

simple, unaffected style. For many centuries China has had the monopoly of supplying the Thibetans with tea, of which they are most extensive consumers. The Lamas of Thibet have the exclusive privilege of retailing this tea, and both they and the Chinese naturally do all in their power to prevent the possibility of any rivalry in the lucrative trade. It was on this account that Mr. Cooper was prevented from completing his intended journey from Shanghai overland to India. In the present work the author describes an attempt which he made to penetrate into Thibet from the Indian side, for the purpose of discovering whether it would not be possible to open up a way for the introduction into that country of the abundant produce of the Assam tea-plantations. He proceeded from Calcutta to Sudiya, on the north-east frontier of Assam, from which, after making all due preparations, he set out on his adventurous journey in the latter part of 1869. Notwithstanding that Mr. Cooper was accompanied by a Khamtee chief, Chowsam—a fine manly fellow—who knew the country well, and was feared and respected by the people through whose country Mr. Cooper had to pass, the latter, amid great hardships, succeeded in penetrating north-eastward along the Brahmapootra, only about 100 miles, when, through the determined opposition of the Thibetan officials, he was compelled to turn back. No doubt Mr. Cooper failed in accomplishing the object on which he had set his heart, but his journey has been the means of giving to the world a book full of interesting information about the peoples and the countries where he sojourned, both in Assam and the districts just beyond its north-eastern frontier. The book contains a great deal of information on the present and past condition of Assam and the Assamese, and much information on the state of the tea-cultivation in that country. Mr. Cooper is particularly observant of men and manners, and most readers will find in his book a great deal that is quite new concerning the small tribes that live along the route by which he attempted, in the interest of commerce, to enter Thibet; his description of the Khamtees is especially interesting. Mr. Cooper does not pretend to give any scientific record of the natural history of the country through which he passed, though he makes occasional observations that may interest naturalists. The following description of the land-leeches which pestered him during his journey, seems to us particularly interesting:—

“Of all the hardships and unpleasant sensations experienced in the Assam jungle none have left a more disagreeable recollection than the attacks of land-leeches. Often, on sitting down, I could count a dozen of these little animals hurrying from all directions to their prey. In length they are about an inch, while their thickness does not exceed that of an ordinary sewing needle. Their mode of progression is curious in the extreme. Fixing one extremity by means of its bell-shaped sucker firmly on a leaf or on the ground, the leech curves itself into an arch, the other end is then advanced till the creature resembles a loop, again to expand into an arch, but the movement is quicker than words can describe it; the rapidity with which they thus progress along is quite startling. As they occasionally rear themselves perpendicularly and sway about from side to side, taking a survey round them in quest of prey, the observer cannot fail to conceive a dread of the bloodthirsty little creatures. They exercised quite a fascination over me. I could never resist watching them whenever I took a seat. Their power of scent was evidently keen. At first they would hold themselves erect, then suddenly, as though they had just discovered my whereabouts, they would throw themselves forward and with quick eager strides make towards my unfortunate body, and it was a long time before I could restrain a shudder at their approach, but use does wonders, and at last I used to flip them off my clothes and hands, Khamtee fashion, with great indifference. There

are several species of leeches in Assam, but I have only come in contact with three kinds: the common brown one, just described; the red, or hill leech, which is larger than the former and of a light red colour, inflicting a venomous, though not dangerous, bite; and the hair-leech, so called by the Khamtees from its great length and extreme tenuity. This last description of leech lies in wait in the grass, and as animals feed it enters the nostrils and fixes itself firmly in the interior, where it takes up permanent quarters, causing the poor beasts great irritation. It seems to inflict itself entirely on animals, which is fortunate, or man would suffer greatly from this scourge of the jungle.”

Mr. Cooper has done well in telling the world the story of his travels.

Transactions of the Albany Institute, vol. vii. (Albany, U.S., 1872.)

THIS institution is one of the oldest of its kind in America, having been originally founded upwards of eighty years ago, just after the conclusion of the American War of Independence. At present it is one of the most comprehensive and active of the American societies, its sphere of work embracing all departments of literature and science. In an eloquent annual address, which is the first paper in this volume, Orlando Meads, one of the oldest members of the Institute, sketches its history, and gives reminiscences of some of the most eminent men who have been connected with the Society, including several who have left their mark on the country. A characteristic feature of this volume is the reports of what has been done during the year, both in America and Europe, in the various divisions of science and literature, the institution being divided into three departments—Physical Sciences and the Arts, Natural History, and History and General Literature, and these again into a number of classes. Thus we have in the present volume, reports on botany, zoology, chemistry, and general literature. Of the papers in this volume we may notice one on Nitro-glycerine, as used in the construction of the Hoosac Tunnel, by Prof. G. M. Mowbray. The author traces the history of the dangerous article, gives an account of his own investigations regarding it, and describes the method in which it was used in boring the Hoosac tunnel.—On certain new Phenomena in Chemistry, by Verplanck Colvin, describes some very remarkable experiments in amalgamation made by the author. From Newton to Kirchoff, by Dr. L. C. Cooley, traces in an interesting way the progress of research on Light during the period indicated; and in *Researches in the Theory and Calculus of Operations*, by J. A. Paterson, we have a most elaborate and intricate investigation on the theory of the actions of various forces of Nature. Mr. C. H. Peck contributes a *Synopsis of New York Uncinulæ*.

LETTERS TO THE EDITOR

[The Editor does not hold himself responsible for opinions expressed by his correspondents. No notice is taken of anonymous communications.]

Microscopic Examination of Air

IN support of the conclusions arrived at by Mr. Douglas Cunningham, of Calcutta, in his “*Microscopic Examinations of Air*” (*NATURE*, vol. ix. p. 330), and in illustration of the method which he employed, perhaps I may be allowed to describe some observations of the same kind which I made three years ago but have not had leisure to continue or prepare for publication.

A sentence in Dr. Parkes’ “*Manual of Hygiene*,” alluding to the importance of minute examination of the air, turned my thoughts in that direction. The instrument which I constructed for the purpose was contrived after the manner of a weathercock, presenting the wide mouth of a funnel to the wind, while the