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"COLEOPTERA OF OLD CALABAR," ETC.



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*CHAPMAN'S TRAVELS IN SOUTH AFRICA.**

WITH the single exception of Dr Livingstone, no white man has probably ever had such an intimate and wide-spread acquaintance with the interior of South Africa as James Chapman. For fifteen years (from 1849 to 1863) he roamed to and fro in the interior of the country, trading and hunting over previously unknown regions, often unconsciously running neck and neck with Dr Livingstone in his discoveries. He was on the Zambesi near the Victoria Falls before Dr Livingstone, and, but for the obstacles interposed by the natives, he would have been their first discoverer; and the idea of crossing the continent seems to have occurred to the minds of both about the same time. Baines, Anderson, and other explorers, who had accompanied or met with Chapman, have made every reader of South African travel familiar with his name. They will be glad, therefore, that those who knew more of the man, and of the stores of geographical and other information which he possessed, should have urged him to publish an account of his travels, and of the districts he had visited. We believe the credit of having procured the publication of the two volumes which we are about to review is mainly due to Sir George Grey, the former governor of the Cape Colony, before whose intelligent appreciation and persistent recommendation Mr Chapman's reluctance to come before the public as an author has given way.

By employing a literary gentleman in this country to arrange and select from Mr Chapman's ample materials, the difficulties arising from his distance from England, want of time, and of special literary qualifications have been got rid of. Mr Chapman kept regular diaries during all his journeys, and these and other papers have been put in the hand first of one editor in London (Mr Forester), and on his death into those of another (we believe Mr Hunt), and the cream of an immense pile of matter has been thus skimmed, and is now given to the public; or perhaps it would be a

* Travels in the Interior of South Africa; comprising fifteen years' hunting and trading, with journeys across the Continent from Natal to Walvisch Bay, and visits to Lake N'Gami and the Victoria Falls. By JAMES CHAPMAN, F.R.G.S. 2 vols. London, 1868.

juster simile to say that the plums have been picked out of an enormous pudding of heterogeneous materials ; for the editor tells us that the plan which Mr Forester adopted, and which he has necessarily had to follow, was to confine his labours almost entirely to the work of curtailment and omission, so as much as possible to leave Mr Chapman to tell his own tale in his own words.

That tale presents him under various phases. We have him in that of a trader, that of a hunter, of a geographer or physical geographer, and of a naturalist—in all of which he shews to advantage.

We shall present him to the reader in each of these aspects. In all they will find his narrative unaffected, intelligent, and interesting ; and we venture to say that whoever reads them will close the volumes with respect and liking for the author.

One of the first requisites for success in any pursuit is said to be predilection for it. If it goes against the grain, it will be neglected, and failure in it will be the consequence. Whether intentionally or not, virtually it was on this principle that Mr Chapman selected the business of trader or dealer in ivory. His passion for hunting could in it be gratified on the grandest scale, and at the same time combined with duty and attention to business. The more elephants he hunted and killed, the more attentive and devoted to business he shewed himself. Of his attention to business, thus understood, the strictest disciplinarian could find nothing to complain ; and the daring coolness and perseverance which he shewed in his encounters with wild animals was equally shewn in his dealings with the scarcely less dangerous children of the desert.

One most remarkable thing, which must strike every one who reads this narrative, is the impunity with which white traders penetrate into the territories of those savage people, put themselves and their goods into their power, in fact almost literally put their head into the lion's mouth, and yet come forth unscathed. Even in the wars and dissensions among themselves, in which whites have taken a side, the neutrality of other whites has been recognised, and their persons and property respected. It is a curious phenomenon, and certainly not due to any foresighted calculation of future advantage, or fear of prospective retribution on the part of the blacks. The chief Sekeletu, for instance, although anxious to secure trade with the whites, is, we are told, driving it away by refusing to deal with them except on terms so exorbitant that the traders could not purchase their goods in Natal for anything like the value he will give for them. Notwithstanding that he sees the

traders refusing to deal on such terms, and leaving his territories, and abandoning them not to return, he does not alter his extravagant demands ; and yet, when the trader refuses them, he does not attempt openly to seize upon the coveted goods and murder their owners, but allows them to depart. He throws all sort of passive obstacles in the way of their going: forbids his people to aid them, refuses guides, nay, is suspected even of attempting to poison them, but actual force is rarely had recourse to.

“ There's such divinity doth hedge a king,
That treason can but peep to what it would,
Acts little of its will.”

The whites and traders are kings to these poor savages, and their homage is derived from the power which they see they possess. The tribes where this marvellous respect is paid occupy precisely the districts where the prowess of the whites as hunters is well known. When they see a man with a single gun face and conquer wild animals, which it would take their whole tribe to vanquish, it is not surprising that they should have a sort of superstitious awe of these wonderful whites. It is partly fear, and partly the instinctive homage of superiority which is paid by the dog to his master, by the mice to the cat, that paralyses the hand they would like to raise against them. Some of the more degraded tribes, indeed, are so cowed and abject that any one, whether black or white, with a gun in his hand, may bully and abuse hundreds without the slightest resistance being offered. But this does not apply to the generality of the savages. It is the coolness and courage of the white traders in their intercourse with themselves which has given them this divinity in the eyes of the blacks. The following incident, which occurred in one of Chapman's difficulties with them, throws a world of light upon the nature of the immunity which the whites enjoy at their hands, while it at the same time explains the means by which it has been acquired:—

“ At this moment a Bushman arrived breathless from the east in search of the Makalakas, with a message from Shunkaan entreating me to fly without delay, as three of Moselikatze's towns were up in arms, and in pursuit of the Bamanwato, who had been in my track reconnoitering Moselikatze's cattle, and he feared his troops would fall on us by mistake if I did not get out of the way before they arrived. In the meantime, I had discovered from one of my guides that the Bamanwato and the Makalakas were leagued together. The latter, wishing to escape from Moselikatze's rule and place themselves under the protection of Sekomi, and join the tribes he had gathered, had invited the Bamanwato

to come and inspect the country, and study the practicability of making off during the rainy season into the Bamanwato country with the whole of the cattle submitted to their charge by Moselikatze. Becoming aware of this, I refused to fly, being fearful of confirming the suspicion of the Matabale that I, too, was in league with the Bamanwato, and resolved that if they came on I would meet them amicably, hoping, as I still retained a smattering of the Zulu language, from my residence at Natal, that I should be able to explain how matters really stood.

