exist as distinct communities — and of the followers of Ramanuja Achary into Mysore, where they are still to be seen as a separate class, speaking Tamil in their families, and Carnataca in public. The Reddis also, an enterprising race of agriculturists, have migrated from their original seats near Rajahmundry, over the whole of Southern India and even into the Maharashtra country, where they are considered the most thriving ryots, and are met with as far north as Poona."

The pagan population of India is divided into two great classes, viz: the Arian, or immigrant, and the Tamulian, or aboriginal. The Tamulian race, confined to India, and never distinguished by mental culture, offers a humbler subject for study than the Arian. But as the moral and physical condition of many of the scattered members of the Tamulian body is still nearly as little known as is the (assumed) primitive entirety of that body, this subject has two parts, each of which is of interest to the philosopher and the statesman. The Tamulians are now, for the most

part, British subjects; they are counted by millions, extending from the snows to Cape Comorin, and they are as much superior to the Arian Hindus in freedom from disqualifying prejudices, as they are inferior to them in knowledge. In every extensive jungly or hilly tracts throughout India, there exists hundreds of thousands of human beings in a state not materially different from that of the Germans described by Tacitus. These primitive races are the ancient heritors of the whole soil, from all the rich and open parts of which they were expelled by the Hindus. It is a worthy object to ascertain when and under what circumstances this dispersion of the ancient owners of the soil took place, at least to demonstrate the fact, and to bring again together the dissevered fragments of the body, by means of careful comparison of the languages, physical attributes, creed and customs of the several (assumed) parts. It is another object, not less interesting, to exhibit the positive condition, moral and material, of each of these societies, at once so improvable and so needful of improvement, and whose archaic status, polity and ideas offer such instructive pictures of the course of human progression.

The unity of the Arian race has been demonstrated chiefly through lingual means, and much

has been done of late years similarly to demonstrate the unity of the Tamulian race. But this is difficult, for there is an immense number of spoken tongues among the Tamulians, whereof have already been ascertained not less than twenty-eight in the limited sphere of Mr. Hodgson's inquiries; and all these, though now so different as to be mutually unintelligible to the people who use them, require to be investigated and criticised. The long and perfect dispersion and insulation of the several members of the Tamulian body, have led to an extremity of lingual diverseness which, as contrasted with the similarity of their creed and customs, is the enigma of their race. In Hindu and Urdu, though the structure is the same, vocables make a difference which is broad and clear, owing to the evidently foreign elements of the diversity. Not so, however, in the Tamulian tongues, in which there is very little of foreign element: all is homogeneousness in the vocables, and from its sameness of kind is less open to distinct separability. A summary comparative vocabulary was framed some years back by the Rev. Mr. Brown, and it has been extensively filled up with the dialects of the mountaineers round Assam. With regard to the determination of the moral and physical status of each aboriginal people, none of the Tamulians have

Plate XI.

TIGER AGAIN COMING TO THE CHARGE.

any old authentic legends, and being all very uninformed, save in what concerns their immediate wants and habitual ideas, it is exceedingly difficult to learn anything of this sort from them *directly;* their creed especially is a subject of insuperable difficulty, through the sole medium of direct questioning; their customs, again, are apt to afford but negative evidence, because, being drawn from nature, they tend to identity in all the several nations; and lastly, their physical aspect is of that osculent and vague stamp, that what it does prove is general, not particular.

The great Scythic stem of the human race is divided into three primary branches, or the Tungus, the Mongol, and the Turk. The first investigators of this subject urgently insisted on the radical diversity of these three races; but the most recent inquirers incline more to unitise them. Certainly there is a strong and obvious character of physical (if not also of lingual) sameness throughout the Scythic race; and it is remarkable that this peculiar character belongs also to all the aborigines of India, who may be at once known, from the Cavery and Vigaru to the Casi and Bhagarati, alpine feeder of the Ganges, not its Bengal defluent, by their quasi-Scythic physiognomy, so decidedly opposed to the Caucasian countenance of the Arians of India, or

the Hindus. Mr. Hodgson apprehends that there will be found among the aborigines of India a like lingual sameness, and that very extended and very accurate investigation will consequently alone suffice to test the real nature and import of the double sameness, physical and lingual. That all the aborigines of India are Northmen of the Scythic stem seems decidedly and justly inferrible from their physical characteristics. But, inasmuch as that prodigious stem is everywhere found beyond the whole Northern and Eastern boundary of India, not merely from Attok to the Brahamaputra, where these rivers cut through the Himalaya, but from that point of the latter river all the way to the sea; and inasmuch as there are familiar ghats or passes over the Himalaya throughout its course along the entire confines of India from Kashmir to the Brahmakund, it follows of necessity that very careful and ample investigation will alone enable us to decide upon the questions, whether they owe their confessed Scythic physiognomy to the Tungus, the Mongol, or the Turk branch of the Tartars or Scythians, and whether they immigrated from beyond the Himalaya ("the hive of all nations") at one period and at one point, or at several periods and as many points. Between Gilgit and Chittagong there are a hundred passes

over the Himalaya, and its South-Eastern continuation to the Bengal Bay; while from the time of passage there are ages upon ages before the dawn of legend and of chronicle. Mr. Hodgson inclines to the opinion that the aborigines of the "Sub Himalayas," as far east as the Dhansiri of Assam, belong to the Thibetan stock, and east of that river to the Chinese stock — except the Garos and other tribes occupying that portion of the hills lying between Assam and Sylhet; and that the aborigines of the "tarai" and "forest" skirting the entire Sub Himalayas, inclusive of the greater part of the marginal circuit of the Assam Valley, belong, like those last mentioned, to the Tamulian stock of aborigines of the plains of India generally. But what is this Tamulian stock? What the Thibetan? And what the Chinese? And to which of the three grand and well-known branches of the Scythic tree (Tungus, Mongol, Turk) do the Tamulians, the Thibetans, and the Chinese belong? Of the aborigines of Central India, of seven of whose languages, the three first came from Chyebassa, where they were prepared by Colonel Ouseley's Assistant, Captain Houghton; the fourth and fifth direct from Colonel Ouseley himself at Chota Nagpur; the sixth from Bhaugalpur, prepared by the Rev. Mr. Hurder, and

the seventh from Jabbalpur, where Colonel Sleeman's principal Assistant drew it up, the affinities of the tongues are very striking: so much so that the first five may be safely denominated dialects of the great Kol language: and through the Uraon speech we trace without difficulty the further connection of the language of the Kols with that of the hill men of the Rajmahal and Bhaugalpur ranges. Nor are there wanting obvious links between the several tongues above enumerated—all which may be classed under the head Kol—and that of the Gonds in the Vindhya whose speech again has been lately shown by Mr. Elliot to have much resemblance both in vocables and structure to the cultivated tongues of the Deccan. Mr. Hodgson's hypothesis, in his essay on the Koch, Bodo, and Dhimal, is that all the Tamulians have a common fountain of origin, like all the Arians; and that the innumerable diversities of spoken language characterising the former race are but the more or less superficial effects of their long and utter dispersion and segregation, owing to the savage tyranny of the latter race in days when the rights of conquest were synonymous with a license to destroy, spoil, and enslave. The Arians, according to Chevalier Bunsen, who does not accept the ordinary calculation as to the age of the world, emigrated out

Plate XII.

TIGER TUMBLING OVER THE POGAH

of the country of the sources of the Oxus and Jazartes, B.C. 11,000 to 10,000, and about B.C. 7,250 to 5,000, they separated into Kelts, Armenians, Irenians, Greeks, Slaves, and Germans. According to Bunsen the separation of the Arians was prior to their leaving Sogd. The emigration from Sogd to Bactria, after the separation, took place B.C. 5,000, consequently before the time of Menes. The immigration into the Hindus country about B.C. 4,000 and Zoroaster's reform in Bactria about the time of Menes or half a century later. The Arian population of India descended into it about three thousand years ago from the North-West, as conquerors, and that they completely subdued all the open and cultivated parts of Hindostan, Bengal, and the most adjacent tracts of the Deccan, as Telingana, Gujerat, and Maharashtra, or the Maharatta country, but failed to extend their effective sway and colonisation further south, are historical deductions, confirmed daily more and more by the results of ethnological research. We thus find an easy and natural explanation of the facts that in the Deccan, where the original tenants of the soil have been able to hold together in possession of it, the aboriginal languages exhibit a deal of integrity and refinement, whilst in the North, where the pristine population has been hunted into

jungly and malarious recesses, the aboriginal tongues are broken into innumerable rude and shapeless fragments, but which may yet be brought together by large and careful induction.

