

THURSDAY, AUGUST 1, 1872

DR. LIVINGSTONE

THE publication of two letters in the *New York Herald* from Dr. Livingstone has thrown some new light upon the discoveries on which the famous traveller has been engaged since 1867. The letters purport to have been written by the great traveller himself, but they bear unmistakeable marks of having been manipulated to suit the tastes of the readers of that very sensational newspaper. Yet, until the traveller's own journals are before the world, we must be content to gather as much information as may be picked up from this source, doubtful though it be.

These discoveries include the great mountain range separating the drainage of the Zambesi from that to the northward; a great valley receiving numerous streams, which Livingstone believes to be the true sources of the Nile; and a beautiful lake, called Liemba, which appears to form the southern extreme of Tanganyika. But the chief interest centres in the great valley commencing south of Lake Tanganyika, from which it is completely separated by intervening hills, and then turning to the north and west. It receives a vast quantity of rain, and appears to be subject to inundations. Its river, from its source in the southern mountains to Lake Bangweolo, is called the Chambese. Thence it turns due north, and flows, under the new name of Luapula, past Cazembe's town—first visited by the Portuguese—into Lake Moero. The great river then forces its way northward through the mountains of Rua, under the name of Lualaba, and spreads out into a vast lake named Ulenga, or Kamalondo, in the Manyema country. It then takes a westerly, and for a time even a southerly course, under the name of Lufira, spreading out into a lake called Lake Lincoln by the explorer; which also receives another important feeder from the mountain range to the south, called Lomame. Finally, the now mighty river turns to the north and enters an unknown land; for this was Livingstone's farthest point. But he heard that it flows into another unvisited lake, called Chowambe, and he believes it to be the Nile.

The discovery of this valley for an extent of some 700 miles, with its great river, receiving numerous affluents and flowing through four great lakes, has occupied Livingstone for the last five years. During 1867 and 1868 he crossed the mountains from the Zambesi valley, visited Cazembe, followed the river through two lakes, and traced it until it passed into the gorge of the Rua mountains. He then turned aside to the Tanganyika lake, to pick up the supplies that he expected to find at Ujiji, on its banks. His last letter was dated from Ujiji, on May 30, 1869. From Ujiji he set out to complete his work by connecting the Lualaba, where he left it in the mountains, with Baker's lake. But this expedition seems to have been a failure. He indeed crossed Lake Tanganyika again, penetrated into the Manyema country north of the Rua mountains, and traced the great river for some distance farther, and through two lakes, until he found it

to be flowing due north. But here his men became mutinous, and he was obliged to return to Ujiji last year disheartened, and sorely in want of succour and fresh supplies.

That succour was at hand. Never has traveller been so keenly watched by those at home; never has assistance been forwarded with such lavish generosity. Fortunately Livingstone's old friend and fellow-traveller, during six long years of hardship and anxiety, Dr. John Kirk, had been appointed resident medical officer at Zanzibar, and he has superintended the measures for the explorer's relief with affectionate and untiring zeal. The first supplies, however, which Livingstone found at Ujiji in 1869, were sent up by Dr. Seward, Kirk's predecessor. Kirk sent up a second supply, while Livingstone was in the Manyema country, a great part of which was stolen by the men in charge. The mistaken policy of entrusting these supplies to natives was not Dr. Kirk's, but was apparently adopted under orders from the Foreign Office. A third large instalment of supplies was sent up, and Kirk zealously superintended its despatch from the mainland at Bagamoyo. It safely reached Unyanyembe, and has been of the greatest service to Livingstone. But the Geographical Society, and the people of England, were not satisfied with these measures. The great Explorer had not been heard of since May 1869, and an expedition was resolved upon to seek him out, and relieve his necessities. Liberal subscriptions, amounting to upwards of 5,000*l.*, poured in, and, as is well known, the Expedition sailed for Zanzibar under the brightest auspices last February. Thanks to the hearty and zealous co-operation of Dr. Kirk, the equipment was completed on the 27th of last April, and the members of the Expedition were on the mainland, and ready to start for the interior. Had it not been for an unforeseen intrusive element, in the shape of the Correspondent of a sensational American newspaper, all would have gone well, and the Explorer would by this time have been fully furnished forth with all necessary supplies and instruments, and with assistance which would have ensured the verification and completion of his discoveries. We cannot but feel that the members of the Expedition committed a very grave error in judgment in abandoning their work on very insufficient grounds.

It seems that the editor of the *New York Herald*, in looking about for fresh startling sensations wherewith to feed the appetites of his public, turned his attention to Livingstone and his discoveries, and despatched a correspondent to "interview" the great traveller, and so furnish new material for those large type headings and wonderful paragraphs in which that well-known paper delights to indulge. So far no harm had been done, except that a *New York Herald* "Correspondent" was the very worst messenger that could have been selected. For it was to his interest to keep all he had done, all Livingstone had told him, a close secret until a wondrous version of it could appear in New York. Carefully concealing his object while at Zanzibar, the correspondent advanced into the interior, found Dr. Kirk's ample supplies waiting at Unyanyembe, and after some difficulties caused by his own mismanagement, reached Ujiji, where he found Dr. Livingstone. There is some mention of Mr. Stanley, the correspondent,

having accompanied Livingstone on an excursion to the northern end of Lake Tanganyika; but this statement has not yet been corroborated by the great traveller himself. Livingstone then proceeded to Unyanyembe, which is about a third of the way from Lake Tanganyika to the coast, where he found the supplies sent up to him by his old fellow-traveller, Kirk. Here he awaits further supplies, before setting out on a fresh expedition of discovery; while the correspondent set out for the coast, after having "interviewed" the great traveller to his perfect satisfaction, and having obtained material for a whole series of sensational articles.