“Having saddled my horses, I left my guides of the Shua in charge of my traps, and, under the guidance of some other natives, sought out the hiding-place of the Makalakas, which I reached about eleven o'clock at night. Contrary to my expectations, I found them quite prepared for my arrival, and drawn up in a formidable array, standing under cover of their long shields, evidently with hostile intentions. Surprised at this, I felt for an instant at a loss how to act, but a moment's reflection satisfied me that it would not do to exhibit any symptoms of alarm, that my safety depended on the composure and firmness with which I acted on this emergency. Having, therefore, ordered Molihie to stand with his gun ready at full cock, I rode up undauntedly to within a few paces of the dusky crew, whose appearance was doubly horrid as the bright moonlight did not penetrate the deep shade of the mopani trees under which they stood. At this moment, the leader of the gang sprang forward in advance of his comrades in a sort of war dance, as is their wont when threatening a charge, and rattling the shaft of his spear against his shield, yelling and whistling shrilly the while he demanded what we wanted there at this hour of the night. Springing from my horse, as did also Molihie, I was perfectly astonished at the effect produced by our assumed composure, when this brave of the braves hastily retreated into the ranks, evidently disappointed at the want of pluck amongst his followers, who slunk one by one behind the bushes. Following up my advantage, I rated them soundly in Sechuana in as loud and bold a voice as I could assume, threatening to destroy the whole of them in one instant if they did not instantly lay down their spears. Strange to say, with that superstitious dread which these unsophisticated savages entertain of the white man, but which I had never fully believed in till this day, the whole of the Makalakas laid their spears on the ground, trembling with fear, while nearly all the Bushmen disappeared in a twinkling.

“Having brought matters to this satisfactory conclusion, I demanded my ivory, which in another instant was forthcoming. After this I required eight Bushmen to carry the tusks; at first these could not be found, but, stamping impatiently on the ground, I insisted on having them, when the Makalakas set up a shouting, explaining that the danger of hostilities was passed, they one by one emerged from their concealment; I then demanded a bundle of dried flesh by way of compensation, for the trouble they had given me, with another Bushman to carry it, and at length having cautioned the gang to take care that I did not set the ground on fire under their feet, we took our departure, driving the bearers of the tusks before us to our bivouac”—(vol. i., p. 254).

The only instance which we meet with in these volumes where the whites were actually put to defiance, and an attempt at murder and robbery made, occurred among the Ovambo, an ignorant

people of the lowest grade, living more to the west, and as yet perhaps less acquainted with their power and prowess. It occurred to Mr Green, the companion of Professor Wahlberg, and it was fortunately successfully resisted after a regular fight and a good deal of bloodshed. We have not space to copy the narrative, but we recommend it to the reader's perusal, as a stirring example of courage and conduct.

The attempts at laying the whites under contribution, which the natives who have seen more of them generally make, are confined to stealing, cheating, tricking, and deceiving. The most serious are the systematic plans to mislead, for the purpose of bringing them to their own villages, or retaining them near them, that they may profit by their liberality, by their traffic, or by the meat of the animals which they kill. Perhaps it would be unreasonable to pass a very severe judgment for this upon miserable Bushmen, who, by the arrival of a party of whites, are at once removed from the direst privation to the most profuse abundance, who exchange a miserable subsistence on roots for plenty of the most palatable animal food. But in the case of chiefs, rich in cattle, and living on the fat of a land teeming with abundance, it is different.

The inherent mendacity of the negro character is shewn in strong light by the constant attempts which these chiefs made to misdirect, retain, and mislead Chapman. Now he was warned not to go in this direction, because Sekeletu would kill him, then not to go in that direction, because Moselikatze was ravaging it; he would be told that such a route was unpassable for want of water, or such another from the presence of the tsetse fly—all afterwards ascertained to be pure fabrications. Again, after receiving the most friendly promises of men and oxen to help him on, the whole of his men would desert him, having received private instructions, and yet, with the most marvellous inconsistency, the waggons would not be plundered; nay, goods would be left deposited in the hands of some of these very chiefs, to remain until his return, and would be faithfully guarded and rendered up when he came back.

Of course, there were good and bad among the chiefs, as among ourselves at home. Some of them seem to have been gentlemen, others low scoundrels; but, on the whole, the impression left on us by Chapman's account of the natives in the interior of South Africa is rather favourable than the reverse. Perhaps the expression he uses in speaking of one of them, that he had "a pleasing but idiotic expression of countenance," may apply to more than

one individual, and to the features of their mind as well as of their countenance.

Mr Chapman's qualities of coolness, courage, and perseverance are not less prominently shewn in his capacity of hunter. Here is an elephant adventure. It is one of his first encounters with the elephant, and took place before his nerves were hardened to the degree they afterwards became :—

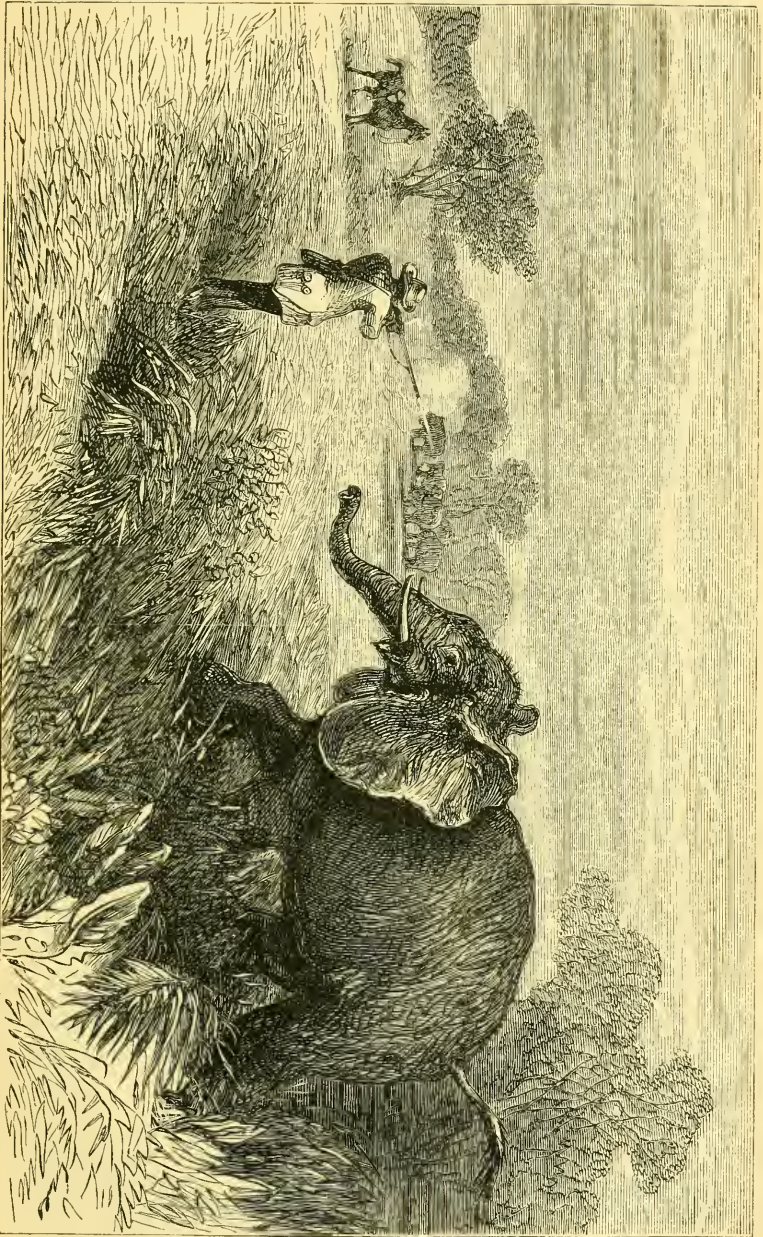
“The troop, finding their prostrate fellow deaf to their entreaties, moved on, and I soon followed, but was repeatedly driven back by a worthless old hag of a cow (elephant), who, with the air of a vixen, would not allow me to come near the troop ; and I found it was necessary to kill her first, if I wished to get at the rest. So dashing towards them she turned upon me just as I had dismounted, uttering a fearful cry. This was a desperate move ; it sealed her fate, though mine seemed in greater jeopardy. My horse, terrified at the elephant's thrilling cry, pulled the reins out of my hand, and left me on the open plain, staring death in the face, without any cover to flee to. At this critical moment, I despaired of life ; but presence of mind, together with unusual firmness, were now vouchsafed to me. I felt I had but one chance for life, and that I now held in my hand. Now for courage and a steady shot. It was the courage of despair, and it was Providence that directed my aim. I awaited the furious animal's approach, with my gun at my shoulder ; but my hand shook so violently that I could take no sure aim, and I felt reluctant to pull the trigger.