Of the history of the Arians while residing in the Punjab, we must search the Vedas, which furnish much information regarding the origin and early state of the races who are now called Hindus. The people among whom the Vedas were composed had evidently passed the nomad stage. They had no money, their wealth consisted of cattle, horses, sheep, goats, and buffaloes, and the cow was the medium of barter. By the Rig-Veda it is evident that the cow was then not reverenced and that the race who composed these hymns were a cow-killing and beef-eating and spirit-drinking people. Cow stealing was a great crime. We find mention in their hymns of cities of commerce, merchants, sailors, of weapons of wood and iron, of chariots, of heralds, travellers, and inns for their accommodation, and even of the vices of a primitive civilisation. They had roads and ferries; bullock carts and waggons; they had carriages and war chariots drawn by horses, and the carriage was made of wood with brass wheels and iron rims and pillars. It had seats and awnings, was easy-going, and sometimes inlaid with gold. Iron and steel were in

use, for there is mention of iron armour, of arrows tipped with steel, and Porus gave thirty pounds of steel to Alexander. They had a knowledge of the sea; had halls of justice and halls and chambers of sacrifice, but apparently no temples or images. Women held a high social position. The Rishi and his wife converse on equal terms, go together to the sacrifice, and practise austerities together. Lonely maidens go in procession, and grown-up daughters remain without reproach in their father's house. But we read of drunkenness, polygamy, cheating, gambling, abandoning of children, thieves, courtesans, and eunuchs.

Kakshivat, an illustrious Rishi, marries ten sisters at once, and polyandry seems to have prevailed, for in an allegory, Kakshivat says, "Aswins, your admirable (horses) bore the car, which you had harnessed, (first) to the goal, for the sake of honour, and the damsel, who was the prize, came through affection to your (husbandship) saying, you are my lords."

Mr. Wheeler says that the worship of the Arians, in the times of their approaching the Punjab, seems to have been simple, patriarchal, and conducted by the father of the family; to have been a worship of fire, and subsequently they personified the earth, sky, food, wine,

months, seasons, day, night, and dawn. Amongst the Arian Hindus, the sacrifice of a horse, the Aswamed'ha, seems to have been practised in their religious rites. There are two hymns in the Rig-Veda describing the rite, which leave no doubt that, in the early religion of the race, this sacrifice, as a burnt-offering to the gods, was had recourse to. It was even then, however, falling into disuse, and was existing as a relic on an antevedic period, imported from some foreign region, possibly from Scythia, where animal victims, and especially horses, were commonly sacrificed. And in still later times, the Aswamed'ha consisted of certain ceremonies ending in the liberation of the horse, as throughout Southern India is still practised with a bull, freed or let loose in the name of Siva or Vishnu.

At present in India the native Arian races hold to the three great religions, Buddhism, Brahmanism, and Zoroastrianism, and the followers of the Jain belief are all of this race, many of whom also in Cashmere, Afghanistan and Rajputana have become Mahommedans. Amongst the Arian races who went to the North-West, there are no grounds for the belief that the Saxons continued to offer human sacrifices after their settlement in Great Britain, but in their own land the immolation

of captives in honour of their gods was by no means uncommon. The great temple at Upsal, in Sweden, appears to have been especially dedicated to Odin, Thor and Frea. Its periodical festivals were accompanied by different degrees of conviviality and license, in which human sacrifices were rarely wanting, varied in their numbers and value by the supposed exigency. In some cases even royal blood was selected that the imagined anger of the gods might be appeased. In Scandinavia, the authority of the priest was much greater than it would appear to have been among the Anglo-Saxons. It was his word often which determined where the needed victims should be found. It was his hand that inflicted the wound, and his voice which said, "I send thee to Odin," declaring the object of the sacrifice to be that the gods might be propitiated, that there might be a fruitful season or a successful war. The tendency of the Arian race is to form national and political communities, marry one wife, and worship one supreme and spiritual Deity. The Turanian tendency is to have little natural or political cohesion, to marry one or more wives, without much sentiment, to worship gods and heroes without much idea of a spiritual existence, beyond that implied in the notion of ghosts and devils.

Religion.

AN exhaustive account of the religions of India would fill many volumes. It is one of the largest subjects open to the investigation of the student and the historian. The following brief summary must suffice for the present work.

Among the religions of the South and East of Asia, and the philosophies which take their place, we find that the most ancient of all is the demon and spirit and nature worship of the ruder races; the religion of the Jews, three thousand years old, may be the next, followed by the Buddhist philosophy, which seems to have existed for three thousand two hundred years, and to have more adherents than any other. The Christian religion, first established in Western Asia nineteen centuries ago, and early taught in Africa, Arabia, and Central and Eastern Asia, and at one time largely followed, has at present in India but a comparatively small number of professors. In India and South-Eastern Asia three polytheistic faiths predominate, Buddhism,

Plate XIII.

SITTING DOWN ON A SMALL MOUND.

Brahmanism, and Shamanism; three monotheistic faiths, Jewish, Christian, and Mahommedan; a mixed faith, the Sikh, partly monotheistic, but believing in incarnations; and, lastly, the worship of fire as an element by the numerically small but intellectual Parsee. The races occupying India, which are now known to Europe as Hindoos, have had three great changes in religion. The Vedic age was prior to the absorption of the Saraswati river into the sand. The Brahmanic age extended from that time to about B.C. 600. The Buddhist doctrine prevailed from B.C. 600 to A.D. 800 or 1,000, from which date the Brahmanic doctrines have again prevailed up to the present time.

The first institution of Hindu Society which forces itself upon the attention of the stranger is that of caste. In the City of Surat, in 1827, two hundred and seven castes were counted. Each of them was more or less restricted from private intercourse with all the rest; they could not intermarry, nor even eat the same food nor drink the same water. This applies more or less to all India. The date of the origin of caste, and the objects which led to its institution, are alike obscure.

Ablutions amongst the Hebrews, Hindus, and Mahommedans are very rigidly practised, they are,

in fact, included as part of their religious ritual. They are allotted to various periods of the day, and are varied to meet particular forms of purification. The Hebrew ceremonial, as still practised by their Jewish successors, is laid down in the books of Moses. The Mahommedan practice is somewhat similar, both for men and women; the Mahommedans using the dry sand of the desert as a substitute where water is not obtainable. The Hindu ritual is severe as to bathing, and along the banks of the sacred Ganges crowds of men and women may be daily observed performing their ablutions. One of their most superstitious practices consists in worshipping or deifying the waters of the Ganges. Quantities of the water are carried to all parts of India, and are sworn by in Courts of Justice. The Buddhists and Mahommedans are less stringent in their observances as regards ablutions than the Hindus. With the Hindus, as soon as a guest enters, one of the first civilities is offering water to wash his feet. A Hindu wipes or washes his feet before retiring to rest. If called from his bed, he often excuses himself on the pretext that he might daub his feet; and as he wears no shoes in the house, and the floor is of clay, the excuse seems very natural. In Leviticus xiv. 8, 9, and 52, there are references to personal

cleanliness. There are similar customs prevalent among the Hindus; but in the Mosaical institutions there is no law which rules that a Brahman becomes unclean by the touch of a Sudra, or a dog, or the food of other castes. The Hindu food ritual is given in Mark vii. 3, where the Pharisees and all the Jews, except they wash their hands often, eat not, for bathing is an indispensable pre-requisite to the first meal of the day, and washing the hands and feet is equally so before the evening meal.

Mahommedans use water or sand before prayers and meals, and after many ordinary occurrences.

State and Mode of Agriculture.

AGRICULTURE in all countries the chief branch of industry for the million, is in South-Eastern Asia, almost the exclusive occupation of the people, and the great source of revenue to the respective governments, who are usually regarded as the proprietors of the soil, and sub-let the lands to tenants or feuers in perpetuity, so long as the holder pays the established ground-rent, or tax, or feu duty. The holder can sell or otherwise dispose of his holding, and cannot be dispossessed, provided his tax be duly paid, so long as the land is cultivated. The craving of all eastern races for their patrimonial inheritance is as intense as when Naboth said to Ahab, I. Kings xxi. 3, "The Lord forbid it me, that I should give the inheritance of my fathers unto Thee;" and the Hindus are as strongly attached to their homesteads as ever the Jews were, though the heads of the family may be employed in a distant part

NATIVE WITH A BOWL OF WATER.