Mr. Stanley certainly did useful service, which deserves acknowledgment, in passing on from Unyanyembe to Ujiji, and announcing to Livingstone that the supplies were waiting for him at the former place. But this service has been marred by his subsequent conduct. His duty to his employers obliged him to keep Livingstone's countrymen at Zanzibar in as much ignorance as possible, and to withhold all information; and it is for his employers, not for Livingstone's countrymen, to thank and reward him. But how is it that the lonely traveller had his mind poisoned against his warmest and truest friend, who had used every means to send him help, and through whose exertions Livingstone had actually been put beyond immediate want at Kazeh? How is it that the ungrateful message was imputed to Livingstone, that he wished all relief expeditions to be turned back? How is it that one of Her Majesty's Consuls, the great enemy of slavery, is stated to have sent down to Zanzibar for slave chains? How is it that Livingstone's letters to his friends are still detained by him to whom they have been entrusted? None of these acts were obligatory, as regards duty to the New York employers. Judging him even by his own lights, the "Correspondent" has exceeded his duties to his masters, and has proportionately injured, unnecessarily, the great traveller out of whom capital was to be made. Mr. Stanley's secrecy, and refusal to give any information concerning Livingstone and his wants, to his countrymen at Zanzibar, has been most injurious to the great traveller's interests; while the system he is now pursuing of withholding Livingstone's private letters to friends, and even his despatches to the Foreign Office, is most unjustifiable.

We must repeat that the abandonment of the Relief Expedition, on the ground that its work had been anticipated, was a very serious, and may become a very fatal, mistake. The correspondent's secret proceedings ought not to have influenced the open and clearly-marked course of the Expedition in any way. Their duty was to relieve and assist Livingstone, and nothing should have turned them from it. As it is, only a party of fifty men, commanded by an Arab, has been sent up to Livingstone, with stores, arms, and other equipments entirely supplied from the funds of the English Search and Relief Expedition. But, in a letter dated June 3, unfavourable reports have been received of the character of the man who commands this party, and it may never reach its destination.

Dr. Livingstone, it is stated, intends to continue his travels for two years longer; but it has not yet transpired in what direction he will turn. He will probably endeavour to complete the examination of the great river which he believes to be the head stream of the Nile; or he may

turn his steps south, as we conjectured in a former number, and solve the interesting geographical question connected with the drainage of Lake Tanganyika. He still has a vast field of discovery before him, and his countrymen will continue to watch his proceedings with warm sympathy and interest.

NICHOLSON'S INTRODUCTION TO BIOLOGY

Introduction to the Study of Biology. By H. Alleyne Nicholson, M.D., D.Sc., &c. &c., Professor of Natural History and Botany in University College, Toronto. (Blackwood, 1872.)

THIS book is an attempt to give a general view of the phenomena manifested by living beings, and to form a sort of basis for a more detailed study of some special branch of biology. It commences with an account of the differences between living and non-living matters, and with a discussion of the nature and conditions of life; then the distinctive peculiarities of animals and plants are considered, and the principles of biological classification laid down. There follow short chapters on the elementary chemistry of living beings, on the chief physiological functions, and on the varieties of the developmental process; and disquisitions on spontaneous generation, on the origin of species, and on distribution in space and time complete the volume.

In his preface the author states that his work is intended to be elementary, and useful at the same time both to the student and the general reader. This double object he can hardly be said to have succeeded in attaining. The book throughout is just one to interest the non-scientific general reader, but not one which can be recommended as fitted to lay a sound basis of biological knowledge in the mind of a student. Instead of describing typical instances minutely, and from them deducing the laws of life, the author, with few exceptions, deals throughout in generalities. Protoplasm, for example, is described, but no detailed account is given first of such a body as an amoeba, or a white blood corpuscle, which would be much more fitted to leave on the mind of a beginner a clear and definite idea of the nature and properties of protoplasm than would any abstract account of its characters in general. So, again, no typical animal or plant is described in detail; but there is a chapter on the general differences between animals and plants, and, as scarcely any character of either can be mentioned to which there are not exceptions, the result of this method can only be to produce a very dim and confused state of mind in one new to the subject.

There are, however, worse faults than this in the book. There is a general retrograde tendency in it towards the point from which physiology has of late years been progressing—that of considering the actions manifested in living bodies as due to a source of energy essentially different from that of all other actions. A curious instance of this is found in the second page of the book, where among the differences between dead and living bodies, the author cites the fact that all the actions of living bodies are accompanied by a corresponding destruction of the matter by which these actions are manifested; of