“Still the enemy approached with outstretched trunk ; her loud trumpeting had ceased, but she uttered a series of short-fetched grunts, which sounded in my ears like an exclamation of triumph at having her enemy in her power—a victim she would grasp in another moment with her powerful trunk, and crush to atoms with her ponderous feet. At this juncture, she happened to lower her trunk from before her ; and the slight movement leaving her forehead exposed, I instantly took advantage of it, and a bullet from my rifle crashed right into the centre of her skull, and she came down with overwhelming violence at the distance of seven paces from the spot where I was planted. But if before I had been sustained by Providence, and, indeed, I felt that something beyond my physical power had saved me, I now lost all my fortitude, and stood for a moment perfectly aghast, trembling, and most horribly bewildered.

“But, now, again recovering myself, and inspired by the first law of nature, to lose no time in retreating from a possible death-struggle with my now prostrate foe, I ran to my horse, standing at the distance of 200 yards, and cocking his ears in amazement at the fray. I then reloaded, and began to speculate on the prudence of following the rest of the troop.”—(vol. i. p. 84.)

A terrible warning of the danger of elephant hunting on foot is given in the death of Dr Wahlberg, who fell a victim to this fashion of hunting, and of whose tragic end an account by his companion, Mr Green, is quoted in these volumes.

Professor Wahlberg and his expedition were better known to scientific men than is often the case with foreign expeditions, at least during their progress. He was in relation with the Univer-



Encounter with an Elephant—See page 206.

sity of Stockholm, and his collections were forwarded to that institution. That University, not having a purse like that of the British Museum at its back, is obliged to manage its affairs a little more economically; and as it cannot go into the market and make its acquisitions by purchase, it manages to do so by exchange. Whenever a scientific expedition, such as that of the "Eugenie," was sent out, or private arrangements made with collectors abroad, large stores of specimens were directed to be accumulated and sent exclusively to the museum. These were put in the hands of the keeper of the museum, our much respected friend, Professor Boheman, with free permission to use them for the benefit of the Institution; and by means of a very extensive correspondence, he distributed them among scientific men all over the world, receiving in exchange what they had to give. The results of this have been to make the University of Stockholm a first class museum, inferior, no doubt, in much to our own museum, but superior to it in such scientific types as are not to be had by purchase (except by the purchase of some entire collection, after the death of the owner, in which they have been accumulated by the same process as that followed by the Stockholm Museum). Wahlberg's collections were distributed this way, and while Lake N'Gami was almost unknown to the general public, specimens of its natural history, sent home by him, were spread over all Europe and America in the cabinets of men of science. Hence the drying up of the source whence these came, invested his fate with a special interest in the eyes of those who, like many of the readers of this Journal, formerly profited by his labours.

From Mr Green's narrative, it appears that his fate was entirely due to his practice of "foot-hunting." He had been frequently remonstrated with upon its danger, but he always insisted on its being the most safe, maintaining that he could always turn an elephant in its charge, by giving him a shot in the head. At the same time he had a presentiment of his fate, from his having previously had several narrow escapes from elephants, but turned a deaf ear to remonstrances and advice. "I cannot help myself," said he, "when I get sight of the brutes, I seem to lose all apprehension."

Our readers will remember Gordon Cumming's thrilling accounts of lying in wait at night, ambushed in a hole near a water pit, to shoot the wild animals when they came to drink. This is a plan familiar to all South African hunters, and Mr Chapman often speaks

of it. Although effective and free from danger with elephants, rhinoceroses, and other animals, whose eyes are no better adapted than our own for vision by night, it has always seemed to us a very risky business with lions and nocturnal beasts of prey, there being a great chance that they might be the first to find out the watcher, when the consequences of such a mischance would be serious. That this might very well happen, appears from an adventure which Mr Chapman once had during a night's stalking, when no less than ten lions made strenuous efforts to spend the evening with him in his "skaarm," as the ambush is called.