Plate XIV.

of the country, and though the homesteads may be almost in ruins, they still cling to the family inheritance with a fondness bordering on superstition, and it is the use and wont in India for governments to allow proprietors or their descendants to re-occupy lands long left waste. Amongst the earliest notices of agriculture are those in the Old Testament. How Adam lived is not mentioned, but of his two sons, Abel was a shepherd, and Cain had become a tiller of the ground. In Noah's time the vine was cultivated, and Noah's descendants in the time of Shem appear to have followed the shepherd's life (nomads), wandering over the extensive countries to winter and summer quarters, and taking possession of the available grazing grounds. These do not seem ever to have cultivated any of the grasses for food for their cattle; and to the present day throughout South-Eastern Asia, the natural herbage is exclusively relied on.

The remains of the races who in some unknown time came from the valley of the Indus through the valleys of Beluchistan, attest the prevalence there in pre-historic times of water tillage in the usual form of the wet cultivation of India, where the grounds are carefully levelled and put into small plots or compartments, into each of which the

water-courses are led in the manner noticed in Proverbs xxi. 1, where it is said: "The King's heart is in the hand of the Lord: as the rivers of water (rather as a water-course) He turneth it whithersoever He will," an allusion to the practice of the eastern farmer in irrigating his fields, turning it with his foot or hand in all directions, so that every part of the field may be watered, and a good crop insured. Noah's descendants in the line of Ham, who took possession of Egypt, applied themselves to the tilling of the ground, and with so much ingenuity, industry, and success, that, owing to the inundations of the Nile, and the consequent fertility of the soil, Egypt was enabled in the time of Abraham, and still more so in the time of Joseph, to supply its neighbours with corn during a period of famine. Nor were the inhabitants backward in assisting the liberality of Nature; they busied themselves in banking, irrigation, and draining, in order to derive all the benefits which the benignant river was capable of affording them. These works are said to have been carried on with particular spirit under the auspices of Sesostris, one thousand eight hundred years before the Christian era. So sensible were the Egyptians of the blessings which agriculture afforded, that in the blindness of their zeal they ascribed the invention of the

art to their god Osiris, and the culture of barley and wheat to their goddess Isis. The Pelasgi who occupied Greece, were great agriculturists, and the Romans had but two avocations, war and husbandry. The Jews, whilst in Egypt, seem to have been shepherds, but after occupying Canaan, in their respective allotments, cattle grazing, agriculture and horticulture alike engaged their attention, of which the Scriptures contain many notices, and the modes of tillage still in operation in eastern countries illustrate various texts of the Bible. As in describing Canaan, it is mentioned that the land whither thou goest in to possess it, is not as the land of Egypt from whence you came out. (Deuteronomy xi. 10.) "Where thou sowest thy seed, and waterest it with thy foot as a garden of herbs," which is still everywhere seen, as the mode of watering the lands in garden cultivation.

After ploughing, the farmers of India, in their wet cultivation, form the ground with a hoe into small squares, with ledges on either side along which the water is conducted. Besides preventing the water spreading, these embankments also serve to retain the moisture on the surface of the ground for a longer period. When one of the hollows is filled, the peasant stops the supply by turning up the earth with his foot, and thus opens

a channel into another space. An allusion to this custom of the gardener changing with his foot the channel of a stream of water, furnishes the King of Assyria in his threatening message, with a very appropriate image: "With the sole of my foot," says he, "I have dried up the rivers of besieged places." (Deuteronomy xxv. 4), "Thou shalt not muzzle the ox when he treadeth out the corn," refers to a method of separating the cereal grains from the ear common in India. The wild beasts are still as troublesome as in Psalm lxxx. 13, where we read "the boar out of the wood doth waste it, and the wild beast of the field doth devour it," for the wild hogs, elephants, buffaloes, and deer make sad havoc in fields and orchards.

The farmer races in India, except such gardeners as are near towns, rarely use manure of any kind, but trust exclusively to the water of tanks in wet cultivation, or to the natural rains in dry cultivation. The latter is analagous to the tillage of England, with this marked difference, that in temperate England the farming operations can be carried on all through the year, and the crops are long on the ground; but in India, the rain, being periodical, may last for two, three, or four months, and the whole work of the Indian farmer must be carried on with grains and plants that come rapidly to maturity, so as to be completed

Plate XV.

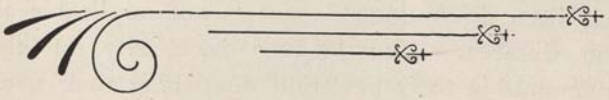
GIVING INSTRUCTIONS TO BRING IN THE TIGER

before the inclement dry hot season recommences. In this respect there is a similarity to the range of the cropping seasons of inclement northern countries, where everything has to be suited to the short-lived (though hot) summer, and where the grains in use are of a kind that rapidly mature — the two elements, inclement heat and inclement cold, compelling the same procedure. The instruments in use in India are of very simple manufacture. The poverty of the people, and the necessity of simplicity in articles for countries with few artisans, and the fact that old and young, man, woman, and child of the household, are all employed in the farm-work, necessitates the retention of implements of the simplest forms.

The ordinary agricultural implements used in simple tillage are often of the very rudest description. But the climate does not permit of deep sowing, for the seeds must either soon sprout up or rot, and the influence of the abundant rains and vast electric forces on the soils of India are of a very different character from those of England, and do not require the same amount or kind of mechanical treatment in order to produce the required effect. The implements used are ploughs of various sizes, and in some parts where the land is heavy, eight, ten, or twelve bullocks are used,

but in most parts small ploughs are used which can be worked with two bullocks or two buffaloes. The mode of ploughing is lengthways and cross-ways, the land being ploughed in this manner three, four, and five times. The following implements are also drawn by bullocks: a heavy harrow, drill for sowing cotton, weeding machine to eradicate weeds between the rows of cotton, drill for sowing grain, with extra tubes at the side with which another description of seed or oil seed is very commonly sown in every fifth row, weeding machine for rooting up the weeds between the rows of grain. A large cart drawn by eight bullocks is not often seen in the Deccan, but is very common in the Southern Mahratta country. The tyres are commonly six inches deep; a pair of wheels costs up to Rs. 120 (£12); they last fifty or even a hundred years, and are handed down as heir-looms in families. For rice cultivation the following implements are used: Plough, clod-crusher, levelling machine, and a drill—these are worked with two bullocks. The hand implements are: A weeder and Kodali or mattock (Indian spade). These will show that the people of India are well advanced in agricultural skill, and that they are doing as much as their humble circumstances, the climate, the soil, and the required crops will admit. Their aids, the buffalo and the

bullock, are chiefly employed for draft and for pack carriage, carts with wooden or stone wheels, or wheels of solid blocks of wood as the nature of the country and the state of the roads demand. In India nearly all the cultivators are Hindus, and each village has a small number of hereditary out-caste labourers.



Mammalia.

MAMMALS are warm blooded, vertebrata, viviparus animals, and are distinguished from birds, as well as from other vertebrata animals, by the possession of mammary glands, secreting milk for the nourishment of their young. Most mammals have four limbs, from which they were formerly termed quadrupeds, but that term has been discontinued, as it is not applicable to the Cetacea. The leading peculiarity of the mammals is their power of nourishing their new-born young with milk. This is secreted by mammary glands, and these vary in number and position, being most numerous in the more prolific races.

In cold climates several animals pass the winter in a state of torpidity, and even in India certain bats and hedgehogs, and perhaps some rats, are more or less torpid during the cold season. Two species of bears found in the Himalayas retire to

BRINGING IN THE TIGER.

Plate XVI.

their caves, and are rarely or never seen from the month of December till the end of March. The following list shows the families, genera, and general species of Mammals in the South and East of Asia.

Order *Primate*: Various kinds of monkeys, numberless kinds of bats, and several kinds of moles, shrews, and hedgehogs.

Order *Carnivora*, or, Beasts of Prey: Tribe *Plantigrada*, walking on sole of foot: The snow bear; brown, yellow, grey, and silver bear of Himalayas; Himalayan black bear; Indian black or sloth bear (has a horseshoe mark on breast), red-cat bear, badgers, weasels, and otters of various kinds.

Tribe *Digitigrada*: These animals walk on the digits, and are typical *carnivora*, being very quick and speedy. Family, *Felidae* or Cat Tribe: The lion, tiger, leopard, cats, pard, cheetah, clouded leopard, marked tiger-cat, leopard-cat, large tiger-cat, bay-cat, and the ounce. The Asiatic lion is found in Allahabad, Jubbulpore, Cutch, Guz, and Gwalior. The tiger is found all over India, and as far up the Himalayas as six and seven thousand feet.

Family *Viverridae* Tribe: Hyænas, civet cats, tiger civet, toddy cat, hill tree-cat, Terai tree-cat, black bear cat, and various kinds of mongoose.

The Dog Tribe: Thibet white wolf, black wolf of Thibet, red wolf of Thibet, the jackal, wild dog, Indian fox, desert fox, Punjab fox.

Order *Cetacea*, the Whale Tribe: Porpoises, various species of dolphin, Gangetic porpoise, whales.

The Gnawing Tribe: Squirrels and flying squirrels, and marmots.

The Rat Tribe: Various species of rats, mice, voles, porcupines, and hares.

Order *Ungulata* (feet with hoofs):

Tribe *Proboscoidea*: Elephants.

Tribe *Perissodactyla*: Rhinoceros.

Tribe *Lammigua*: Tapirs.

Family *Equidae*: Horses, asses, and zebras.

Tribe *Chaerodia*: The pig and hippopotami.

Tribe *Rhuminantia*: Camels, deer, horned cattle, sheep, antelopes, goats and cattle, bison, wild buffalo.

Burrowers: Scaly ant-eater.

MEASURING THE TIGER.

Plate XVII.

The Tiger.

TIGERS (Royal Bengal), when full grown, measure from eight to ten feet from the tip of the nose to the end of the tail. The tail averages about three feet in length. The weight of the animal varies, of course, considerably at different stages of growth. A full-grown tiger would turn the scale at five hundred pounds. The reader will understand my helplessness when assailed by a creature of this vast bulk, and the inconvenience of the pressure when he was lying on top of me. The colour of the tiger is brightest when young and vigorous, the colour becomes fainter with advancing age. White, or rather cream-coloured tigers, though rare, are not altogether unknown. It is stated in "The Royal Natural History," edited by Richard Lydekker, that a specimen was exhibited in the menagerie at Exeter Change in 1820. Major D. Robinson, of the Lancashire Fusiliers, found another at Puna; and Colonel H. H. Goodwin-

Austin vouches for a third specimen. It is on record that a black tiger was found dead near Chittagong, on the North-East frontier of India.

The tiger is almost exclusively confined to Asia. It is found on the southern shores of the Caspian, in North Persia, the Herat district, Turkestan, Central Asia, Southern Siberia, and all Mongolia. In China, Burmah, Siam, and the Malay Peninsula. There are large numbers in the Islands of Java and Sumatra. It haunts the northern end of the Bay of Bengal; in fact it is found from Cape Comorin to the Himalaya.

The tiger is such a persistent scourge in India that the natives employ many ingenious contrivances to snare and trap it. The Manipuris have the courage to hunt it with a net and spear. In the cold and wet seasons of the year the tiger has no fixed abiding place, but wanders over immense tracts of country in search of food. In the dry season it haunts the banks of rivers and patches of long grass. Tigers breed at all times of the year.

The destruction wrought by these creatures in India is enormous, the waste of human life due to them is appalling. A Government return gives the number of animals killed by tigers in the Madras Presidency during the quarter ending 31st December, 1891, as follows: six hundred and

fifty-six bullocks, seven hundred and fifty-two cows, two hundred and thirty-six calves, one hundred and thirty-five buffaloes, one hundred and five sheep, and one hundred and three goats.

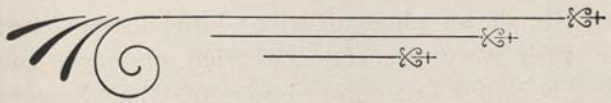
Government returns show that in six years four thousand two hundred and eighteen natives were killed. In the Central Provinces alone two hundred and eighty-five were killed in 1868 and 1869. One tiger in the years 1867, 1868, and 1869, killed twenty-seven, thirty-four, and forty-seven persons. It may be mentioned that one of the most reliable authorities upon the Indian tiger and its habits is Sir J. Fayrer, the author of an exhaustive work on the subject, "The Royal Tiger of Bengal."

Although the tiger is extremely fond of water, it is able at times to endure thirst for a considerable period in the hottest weather. Mr. G. P. Sanderson gives a remarkable instance. "The weather," he writes, "was hot; the circle in which the two tigers were enclosed was only seventy yards in diameter, and the heat of the fires kept up day and night all round was considerable. Still they existed without a drop of water for ten days, suffering from wounds half the time. A tiger can go much longer than this without serious inconvenience."

It is a popular delusion that tigers are in the habit of springing upon their prey. Mr. Blandford and other eminent authorities agree that it is a rare thing for them to move their hind-legs from the ground, except of course when they are obliged to leap over some such obstacle as a fence. That they are able to spring to a great height is undoubted. It is on record that a tiger once pulled a native from a tree at a height of eighteen feet from the ground. According to Mr. Sanderson, fifteen feet is the most that a tiger can clear horizontally; but there are instances of this distance being exceeded. "The tiger's usual attack," to quote Sir J. Fayrer once more, "is a rush, accompanied by a series of short deep growls or roars, in which he evidently thinks he will do much by intimidation; when he charges home he rises on his hind-legs, seizes with the teeth and claws, and endeavours and often succeeds in pulling down the object seized." I may say that I can personally vouch for the correctness of Sir J. Fayrer's description.

The jungle tiger relies for food upon such animals as deer, antelopes, and wild pigs, but domestic cattle are liable to be attacked, and it will also eat monkeys, porcupines, and fowls of various kinds. According to "The Royal Natural

History," full-grown buffaloes and gaur are usually a match for the tiger, but young or feeble individuals not infrequently fall victims to its attack; and instances are recorded of young elephants being killed and eaten. Adult bull gaur are, however, occasionally killed by tigers; the latter, if the reports of native herdsmen are to be credited, inducing the bulls to charge time after time, when they are wounded as they pass by a blow from the tiger's paw. Old wild boars, it is said, not infrequently succeed in wounding and beating off a tiger; and the herds of buffaloes defend themselves by forming in a half circle, with the bulls facing the foe. Moreover, even when a calf or a weak or sickly adult individual has been carried off, the old buffaloes are reported to combine and follow the tiger, and rescue the victim from its clutches. Much more rarely tigers will kill and eat the Indian bear.



Birds.

THE birds of India are as beautiful as they are numerous. There are hundreds of species, a detailed description of them all is therefore impossible within the limits of the present work. The Israelites divided birds into two classes—clean and unclean, and in common life this arrangement may be said to be still followed.

According to scientific arrangement, birds are divided into eight different orders :—

1.—*Scansores,* or Climbers; 2.—*Raptores,* or Birds of Prey; 3.—*Insessores,* or Perchers; 4.—*Gemitores,* or Pigeons; 5.—*Rasores,* or Game Birds; 6.—*Cursores,* or Running Birds; 7.—*Grallatores,* or Waders; 8.—*Natatores,* or Swimming Birds.

Perhaps the choicest of them all are those of the Himalayan pheasant tribe—birds distinguished for their very graceful and rich plumage, and the beautiful paradise birds of the Eastern Archipelago. The Himalayan bustard is remarkable for its form and for its varied colours.