"A number of lions being in the habit of resorting nightly to the spring, either to drink or to waylay the game, I went out early in the evening to kill some animal for a bait to attract them to some spot convenient to my skaarm. I knocked over two quaggas at my first shot, one of which I had dragged up to within five or six yards of my shooting-box, when my man, Molihié, declared his intention of occupying another position, where there seemed little likelihood of his being visited by lions; but he completely outwitted himself, for soon after dark, and before the moon rose above the horizon, I observed some object crouching towards his post, and my cry of warning was lost in the report made by his large rifle. The animal he fired at did not move; and five other lions, which were lying within a few yards of his position, now got on their legs, while two others were observed moving round the pond above the wind. My faculties being now also quickened I observed two lionesses facing me within twenty feet from another direction, at which I instantaneously fired, and probably prevented their springing into my skaarm. Abraham, who was with me, now discharged both barrels of his gun, and while I held my rifle pointed at them he reloaded his, when I again fired with the same success. The lions not seeming inclined to beat a retreat, Molihié's courage was well tested, and he cried lustily for his master to come to his aid. Of course I could not comply with this demand, being myself placed in a similar position. Having continued firing till nearly all my ammunition was expended, I became more cautious, and taking deliberate aim, was delighted to find the bullet tell, and to see the lioness bound off with a growl. In this movement she was instantly followed by the rest; the troop, numbering ten in all, having besieged us for a short but anxious period, during which it seemed as if not even thunder and lightning could terrify them. After their retreat, we heard them for a long time tearing with tooth and nail at the second quagga which lay about 200 yards off, but having only three bullets left we did not dare meddle with them, although for the rest of the night we had the advantage of a bright moonlight. Having feasted themselves on the flesh of the quagga, and killed and devoured another, they came again towards the water to quench their thirst, but the recollection of our engagement with them some hours before probably checked their advance, as they halted midway and set up a terrific roaring. Two others also approached in a different direction with fearful roars, but Molihié having fired a shot which mortally wounded a white rhinoceros, the lions feared to venture near the water. Game of all sorts came and went in vast multitudes all night, many passing

within a few feet of us ; and I feel no scruple in affirming that, since the preceding evening, before sunset till the next morning after sunrise, excepting during the time of our being besieged by the lions, no less, at a moderate computation, than a hundred head of game drank at the spring every five minutes. This in ten hours would make the number 12,000, which, however enormous it may appear, is, I feel confident, far within the mark. The pool, about 400 yards in circumference, was all night kept in commotion, the splashing of the water, the din of clattering hoofs, and the lowing and moaning of gnus and their calves being mingled in discordant notes. The braying of quaggas was terrible, and the pond, excepting at one or two short periods while we fired, was never clear.”—(vol. i., 239-40.)

Turning to Mr Chapman’s contributions to geography and physical geography, we find that in some of the most valuable of his discoveries he has been anticipated. He was the first who crossed the continent from Lake N’Gami to Walvisch Bay, but his friend Mr Baines accompanied him on his return journey, and in his travels the geographical information obtained on that route was fully brought before the public. The country now for the first time filled in on our maps is chiefly that lying between Lake N’Gami and the Zambesi.

His observations on the physical geography of the countries he visited is very interesting and less known. Of Lake N’Gami we learn that it is the small remains of an immense sea, which, at a comparatively not very distant date, covered a vast extent of land now dry or turned into marshes and reedy swamps, one of which is upwards of seventy miles in circumference. The lake itself, although fifty miles in length and eighteen miles broad, is nowhere more than twelve feet deep, and it appears to be still further drying up and decreasing in size.

“This country, with all its pans, has the appearance of having been a lake of immense size. The supply of water which filled it in former days having no doubt been stopped far away to the north of Lebebé by some volcanic action, which has sent the water formerly coming hither in another direction. Dr Livingstone thinks the Victoria Falls have drained it. Is it not rather more probable that some gradual pressure from within has been slowly at work, which would account for the general desiccation of the country? Within the lifetime of some of the lake people and Mabobas the N’Gami has gradually receded a mile or more all round, and, within the knowledge of white men still living, fountains have everywhere been drying up. I have had abundant opportunities of noticing the same thing going on gradually during the last ten years. The natives coming from Lebebé also insist that one branch of the Teougé (or Okavango) diverges towards the west coast just in the same manner as the Tugela is said to diverge from the Orange River”—(vol. ii., p. 64).

“When I first entered this country (N’Gami district) I found many of those

ponds (salt pans), with an abrupt bank all round, and the water then, as was usual, nearly up to the top; but even in ten years a wonderful change has taken place, the water has gradually diminished, owing no doubt to the general desiccation going on, and in places where formerly I could swim we have now to go underground for a supply of water. Whenever late and heavy rains fall the natives say that things are very much better, though never as it used to be of old. They say the country is dead"—(vol. ii., p. 62).

Anderson noticed that the lake is subject to an ebb and flow, which he supposed to be caused by the moon's attraction, but Chapman, rightly considering that the attraction of the moon could have no perceptible influence on such a small body of water, paid more attention to the phenomenon, and found that it was merely caused by the prevailing wind at a particular season (easterly in the morning) driving the water over the very low beach on the opposite shore (as far sometimes as half a-mile) when it is said "to go out and feed," and then receding when the wind subsides in the evening. The same phenomenon extends even to the river opposite the town (which is two miles east of the junction), rendering the water-mark of the morning and that of the evening very different—(vol. ii., p. 311).

He also corrects another mistake into which Livingstone and Anderson both fell, in supposing the Botletlie to be an outlet of the N'Gami Lake. He tells us that about thirty years ago, or more, this was indeed the case when the lake extended over perhaps nearly twice the area it occupies now; but ever since that time it has had two confluences, but no outlet. The waters of the Dzo, dividing, help to supply the lake, but send the largest quantity of water eastward, through Chapo's-lagoon or reedmarsh (the size of which has been under-estimated), into the large Salt Lake. When the Botletlie river is very low, the whole of the water coming from the Dzo into the Tamalukan and Botletlie first flows westward for some distance until it has filled up for a certain distance the deep channel leading lakewards, and not till this is filled up will it have scope to run freely to the eastward, the residue then going westward into the lake. Neither the river nor the lake now ever alters its former fulness. The position of the large mochuerie trees on its banks point out the original water-mark. These trees always grow on the water's edge, and, now that the river is receding so far, many die off every year—(vol. ii., p. 311).

He tells us, moreover, that it sometimes happens that when the Chobé and the Tso or Dzo, which flows into the Tamalukan out of the Teougé, are full the water runs up the Tamalukan, and the

overflowing streams, meeting here, flood the Mahabe flats for many miles eastward, forming a sheet of water nearly twenty miles in breadth, where at other seasons not a drop can be found. At such times the river is navigable from the lake to Sebetoanes, and one might then travel in a canoe from Chapos at the terminus of the Botletlie to the mouth of the Zambesi, on the east coast, or for several hundred miles northwest of the lake from a very long way beyond Lebébés in the same direction. And if, as the natives assert, the Teougé branches off from another river beyond Lebébés flowing to the west coast, then it would appear that the continent of Africa is probably navigable for boats right across from east to west—(vol. i. p. 184).

A similar difficulty in defining the exact line of the water shed occurs in other parts of Africa, as between Lake Tchad and the Atlantic, and probably also more on the eastern side of the continent.

With regard to the numerous salt pans which mark the hollows in the country around Lake N'Gami we learn that some of them are of great size—that of Ntwetwe is 18 miles broad and upwards of 100 miles in length, and when in the middle of it the effect was that of being surrounded by a broad expanse of a calm and white ocean. To what cause are we to attribute these saline crusts or efflorescence? Does the salt proceed from beds of salt in older deposits? Are they the last dried parts of a salt sea? Do they proceed from the evaporation of fresh-water lakes, or are they the product of salt springs. Mr Chapman's description rather points to the latter two causes. He says :

“The underlying mud of these pans is an unctuous, tenacious, substance very like cement, and a hard greenish honey-combed cavernulous or vermiculated sandstone (?) lies scattered at intervals. In some of the smaller outside pans a hard white crust of limestone is found on the surface of the soil, which, having been broken by the hoofs of game, lies scattered around like flat pieces of ivory.

The springs on the north side of these pans have generally a bank of tuft which those south of the Botletlie, when they have a distinct bank, have it on the south side. Some of the springs are no more than little pits dug out of the bottom of sloping limestone hollows or ponds by the aid of a bushman's spade and a sharpened stick. Some of these ponds are broad and shallow, without any bank, and the surface is covered with loose shingle, while others are an irregular or more often a rounded fissure in limestone tufa, with two or three successive layers in the bank underneath. The pits or wells are generally filled with small rounded shingle, while outside is more generally a slope by which men and animals descend to the water. I do not think that the game has broken the banks to that extent, but they would naturally approach the water on the most accessible side”—(vol. ii., p. 61).

The deserts themselves are another very interesting subject of inquiry. We have often wondered whether the degree to which ancient sea bottoms are covered with vegetation might not be used as a measure of the relative time which has elapsed since they became dry land. Of course a great deal would depend upon accessory circumstances, and more especially the amount of irrigation enjoyed by each, but we imagine it to be indisputable that, *ceteris paribus*, the longer the sea bottom has been exposed the more will it be clothed with vegetation, and the higher will be the character of the vegetation upon it. And in a general way we think that this is visible in all the different raised sea-bottoms of any magnitude with which we are acquainted. Which is the seabed which has been most recently raised? We imagine the Sahara and its continuation in Arabia, the deserts of Scinde, the deserts in Central Asia, and the salt lake deposits between the Rocky and the Cascade Mountains in North-west America. What is their state? Unmitigated barrenness, nothing but sand and gravel, without vegetation, except in patches and spots favoured by irrigation. We have not space to turn a digressive eye upon the relative conditions of age and vegetation in these and the North American prairies of older exposure, the Brazilian forest plains, the pampas, the interior of Australia, etc. It will be sufficient to contrast the Sahara with the Kalahari and other deserts in the interior of Southern Africa. The original condition and latitude are not unlike, but they are immensely different in age; the Sahara the youngest, the Kalahari perhaps the oldest desert on the face of the globe; and what is their present state?—waterless deserts both—but the one a mere deposit of gravel or shifting sand, the other provided with a dense vegetation peculiar to itself. Mr Chapman thus describes the latter:

“The country over which we had been travelling since leaving the Bamanwato is called the “desert,” and travellers going to “the lake” from the colony are obliged to go round it by the course we were now steering as the most practicable. Could they make direct for the lake through the country of the Bakwain or Bawanketze tribes they might reach their destination in half the time. Though called a desert the reader must not picture to himself another Sahara, for although a sandy country and devoid of water, excepting a few scanty wells at intervals of forty or fifty miles, it is nevertheless fertile, the grass growing most luxuriantly, and large forests of trees of many kinds abound”—(vol. i., p. 54).

“We started at one o'clock the next day, and laboured through the heavy sand and dense bush, the oxen coughing and nearly choked. Although everything in this so-called “desert” grows most luxuriantly, and grass and herbs most exuberantly, we found no water”—(vol. i., p. 50).

“The desert here consists of a succession of sandy zones or bults, as the Dutch call them, of whitish sand running parallel to each other in a direction nearly east and west

In the sides of some of the bults, or sometimes on the summit, are found spots where water may be obtained by digging. These spots are known to the bushmen only, and yield abundance of water after a good rainy season; but sometimes the water recedes deep into the earth, and the bushmen then suck water from the damp sand several feet below the earth by means of a tube of reed buried in it, having a sponge-like tuft of grass inserted at the end. These water-yielding localities are indicated by the green colour of the grass in the driest season, and are always in the more loose and white sand”—(vol. ii., p. 297).

Useful information is given as to the course of the Zambesi, so far as explored by Mr Chapman; but, naturally, the chief interest, so far as relates to that river, concentrates on the wonderful Vic-



toria Falls. He gives three different views of them, taken from different points, one of which the publishers have kindly lent us for illustration. It is that taken from Garden Island, in the middle of the Falls. Want of space forbids us quoting the relative description; but, except for the unusually vivid tints of the rainbow, dwelt on by all who have seen them, which, of course, cannot be done justice to in any picture, the sketch scarcely requires interpretation.

In like manner, the accompanying sketch of their crossing the river above the Falls to Garden Island, in the very middle of the Falls (so called from Dr Livingstone having fenced in a portion of it, and sown it with useful seeds, all now broken down and destroyed by the wild animals), must supply the place of his account

of the passage. This descent must obviously have been rather a nervous affair; in the event of a capsizing nothing could have prevented their all going over the Falls. The perilous course is conducted by the steersman in the bow, who steers as much by the pressure of his feet as by the action of his paddle; the skiff obeying their pressure something in the same way that a well-trained horse does the pressure of the knee of his rider. Looking at the sketch, and the description, we found ourselves soliloquizing "Facilis decensus averni—how in all the world did they get back?" Mr Chapman, assuming that his subsequent career is sufficient evidence that they did get back, omits to mention how; but on turning to Baines' book, we find that this, as we expected, was the



worst part of the job. The boatman, Zarzela, had to send repeated messages to the enraptured sight-seers, warning them that it was time to go, as the journey back was toilsome and dangerous. We do not know whether the Canadian boat song has yet penetrated into Central Africa, but "Row, row, brothers row, for the stream runs past, the rapids are near, and the daylight's past," would decidedly have been appropriate; we learn, however, from Chapman that "God save the Queen" has made its way there, and that he was surprised by hearing it and "Lucy Neal," and one or two others of our simpler melodies, sung in the kraals of native tribes who had probably not seen a dozen white men in the course of their lives.