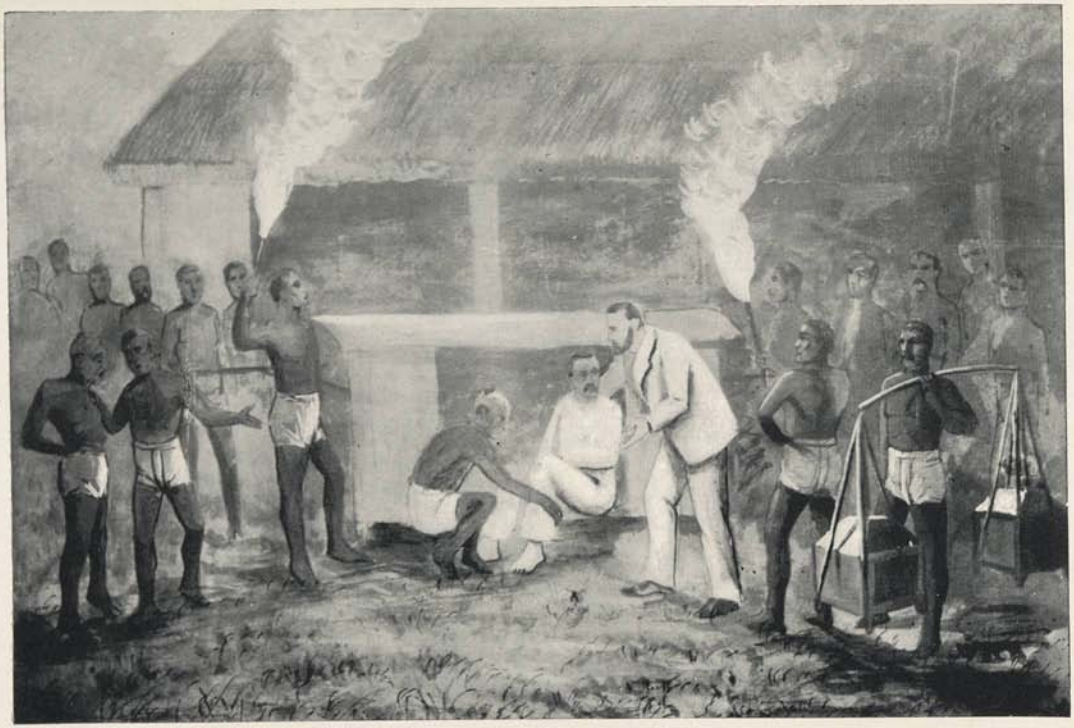


Plate XVIII.

GETTING INTO THE PALKEE.

Peacocks, eagles, falcons, vultures, kites, cranes, wild geese, wild fowl, snipe, bustard, parrots, and parroquets, etc., abound in India at certain seasons. In England on the return of Spring:

> Every copse
> Deep tangled, tree irregular, and bush,
> Bending with dewy moisture o'er the heads
> Of the coy quiristers that lodge within,
> Are prodigal of Harmony.

But in the tropics generally, there are few Europeans who will dare to face the sun's rays for the sake of enjoying the beauties of Nature. As a rule the natives of Eastern and Southern Asia do not pay any attention to natural phenomena, and comparatively little is known of the song of birds.

Few can say with the rustic poet Clare:—

> I've often tried when tending sheep or cow,
> With bits of grass and peels of oaten straw
> To whistle like the birds. The thrush would start
> To hear her song of praise and fly away;
> The blackbird never cared, but sang again;
> The nightingale's pure song I would not try,
> And when the thrush would mock her song, she paused
> And sang another song no bird could do.
> She sang when all were done, and beat them all.

I was one of those Europeans who often dared the sun from day-light to dark, and I have frequently been for many consecutive days in

heavy jungles, miles away from any human beings, teeming with animals and birds, and the profound stillness has struck me as something awful. Not a note from a bird; only an occasional woodpecker tapping a tree, the buzz of insects, the snap of a twig by a deer or some other animal, and very occasionally I could hear the noise made by a leopard, which resembles the sawing of wood. On account of the perfect stillness the least sound is distinctly heard, though at a great distance.

The Manikjor or beef steak bird, is a large bird of the order of Grallatores or Waders. I mention this bird as it was my target for practising rifle shooting, and at the same time it supplied the larder in the hottest weather with a delicacy. A friend dropped in one day when it happened there was a "beef steak" for dinner. It being the hot season, and knowing that beef could not be procured, as anything killed must be eaten the same day, he was amazed that I should have regaled him with a feast of such excellent quality. He quite thought I had killed a bullock for his benefit.

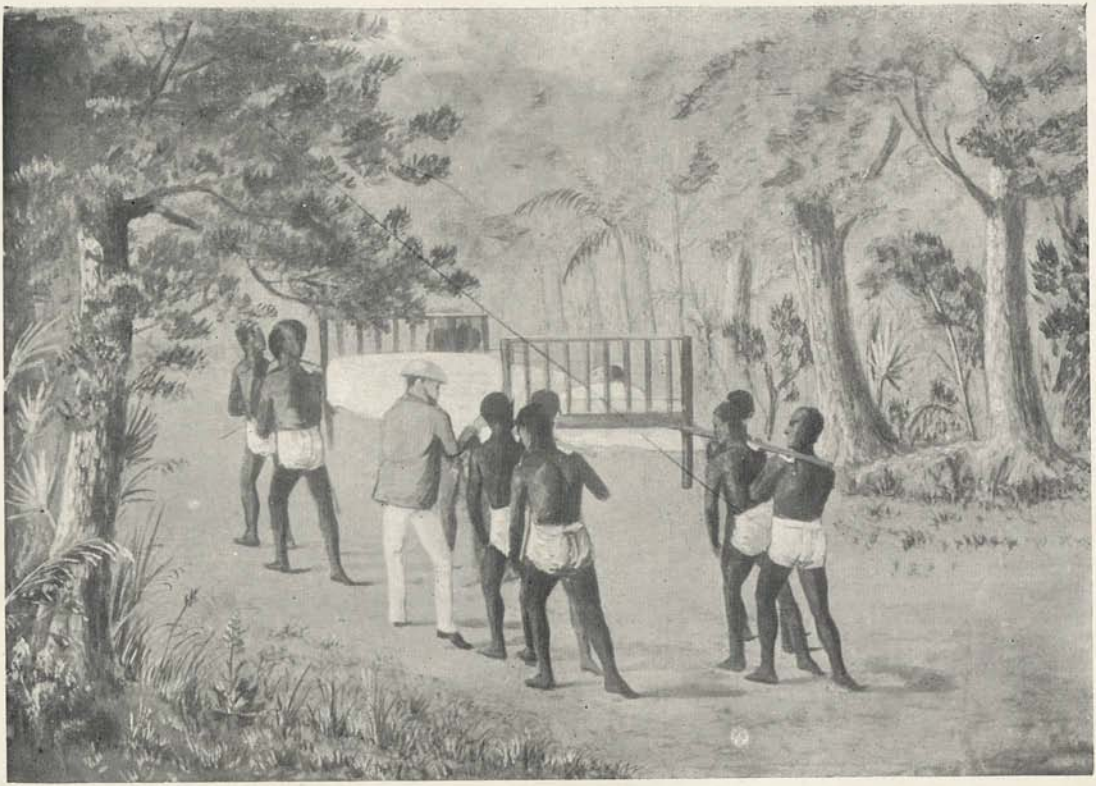


Plate XIX.

BEING CARRIED FROM THE DOCTOR'S HOUSE TO THE JUDGE'S.

Reptile Kingdom.

THE reptiles are *oviparus*, or *ovoviviparus vertibrata* animals, with red, cold blood, with three cavities of the heart, breathing by lungs either during the whole period or, at least, in the later stages of their growth.

They consist of *the Order of Tortoises*: Land tortoises, three kinds; freshwater tortoises, thirty kinds; freshwater turtles, nine kinds; marine turtles, four kinds.

The Order of Lizards: Crocodiles, five kinds; water lizards, four kinds; land lizards, seven kinds; cordyles, one kind; skinks, thirty-one kinds; acoubiats, three kinds; sand lizards, one kind; geckoo, thirty-seven kinds; agames, fifty-six kinds; family of chameleons, one kind.

The Order of Snakes: Out of the twenty-one families into which Indian snakes are at present divided, there are four families of venomous snakes. These twenty-one families include about ninety genera, of which twenty are venomous, but only thirteen of these are land snakes. The

species now number about four hundred, of which about eighty are venomous, but as forty-three of these are sea snakes, it reduces the proportion to thirty-seven venomous land snakes out of a total of three hundred and sixty species; but by far the greater number of these are either very rare, or confined to some particular part of the East Indies.

The Python: The two largest species of Indian rock snakes are among the largest of living reptiles; there are statements on record of its measuring thirty feet. Rock snakes from fifteen to twenty feet long have the thickness of a man's thigh. They feed on quadrupeds and birds, small deer, sheep or goats, or good-sized dogs, and attain to a considerable age. *Python resticulatus* lived in the menagerie of the Zoological Society of London for fifteen years. When brought to England it was about eleven feet long, and in ten years it had attained to a length of twenty-one feet.