But we must hasten on to what deserves more of our space than we have left for it—Mr Chapman's "Contributions to Natural History." His editor, in the preface, anticipates that this will prove one of the most attractive parts of the book, and in one sense he is right. If he speaks of his contributions as a field Naturalist, we heartily endorse his opinion—if he speaks of his work as a closet Naturalist, we are bound to say we cannot. Mr Chapman wants the necessary grounding and special education to fit him for dealing with natural history as a scientific Naturalist. He does not sufficiently know what has been already done; things which strike him as remarkable, and which are recorded as such, are familiar to the merest tyro in the schools. When a doctor reads this book, and comes to the information that, after Chapman recovered from a fever, the cuticle rubbed off his whole body—(vol. ii., p. 283)—he will need no ghost to tell him that the author is not a medical man; so, when a Naturalist finds him recording the discovery of a trap-door spider's nest as a great curiosity—(vol. i., p. 38)—and speaking with interest of the surveying caterpillars standing on the points of their tails—(vol. ii., p. 294)—he at once knows that he is not dealing with a trained Naturalist. Mr Chapman has all the natural qualifications for a first-rate Naturalist, but he wants the reading and training, without which it is impossible to perform the work of the scientific Naturalist—and yet he attempts this. In ignorance of the points requiring attention, and of the characters on which specific differences are based (or if not ignorance, at least in defiance of them), he gives descriptions of new species, and amendments of old ones, which, with all the desire in the world to speak well of them, we cannot, in consistency with our duty as an honest critic, refrain from condemning; when we mention that there are descriptions of mammals under native names, without indication whether they are new or not, and without a word as to their dentition, their feet, or anything but their colour, we have said enough. The editor, in his desire to do justice to Mr Chapman's labours, has shewn a want both of courage and discretion in not suppressing the whole of his attempts at description. It would have been an advantage to all parties had he done so, and, instead, given us more of his observations on the habits and peculiarities of the animals themselves. It is there that Mr Chapman shines—as an observant field Naturalist, he is everything that could be wished. The whole book teems with instances which we long to adduce. Some we must give, and we think that

perhaps our best plan will be to select one animal, and bring together all the unconnected notices which we can find relating to its habits, instead of picking out single—perhaps more striking— anecdotes regarding a variety of animals or plants. It is plainly impossible that we can transcribe everything of this nature that is to be met with scattered throughout the volume. We shall take the elephant as our subject.

Here is an adventure that will remind the reader of one incident in the history of a still more celebrated elephant hunter, Sinbad the Sailor. It occurred in pursuit of a bull elephant that Mr Chapman had wounded—

“At length I found myself in an extensive mogonono field, swarming with elephants in every direction, crushing down the bushes with a sound resembling the roaring of waves. Not knowing in which direction to turn, I climbed a mokala (camel-thorn) tree, of which there were a few about, and which seemed to be the standing-place of numerous elephants every day. On reaching the top of this tree, I found myself surrounded by elephants, mostly cows, in every direction, in groups closer than I ever dreamt of. My position not being very enviable, I sat in breathless suspense observing the movements of the numbers of gigantic animals round me on every side. At the distance of about 120 yards to the eastward of my position, I soon discovered the old bull which I had followed, surrounded by a group of about a dozen cows, caressing and fondling him; some of them dashing him with water from their trunks, others with sand. Those elephants below his wind, probably scenting his blood, lifted their trunks, and after smelling a moment, gradually moved off. The elephants below me were working their trunks about, but made no effort to move out of the bush in which they probably considered themselves concealed; while groups, in other directions, that seemed to have got over the alarm caused by the reports of our guns, were moving slowly, followed by their calves, breaking down the branches, and pulling up young shoots and grubbing roots, which they strewed before their young with an air of the most maternal solicitude. A shot fired on the outskirts by my servant, Abraham, drove a troop towards my position, and another and another shot seemed to be bringing masses of cow elephants from every direction round me; but to my great relief, as if actuated by one impulse, the foremost began to move into two parallel files, one on each side of me.”—(vol. i., p. 154.)

The following are some minor details :

“It is worth mentioning, by way of caution to South African hunters, that most elephants recover their powers of doing mischief after appearing to be mortally wounded, unless they have uttered their death-groan. I have known them to fall four or five times, as if dying, and then rise again.”—(vol. i., p. 89.)

“In some places, and in some seasons, these animals (elephants) drink only every other night, and then go far to feed. In parts where they are much hunted, they remain two nights away from the water, and return every fourth.”—(vol. i., p. 88.)

“In localities where elephants abound, they generally frequent the same forest at the same time every day, to stand (sleep) in the shade at noon.”—(vol. i., p. 154.)

“The elephants in this part seem now quite to understand what a ‘skaarm’ (screen or ambush) is, and I observe at every watering place we come to, the old skaarms have generally been destroyed by the elephants, who have scattered the logs about and trampled the holes full of earth again.”—(vol. ii., p. 92.)

“On the 21st we had another tedious and unsuccessful hunt, following the trails of a hundred elephants or more; but we could perceive by this processional sort of movement that the animals must have taken fright, and were on the move into another district. Indeed, many other troops of elephants that seemed to have been browsing fearlessly, discovering their trail, seem also to have taken the alarm, and followed it at once.”*

“On the islands (above the Falls of the Zambesi) as we passed, I noticed the elephants had everywhere been committing their depredations, destroying numerous trees. These islands are their favourite resorts, abounding in fruit and other trees, of which they are very fond. They come regularly to pick the wild dates and almonds, mokachon, and the many other fruits that abound; and with the sagacity of a man, coil their powerful trunks round the stem of the palm trees, to shake the clustering fruits to the earth, not being able to break the tree. I have never seen one broken or overthrown, slender as they appear.”—(vol. ii., p. 132.)

“The rest had now escaped, except one, attacked by Mr Campbell, whose gun I heard at intervals of a few minutes. Riding in his direction, I found he had expended all his ammunition, eighteen bullets, and wanted my assistance; so, having headed the animal after a smart gallop, one bullet from my double-barrelled Blisset brought him to a stand, and three more to the ground, just as the moon’s beams began to penetrate through the foliage of the trees, which all around for several yards were besprinkled with blood dashed from his trunk. After receiving the last bullet, the poor beast twisted his trunk around a very frail tree, by which he tried to support his ponderous frame; but the tree, as well as his legs, soon gave way, and he sank expiring to the ground.”—(vol. i., p. 151.)

“Occasionally we come across trees which have been broken by the almost irresistible strength of the wild elephant; trunks of even 3 feet in diameter being sometimes snapped in two.”—(vol. ii., p. 289.)

“Looking round, I beheld Molihie in a somewhat similar plight to what had just been my own, being chased by the elephant he had singled out. But the most extraordinary part of the affair was this: the elephant not being able to overtake his enemy, I saw him pull up successively two trees by the roots, and cast them after Molihie, nearly striking his horse with one of them. This singular act of sagacity surprised me not a little, being under the impression at the time, as I am to this present day, that the act of thus hurling the trees was not accidental, but intentional. Each of these trees was nearly 20 inches in diameter [query circumference], and they were thrown 12 or 15 yards from the

* These sagacious animals always know by the appearance of the track of their own species whether it has been made in flight, though the track be several days old, and they are sure to follow.—(vol. i., p. 71.)

spot where they grew, so that, leaving the intent out of the question, it was in itself a prodigious feat of animal strength.”—(vol. i. p. 251.)