The Cobra, naga tripadian, consists of eight varieties, but all the varieties form one species, which is widely spread all over the East Indies. The cobra is the most common venomous snake of the East Indies. It is more a nocturnal animal than a diurnal one, and *ovoviviparus.* Its chief enemies are the jungle fowl, which destroys

the young brood, and the Hespestes or Ichneumon, which will attack and master the largest cobra.

Cobra, the ordinary name by which Europeans in India designate the *naga genus* of venomous Colubrine snakes of the family of *Elapidae*. When the cobra rises in play or for amusement, it spreads out the skin of the neck from which it gets the Spanish name of *cobra di capello*; in English, "the hooded snake." Its bite is certain death. Only about half the varieties have spectacles.

Anecdote of Snake and Frog.

YOU have no doubt often heard of the vitality of frogs. One day one of my dogs was barking at something under a shrub in the garden. I took up a stick and went to see what it was, when I found a snake about three feet long with an unusual protuberance in the centre about the size of my fist. I put my stick behind the protuberance, and worked it towards the head; when it got to the mouth out jumped a big frog and hopped away quite lively.

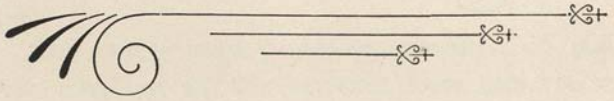


Plate XX.

MOSQUITO CURTAINS IN A BLAZE.

Ants.

ANTS have attracted attention from the earliest ages, on account of the singular economy and extraordinary industry manifested by the different species. This has been more particularly the case in the colder climates of Europe, for of the numerous races of the South-East of Asia, not one takes any interest in natural history. It is probable that many fresh species of ants will yet be discovered. Forty-seven species have been described in Southern India by Mr. Jerdon, a Madras medical officer; and Mr. Nietner, of Ceylon, has forwarded to the Berlin Museum upwards of seventy species taken by him in that island, chiefly in the western province and in the vicinity of Colombo.

The term white ants is applied by the English in India to species of termites. They are interesting by reason of the great mounds of earth which they erect. Those in India seldom exceed seven or eight feet, but some ant-hills in South Africa are of

great size. On the banks of the Chobe, Dr. Livingstone mentions them as being thirty feet high, and of a base so broad that trees grow on them. In the open fields the injury to produce which they can cause is trifling; but in gardens, where, as with sugar cane, the crops are long in the ground, much loss is sustained by their attacks. They usually work under cover, and erect galleries of earth, cemented as they progress. In towns, with substantial houses of mortar and beams of wood, the loss which they cause is often very great, for they pierce the walls and tunnel the beams in every direction. The best remedy is to destroy their cells and dig up their queen. Their mounds are tunnelled in every direction, and their queen, a large, shapeless white mass, lies in the centre. An effectual and permanent remedy is to remove the whole mass. To protect the beams, the ends are usually laid on the walls and the sides left unclosed, so that the first approach can be detected, and this opening also prevents dry rot. Teak, ebony, and other hard woods are seldom attacked by white ants. The earth or mud oils, so abundantly produced in Burmah, are the most effectual known preventatives to their encroaches. The Greeks ate grasshoppers and liked them amazingly; the aborigines of New South Wales eat them raw, first taking off their wings. The Chinese thriftily eat the chrysalis of

the silkworm, after making use of the silk; the larvæ of the hawk-moth are also much relished. The negroes of Jamaica eat the Bagong butterflies, after removing the wings, and store them up by pounding and smoking them. The Hottentots and the people of the East Indies eat the termites, or white ants, boiled, fried, and raw; the female white ant in particular is eaten in India. The natives mix them with flour, and make a variety of pastry, or they parch them in pots over a gentle fire, stirring them about as is done in roasting coffee. They eat them by handfuls, as we do comfits.

Dr. Livingstone says:—"The white ants, when roasted, are said to be good, somewhat resembling grains of boiled rice. An idea may," he adds, "be formed of this dish by what once occurred on the banks of the Zouga. The Bayeiye chief, Palani, visiting us while eating, I gave him a piece of bread and some prepared apricots, and as he seemed to relish it much, I asked him if he had any food equal to it in his country. 'Ah!' said he, 'did you ever taste white ants?' As I never had, he replied, 'Well, if you had, you would never have desired to eat anything better.'"

Rumboldt mentions ants as being eaten by the Marivitunos and Margueratares, qualified with resin as a sauce. Bees are eaten in Ceylon.

Mites in millions are consumed in cheese. The grub of the palm-weevil, which is the size of a thumb, is a favourite dish in some parts of India. Ælian relates of an Indian king, who, for a dessert, instead of fruit, set before his guests a roasted worm taken from a plant, which was thought very delicious.

Plate XXI.

THE FEAT OF WALKING WITH A CRUTCH ACCOMPLISHED.

The Cocoa-Nut Palm.

THE cocoa-nut (or coker-nut, as it is sometimes spelt) grows to the height of one thousand feet above the sea, though it flourishes in greatest luxuriance in the vicinity of the ocean. It rises sixty to one hundred feet, its cylindrical trunk, crowned with numerous waving, feathery leaves, forms a beautiful element in inter-tropical scenery. It is self-propagating. Its keel-shaped nut, protected from the salt water by its tough and thick, though light covering, sails on the ocean to barren spots, where it germinates and causes even the smallest islet to become covered with clumps of the cocoa-nut palm. The waving leaves on the top are called fronds by botanists, and their foot-stalks are often called branches by travellers. The leaves are gigantic in size, being about twenty feet in length, with a strong, tough stalk, which forms the midrib, and has a number of narrow and long leaflets ranged along the two sides. It is a tree of great value to the people.

The wood is applied to various purposes, such as rafters, fences, shears, laths, shingles, chairs, and ladies' work-boxes. But during the period of its most abundant bearing (which is between ten and thirty-five years' growth), the heart-wood is of so soft and spongy a nature, that it is then merely used for fences, waterpipes, etc. The wood is strong and durable; a cubic foot weighs seventy pounds, and its timber is said to last for twenty-five or fifty years. It is used for ridge poles, for temporary roofs, aqueducts; also for small boats, for the beams, posts and rafters of houses, for spear handles, palings, and walking sticks; for fancy boxes and furniture, for the frames of boats, conduits, gutters and drains. It forms one of the porcupine woods of commerce, and is used for fancy articles. A farinaceous substance is contained in the stem, which forms a good substitute for sago. Each tree produces annually from fifty to sixty cocoa-nuts. These are enclosed in a thick, fibrous husk, from which the coir of commerce is obtained by maceration and beating. The husk is employed as a scrubbing-brush and polishing-brush. It is converted into cordage of various kinds, used for the rigging of ships, fishing-nets, and matting; and in India, in its loose state, it is the usual material with which mattresses, pillows, and sofas are stuffed.

Within the fibrous husk is the shell, which is very brittle, though its structure is somewhat fibrous. Cut in various shapes, it is formed into cups, drinking vessels; into pitchers, funnels, and admits of being turned in an agreeable manner. Those shells which are tolerably circular are used for the bodies of cups and vases, the feet and covers being made of wood and ivory. Common buttons are also made of the cocoa-nut shell, and are considered better than those made of horn, as they do not absorb the moisture like that material—moisture causing the horn buttons to swell and burst. The shell forms a valuable charcoal. The hollow shells, called "gari" or "naryel," are used for the water holder of a particular kind of "hookah." Cocoa-nuts, both in the raw and dried state, form a prominent feature amongst the exports to various parts of India and other countries.

In the Laccadine Islands, the heart leaves of the tree, just before they unfold, are cut off and plaited into mats of fine quality, which are there used as sails for the smaller boats, and are much esteemed when exported. In India, the leaves dried, and called by Europeans "cadjars," are plaited and used as thatch, and for the outer and inner walls of houses; the leaves are also made into mats,

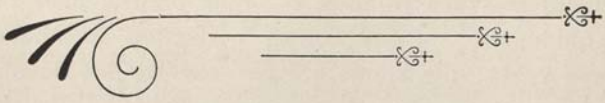
baskets (both fancy and plain), into fans, combs, brooms, screens, buckets and lanterns; into articles of dress, and into leaf books, torches and fuel. The foot-stalks of the fronds are fibrous but brittle, and are used as brooms. The roots of the tree are chewed as a substitute for betel-nut. One of the beverages known to Europeans as "palm wine" or "toddy" is obtained from the flower spathes. Before the flowers have expanded, the spathes—and these are themselves astringent, and are used medicinally—are tied with the young leaves, and then cut transversely from the top downwards, and beaten daily with the handle of the knife or a piece of hard wood, and the sap, after a few days, exudes into a calabash or earthen pot. In the early morning, this is a pleasant, refreshing drink, but it ferments towards night, and becomes an intoxicating fluid.