“Next morning we awoke at a late hour, and breakfasted on part of an elephant's trunk, which was baked in a pit during the night, in the way before described, and was soft as a jelly, resembling very much the flavour of ox tongue. The foot, a joint from which twenty men can dine, is also exceedingly fine, being a white, crisp, and grizzly kind of substance, strongly ingrained with fat, and, though rich as marrow, one may eat any quantity without feeling surfeited; but a certain portion of the head and cheek of a fat elephant cow is by far the most delicious morsel.”—(vol. i., p. 33.)

“Elephants' lard is the most cooling and beneficial ointment for all inflammatory wounds, that can be obtained.”—(vol. i., p. 160.)

“They had rubbed themselves well with the fat of the elephant, an operation in which they particularly delight, as it softens and cleanses the skin, cures all scrofulous diseases, and it is, moreover, a non-conductor of the heat of the sun.”—(vol. i., p. 155.)

“I noticed, while walking the other day, that one of my men picked up quantities of almonds, far away from any signs of the tree. On inquiry I found they are dropped in the excrements of elephants, in an undigested state, and the natives tell me, that by following at this season on an elephant's spoor, they can always obtain a sufficient quantity for a meal in a short time. I noticed that wherever the elephant halted they found from a dozen to twenty or thirty.”—(vol. ii., p. 141.)

The same thing is recorded of other similar fruits :

“A small dull-green fruit tree bears a fruit which is called in Natal an orange. It is of the size of a large orange, with a hard rind, is of a yellow colour when ripe, and has a delicious odour. The seeds contain a good deal of strychnine, but they are not eaten by man. Elephants however eat seeds and all in great quantities, but pass the seeds in an undigested state.”—(vol. ii., p. 145.)

“The elephant apparently is very fond of the mosela (the finest of the acacias), which, so far as they can be reached by an elephant, about 25 feet, are everywhere nibbled off.”—(vol. ii., p. 47.)

The following is a curious incident difficult of explanation :

“I bought here,” says Mr Chapman “a piece of a bull tusk, weighing 18 lb. Dutch, which was found in the stomach of one of the elephants killed by them on the Shesheke. The two had evidently been fighting sometime before, but there were no external signs of the hide having been penetrated, the elephant being quite hearty, and the wound having closed up again.”—(vol. ii., p. 176.)

It would have been interesting to know the form and dimensions of this piece of ivory; also, whether by the word stomach Chapman means the stomach literally or only the belly. Mr Baines, to whom we applied for particulars on the subject, uses the latter term. He writes us :

“The piece of ivory found in the belly of an elephant was deposited in the Cape Museum. Mr Chapman was well satisfied with the testimony of the

hunters who found it. The only difficulty is to account for its breaking off in so soft a part as the belly of an elephant; perhaps it might have been previously fractured."

We are more disposed to think (notwithstanding its great size) that the mass of ivory had been swallowed. It could never have penetrated the true stomach, and not only the animal survive, but the wound close up, leaving no trace; and it is only a little less difficult to suppose that it could have done so in the abdomen proper; still, that is possible; we imagine the other to be impossible.

But by far the most interesting novelty regarding the elephant recorded by Chapman, is the occurrence of an individual with nine tusks. This was also mentioned by Baines in his "Explorations in South Africa;" but his account seems not to have excited the attention it deserves. The reader will presently see that it is an abnormality of the most intense interest. Mr Chapman's account of it is as follows:

"The elephant killed by Molefi, otherwise called Rapiet, six years ago on the Teouge, and which attracted notice from the singularity of its having no less than nine perfect tusks, was, he told me, a male. The tusks were ranged five on one side and four on the other. I purchased some of the tusks at the time, but they had been mixed up with many others, and, when I heard of the peculiarity, they could not be identified. I got Molefi to describe the affair over again, and Baines made a sketch from his description."—(vol. ii., p. 98.)

The above does not tell much, but Mr Baines has had the kindness to look out his sketches of the elephant for us, and most liberally allowed us to use them; and on examining them we find them so full of interest that we shall devote a separate paper to their consideration (see page 265), to which we beg to refer those readers who may be interested in the subject.

In the same way we might go over the lion, leopard, buffalo, rhinoceroses, giraffes, antelopes, and the other principal wild animals inhabiting the interior of South Africa, and give similar notanda of their habits and peculiarities; the reader will find the book a perfect storehouse of such information, but we must be sparing.

Of the lion we may note that although plentiful and daring in some places, and often heard, it must be rapidly diminishing in numbers. Chapman mentions that, notwithstanding all his advantages, he had only killed seven during all the years of his wanderings—

“In some parts, indeed, the natives do not kill either lions, wolves, or wild dogs, regarding these animals as hunters of game which they turn to their own account.”—(vol. i., p. 93.)

On the other hand, the lions sometimes look upon the natives from the same stand-point of their own advantage, treating villages of them as private preserves of game. Chapman gives an instance of this in the district where he found them most numerous:—

“In parting with my cattle, I requested Awraal to permit me to send them on to the extreme eastern boundary of his country, at Elephants’ Klof, but he dissuaded me from this project, assuring me that the lions had of late become so daring that no human being could live there. The Damaras and bushmen who had escaped their ferocity had been obliged to remove to a district north-east of this place. The cowardice shewn by these poor people had of late made the lions so bold that nothing but human flesh seemed to satisfy them, nor did their huts, fires, and fences, afford them the slightest protection. Some of Awraal’s people who were returning the other day from a giraffe hunt, were assailed by a troop of these daring animals in open daylight. The lions sprang upon the pack-oxen, who ran wildly about under the weight of their rough jockeys, plunging madly until fortunately they had disencumbered themselves of their bundles of meat as well as their rude riders; the lions contenting themselves, after having a few shots fired at them, with the meat they had seized. Another party of these hunters the same day came upon the carcass of a Damara recently killed and partly eaten, and every night this same party were kept awake or had to make circular fires around them, leaving their dogs to fight off the brutes until daylight. So changeable and uncertain is the character of the lion that in some districts by daylight he is timid as a mouse, and will scarce venture to attack man even by stealth and by night; but when he comes upon a famished or mean-spirited race, he keeps near a village and treats its inhabitants as though they were his flock of cattle, killing them as hunger urges. A hungry lion is a most daring animal; there is nothing that he will not dare in broad daylight and in the most impudent manner, driving you off from your own game, or following you up in open ground under every disadvantage to himself. But such cases are rare, and they are generally either driven to it by hunger, past success, or a keen relish for human above all other flesh. The general disposition of a lion, like that of all other animals, is to avoid man, and the districts which he haunts in South Africa being as yet abundantly stocked with game, man seldom becomes his victim.”—(vol. i., p. 420.) “The natives, too, assert that lions and all other beasts of prey are more daring when the men are away from their houses and villages, which they soon smell out.”—(vol. ii., p. 303.)