The native method of making cocoa-nut oil is very simple. The kernel having been removed from the shell and dried, is subjected to pressure in a mill, and the oil is expressed. Two quarts of oil may be procured from fourteen or fifteen cocoa-nuts. When fresh, the oil has an excellent flavour. It is used as an ungent on the bodies of the natives after bathing, and as an oil for the hair. It is employed as a lamp oil, and is manufactured

into soap. It is said to have all the virtues of cod-liver oil.

The poet, Herbert, writing of the cocoa-nut, has justly said :

> The Indian's nut alone
> Is clothing, meat and trencher, drink and can—
> Boat, cable, sail and needle, all in one.



Mulberry and Silk Cultivation.

MULBERRY bushes are planted chiefly in rich black soil adjoining the villages, and require continuous moisture, which is supplied by irrigation. The fields are generally surrounded by a pogah or bank upon which bamboos are planted and grow luxuriantly, forming effectual barriers to keep out cattle. The principal object in the cultivation of the mulberry for feeding silk-worms is to produce the greatest quantity of young and healthy leaves without fruit. With reasonable care, the bushes last ten years, and yield fresh leaves eight times a year; they are planted at a convenient distance from each other on the plan of a quincunx ⁘ and are in perfection in about three years; the stems are periodically cut down, and care is exercised that they are properly thinned, with a view to giving plenty of light and air to the leaves; they are not allowed to exceed five feet in height. The young plants of course suffer by being stripped of their leaves, which are the lungs, and this is an additional reason for renewing them after a certain time. Fresh plants are procured from cuttings.

WALKING-STICK IN PLACE OF CRUTCH.

Plate XXII.

Silk Cultivation.

THE moth usually lays its eggs in the evening, and they take from ten to fourteen days to hatch, after which forty days elapse before the worm commences to spin its cocoon. In the interval the worm becomes sickly about four times for periods of four, five, six, and seven days respectively, during which it remains for thirty hours at a time without feeding. Fresh mulberry leaves are supplied seven times a day at intervals of three hours. Half of the worms perish during the extremes of hot and cold weather. The moth usually emerges from the cocoons in the morning ten or fifteen days after the completion of the cocoon. The male and female moths are allowed to remain together till 5 p.m., when the males are ejected, and the female commences to lay eggs. When ready to spin, the worms are placed on a bamboo tray (exposed to the sun) in which are raised numerous circular walls of matting, one within another. The silk-worms which yield the investments of silk are, 1st.—The large annual worm

reared once in the year (originally brought from Italy, now almost extinct) and yielding its produce from only the middle of March till April. 2nd.—The indigenous silk-worm of Bengal, of which the cocoons are obtained throughout the year, that is, there are eight collections annually; of these, the worm of the cold weather, or November breeds, are superior to the others from the more nourishing nature of the leaves at those seasons. 3rd.—The China silk-worm, introduced into Bengal, which are next in estimation to the annual and country breeds. 4th.—The Choto Cocoon, which gives a strong fibre, but the threads are nibby; of these there are eight collections.

The manufacturing treatment of the silk, when the labours of the silk-worm are over, is as follows. When the crop of cocoons is complete it is gathered from the bamboo trays, and about one-sixtieth part is set aside for the production of eggs, the finest cocoons as to web and colour being selected for this purpose. A difference of weight generally determines which are the cocoons of male, and which of female insects; the latter are heavier and rounder than the former. The cocoons intended to produce eggs are preserved in a very dry room, and in about ten days, they loose in weight to the amount of $7\frac{1}{2}$ per cent. The main crop of cocoons is next sorted into nine qualities, known in the factories as: 1.—Good

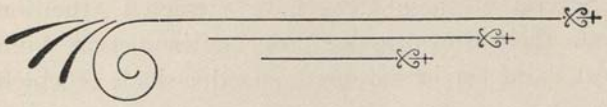
cocoons, which are strong, firm, almost equally round at both ends, not very large, but free from spots. 2.—Calcined cocoons, in which the worm has died after having completed its work, and is reduced to a powdery substance. 3.—Cocoons, which are larger and less compact than good cocoons. 4.—Cocoons in which the worm has died before finishing its work. 5.—Double cocoons, difficult to unwind, and often kept for seed. 6.—Cocoons of so loose and soft a texture that they can not be unwound. 7.—Pointed cocoons, in which one end rises in a point which breaks off after a little silk has been unwound and so spoils the thread. 8.—Perforated cocoons from which the moth has escaped. 9.—Bad cocoons, in which the worm has died before finishing its work and in which the silk is spotted, rotten and blackish in colour.

The vitality of the chrysalis is destroyed previously to unwinding the cocoons, either by exposure to the sun, or by placing them in hot ovens. The floss silk is removed from the cocoon by opening it at one end and slipping out the cocoon. In reeling the silk it is necessary to use cocoons of one quality, as different qualities require different treatment. The natural gum of the cocoons is softened by immersion in warm water, kept at the proper temperature by a charcoal fire. After they have

remained in the water for a few minutes the reeler gently stirs up or brushes the cocoons with a short birch rod, and to this the loose threads of the cocoons adhere, and are thus drawn out of the water. They are then taken, four or five together, twisted with the fingers into one thread (as many as thirty can be wound together) and passed through a metal loop, which rubs off dirt and impurities; it then passes on to the reel, which has a slight lateral motion, so that the thread of one revolution does not overlay the other. If it were allowed to do so, the threads would be glued together before the gum had time to harden by exposure to the air. When any single thread breaks or comes to an end its place is supplied by a new one, that the united thread may be of equal thickness throughout. The new thread is merely laid on, and adheres to the rest by its native gum, and as the filaments are finer near their termination than at the commencement, it is necessary to add other cocoons before the first set is quite exhausted. The cocoons are not entirely wound off, but the husk containing the chrysalis is used, together with the floss silk, under the name of waste.

The length of filament yielded by a single cocoon is three hundred yards, though some have yielded upwards of six hundred yards. Eleven or twelve pounds of cocoons yield one pound of silk, from

two hundred to two hundred and fifty going to the pound weight: thus about two thousand eight hundred cocoons are included in that quantity. The reeled silk is made into hanks or skeins for sale and use. The entire length of a hank is not of one uniform fineness. The assorting is made with particular reference to the degree of fineness, or coarseness of thread, and the process, which is carried on also by reeling (a separate reel being assigned for each quality) depends entirely on the feel or touch of the silk on the finger of the person manipulating it. A hank is divided into five different sorts: 1.—Tumbolia, 2.—Serika, 3.—Takra, 4.—Wana, 5.—Koree, and the value of the silk varies from Rs. 12 per Indian seer for the superior sort, to Rs. 9 or 10 for the inferior description. Nos. 1, 2, and 3, are used almost invariably for the woof, while No. 4 supplies the warp, and no 5 is sold for making cords, tassels, etc.



The Banyan Tree.

THE Banyan Tree is the *Fiens Indica*, the Bar-Ka-Jhar of Southern India, the Arbor de Rais of the Portuguese. It throws down aerial roots, which support the large branches, and these again throw down other roots, till as Milton wrote (Paradise Lost IX.) the tree becomes:

> Such at this day, to Indians known,
> In Malabar or Deccan, spreads her arms,
> Branching so broad and long, that in the ground,
> The bended twigs take root, and daughters grow
> About the mother-tree, a pillar'd shade,
> High over-arch'd and echoing walks between:
> There oft the Indian herdsman, shunning heat,
> Shelters in cool, and tends his pasturing herds
> At loop holes cut through thickest shade.

Several of these trees have attracted attention from their dimensions. Four miles distant from Fort Saint David was one under the shade of which Mr. Ives quotes Mr. Didge as computing that ten thousand men might stand without incommoding themselves. Dr. Frayer saw one of those

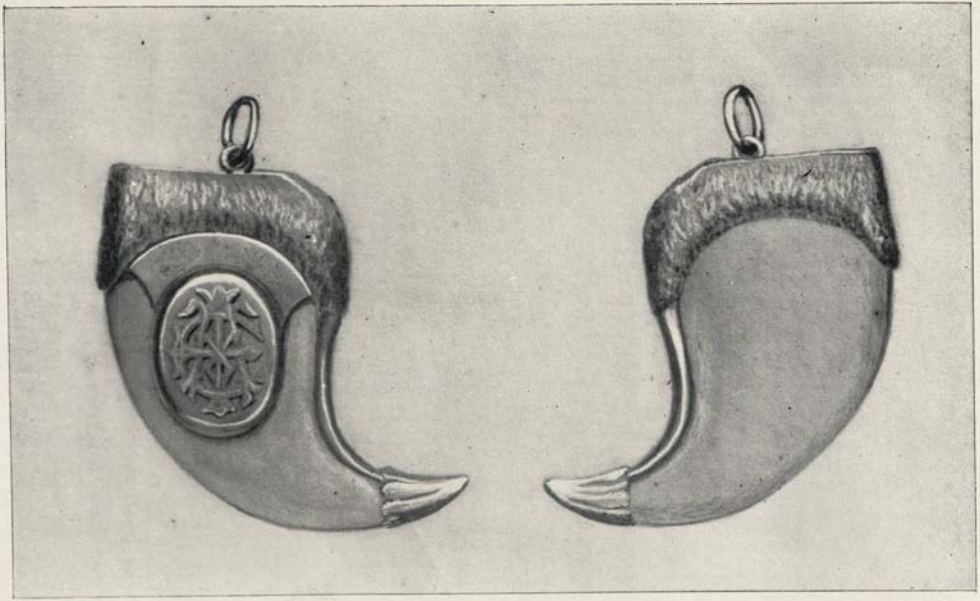


Plate XXIII.

FAC-SIMILE OF ONE OF THE CLAWS.

admirable trees near Surat in the year 1673. In the Botanical Gardens at Calcutta a Great Banyan tree has been long the pride of the garden. Dr. Falconer satisfactorily ascertained it to be only seventy-five years old. People were alive a few years ago who remembered well its site being occupied in 1782 by a date-palm out of the crown of which the Banyan sprouted, and beneath which a Fakir sat. This tree has for the last thirty-four years not increased in size, having been lopped under some misapprehension. When paced by Dr. Balfour in 1863 its dimensions were identical with those of 1834, viz.: One hundred yards in diameter, and three hundred yards in circumference. The Banyan hardly ever vegetates on the ground; but its figs are eaten by birds, and the seeds deposited in the crowns of palms, where they grow, sending down roots that embrace and eventually kill the palm, which decays away. Had the Calcutta tree been growing in 1849 over the great palm-stove at Kew, only thirty feet of each end of that vast structure would have been uncovered. When the Banyan tree embraces a date or palmyra or cocoa-nut tree, and the latter are seen growing out of it, this is called a marriage of the trees. These are encouraged, and many are to be seen near the Kistuah river. As the Banyan tree gets old, it

breaks up into separate masses, the original trunk decaying, and the props becoming separate trunks of the different portions. Lady Faulkland tells us of the Western Coast, that about eight miles from Waee is a Banyan tree, covering a space of three and three-quarter acres. The shade was so complete, she could sit in the middle of the day without any covering on her head. Several separate picnic parties might take place under the tree without interfering with each other. There were countless avenues, or rather aisles, like those of a church, the pale grey stems being the columns, which, as the sun fell on them, glittered in parts like silver, and here and there were little recesses like chapels, where the roots from the boughs formed themselves into delicate clustering pillars, up and down which little squirrels were chasing each other; while large monkeys were jumping from bough to bough, the boughs cracking and creaking as they leaped.

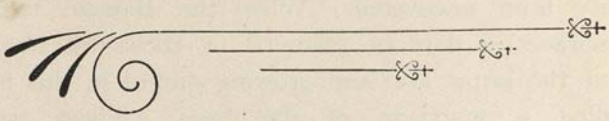


Plate XXIV.

THE AUTHOR AS HE NOW IS.

Rain and Hail Storms.

THE operations of nature in India are carried on upon a scale of almost incredible vastness. No description can convey to the mind of persons born in these temperate latitudes the majestic violence of an Indian storm. Dr. C. R. Francis, of the Indian Medical Service, has described some of the meteorological phenomena of India with eloquence and scientific accuracy. "Throughout the length and breadth of India," he writes, "from its lofty mountainous tracts to the mouths of its lordly rivers, in its skies and in its seas, the convulsions (and ordinary phenomena even) of nature either attain monstrous proportions or are remarkable for their erratic tendencies. There, famines sweep human beings from the surface of the earth in thousands and *in millions*. The two greatest pestilences which the world has ever seen find congenial soil in India;—nay, the very home of one of them is there. There, cyclones destroy the strongest and most elaborate work of men's hands, as if the construction was of reeds and the foundations of sand; the heavens discharge, in

hail storms, missles of ice as large as full-sized cricket balls, and rain falls not only in inches but in feet.

On the 11th of May, 1855, Nynee Tal—I was then in medical charge of the sanatorium—was visited by a storm of hail which, as regards the size, weight, and number of the stones, has probably never been surpassed by any in the world. A calm, cool morning; a hot, enervating noon; a cold evening and night, with the wind blowing bleakly from the north; had characterised the few preceding days. The barometer had stood high; and the wet bulb thermometer indicated an extremely dry atmosphere. On the 10th, at 4 p.m., the dry bulb thermometer stood in an open shed with thatched roof, at eighty degrees Fahr.; on the 11th, at the same hour and place, at sixty-two degrees Fahr. On the former date, the difference between the dry and wet bulb thermometer was fifteen degrees; on the latter this difference was reduced to four degrees. In the early part of the day of the storm, clouds had been gathering from the north and north-east; in the after-part of it others travelled up from south and south-west, and appeared to coalesce with them. Towards 6 p.m. a small preliminary shower of rain fell; deep-toned thunder rolled and reverberated, and vivid lightning streamed and blazed over the devoted station. Innumerable bags of walnuts

seemed to be pouring out their contents in the heavens, and men of science suspected that hail was coming. And, presently, it came; ushered in by a few bright, lens-shaped stones as large as pigeons' eggs; then came more—larger still; and, while wondering Englishmen looked and thought, and startled natives invoked "Purmesur, Narain," down fell a shower of more than cricket ball size. Was it a delusion? To rush out, and seize a stone, to call for scales and tape, was the work of an instant. Many were the weighings and measurings of these monsters over all parts of the station. Some weighed six, others eight, others ten ounces, and one or two more than one-and-a-half pounds avoirdupois; with circumferences ranging from nine to thirteen inches. Men and animals fled for shelter; vegetable gardens became ploughed fields, with "something green" turning up here and there; the lake looked as if it were being besieged by endless batteries; or as if innumerable whales were blowing and sporting in the waters—so unceasing were the *jets d'eau* cast up by the falling balls of hail. And you sat in your house, listening to the roar above you, calculating upon the strength of beams and roofing; you tried to talk, but your neighbour couldn't hear you; so you sat and thought of Vulcan and the thunder-bolts of Jupiter.

Men who, hitherto, would have turned away from a story of bullocks killed by hail, with a "credat Judæus" smile and shrug of the shoulder, will now tell a similar tale; for though no bullocks were killed, a monkey was; and three human beings were knocked down. Birds were destroyed, trees barked, and houses unroofed. Such was the storm of the 11th May, and it forms an epoch in the meteorological history of Nynee Tal; for though hail is common enough here in the hot weather, no stones (during the ten years that Sir W. Richards has kept a register) of any size have ever fallen, except once, and then they were only two-and-a-half inches in circumference. Hail stones, as large as pigeons' eggs and turkeys' eggs, have often fallen in various parts of the world; but, perhaps, the severest storm of any recorded (and to which that at Nynee Tal is a parallel) was one which occurred in Hertfordshire in 1697, and which was mentioned in the "Philosophical Transactions" for that year. The relater says:—"I was walking in my garden, which is very small, about three hundred yards square, and before I could get out, it took me to my knees, and was through my house before I could get in; went through all like a sea, carrying all wooden things like boats upon the water, the greatest part of the town being under this misfortune. The stones measured from one to fourteen inches about."