Mr Chapman passes the different species of rhinoceros in review, and gives his opinion as to their distinctness. He is inclined to admit two species of white rhinoceros, in which we think the majority of naturalists will not concur.

Among the rare animals met with by him, the water buck (the

only antelope of truly aquatic habits), the sable antelope, and the new quagga, first described by Mr Layard, and called *Equus Chapmanni*, after our author, are perhaps the most interesting: all, however, better known to naturalists in this country than he seems to be aware of. He speaks, however, of a variety of buffalo, which, from his description, seems not unlikely to be really a new species—although he has not included it in the appendix among those which he so reckons. Near the Banabea village of Borogo, near the Chobé, he shot two of them, which although aged, he found differing materially in the size of both body and horns from those he had seen in other parts. Their bodies were short, their horns very much so, and twisting very abruptly (vol. I., p. 184). It may be worth the while of future travellers to examine them more closely.



Chapman's new Quagga (*Equus Chapmanni*. Layard).

More than one antelope and a number of birds are probably new.

The spider referred to in the following passage is also apparently undescribed :

“The road is so crossed with the silken web of large spiders, that it is difficult work getting through them. I generally have April before me with a branch beating it down. Sam, who took his place on one occasion, is so short that he only half did the work, and I had constantly to hold my hands before my face. In spite of this precaution, my hat was coloured yellow, and my face frequently covered over as with a veil. The silk when taken from the branch

is dirty, full of flies, beetles, butterflies, and locusts. I have seen birds securely bound in these strong silken cords. It has a very unctuous feel, and to this property is due the spiders' great success. I have got a small sample of clean silk also."—(vol. ii., p. 293.)

A good deal of desultory information is given as to the fruits and cultivated vegetables of the country, but too often without means of distinguishing the plants, except by the native names. The following statement as to producing bitter and sweet melons from the same seed by different treatment, may be interesting to horticulturists, not on account of different qualities proceeding from the same plant (*that* is known to occur in other species); but on account of the statement that the kind can be determined by the manure :

“It appears strange that one melon seed should produce both bitter and sweet or sourish melons, which is the fact, though it has puzzled many travellers, who generally believe the melons are two different species, but this is not the case, and it all depends upon the manure it gets. The seeds deposited with the dung of elephants are bitter, those manured by the white rhinoceros sweet. Sometimes they are mixed on one field, at other times the sweet melon are sought in the grazings and near the haunts of the rhinoceros. The bitter melons are not always eaten, on account of their extreme bitterness, but the seeds being taken out and pounded between two stones, the meal is boiled into a nice pottage, or eaten raw.”—(vol. i., p. 297.)

A case exactly the converse of this is also mentioned, where the same plant is poisonous to one animal, and harmless to another. It appears that a *Euphorbia* and another milky bush is used by the Berg Damaras to kill numbers of animals, by infecting pools of water with their juice, and that they also kill the white rhinoceros with the drug, although the black one eats greedily of the same bush with perfect impunity—(vol. i., p. 342.)

There are instances of something similar occurring in other animals which prevent us hastily setting this aside as erroneous, but we have not space to describe them.

The kinds of domestic animals kept by the natives in the interior are not numerous.

“None of the natives that I have yet seen have any cattle or goats, but fowls and dogs are common. The latter are very small, but have great spirit and endurance, enabling their masters to kill the largest animals with their aid.”—(vol. ii., p. 207.)

“The dogs kept by the natives are all a very diminutive mongrel species, very weak in giving tongue, and with little spirit.”—(vol. i., p. 93.)

“We were under the necessity of driving them (the natives) off with our dogs, of which, owing to their superiority in size and bark over their own dogs, they have a great dread.”—(vol. i., p. 92.)

They have domestic fowls, apparently a variety of the barn-door chuckie, which is found over the whole world; and finding them thus in the heart of Africa, although of a distinct variety, may suggest doubts as to that invaluable member of society having been derived from the Bankiva fowl, and give rise to the inquiry whether the Bankiva fowl is not an offshoot of our common species run wild, instead of the wild origin of the tame breed. At any rate Mr Chapman found that the Makololos had a breed of very small fowls, like bantams, not remarkable for beauty of plumage, but exceedingly prolific, some hens laying two eggs regularly every day; and he observed, that one of the hens with chickens only a month old, was again laying.—(vol. ii., p. 147 and p. 253.)

Of the geographical distribution of plants and animals something is also to be learned. It would appear that a ridge between the Shua and the Gwai rivers formed the boundary between two Faunas, or sub-Faunas. The rivers here flowed in opposite directions, and new birds came into view while others disappeared.—(vol. ii., p. 95, 96.)

North-west of Lake N’Gami, vultures were scarce. Elephants shot were not found by them for three or four days, during which they did not make their appearance. He remarks that the adjutants were more numerous on the carcasses than the vultures, and must have come from a very great distance—(vol. ii., p. 20)—thus confirming Sir Samuel Baker’s observation, that they occupy the highest stratum in the heavens, and come from the greatest distances.

At Kopjes (south-west of Lake N’Gami) one fennec and one guinea fowl were got. Giraffes were not rare near Walvisch Bay. The Cerastes or horned snake is common everywhere, from the Cape to Ovamboland, on the west side of the continent. In Ovamboland particularly, Chapman’s brother found them so numerous after a fall of rain (for contrary to the general opinion Mr Chapman maintains that snakes do not like great heat) which succeeded a severe and long continued drought, that the ground was covered with these venomous reptiles, so that they could hardly walk without treading on them.—(vol. ii., p. 26.)

Glow-worms are plentiful in some parts, which is quite in

accordance with their known geographical distribution; but we think he must be in error when he says that "there is a larger kind, which evidently belongs to the Elateridae"—(vol. ii., p. 245). If so, it is the first "fire-fly" recorded out of tropical America, with the exception of the remarkable genus *Photophorus*, which comes from the New Hebrides, Fiji Islands, and New Caledonia. He speaks of a bright scarlet glow-worm. If that is the colour of its integuments and not of its light, it will be interesting, as probably belonging to the *Lycidae*, many of which are brilliant red, the family next the glow-worms (none of which are red), but of which none have hitherto been met with that are luminous.

After quoting so liberally from Mr Chapman's pages, we need not occupy the time of the reader with further criticism on their contents. We have sufficiently shewn our opinion of their merits, and we heartily wish them all success.