

tains"), *vid* the oases Niya and Cherchen, to lake Lob-nor, Roborovsky and Kozloff, with two or three men, pushed into the mountains, and beyond, into the wildernesses of the northern part of the Tibet plateau. These excursions, which were made under great difficulties, and in one of which Roborovsky's party was very nearly lost, are described in the present part of the "Works" of the expedition, and illustrated by six maps on the scale of 13 miles to an inch. The most important of these reconnoitring expeditions was the second, made by Roborovsky, when he crossed the Astyn-tagh, and, following a valley at its south-eastern foot, between the Astyn-tagh and the steep snow-covered Uzu-tagh, reached the Keria river, as it issues from the Tibet plateau and turns north-westwards, fringing the mighty glacier-covered Kuen-lun. No inhabitant of Kashgaria ever went that way, and nobody ever came to Kashgaria from that quarter; only a few gold-diggers visit the above-mentioned valley, without ever daring to penetrate further south into the dreary wilderness of the high plateau. Roborovsky did so, notwithstanding the terrible snow-storms, one of which, on May 22, covered the ground with three inches of snow. After having reached the Keria river, which flows at an altitude of 14,300 feet, and must be a mighty stream in summer, Roborovsky returned; but he came once more to the same spot, a couple of weeks later, moved by the desire of crossing the Uzu-tagh and of casting a glimpse on the dreary desert in the south of it. The altitude of the desert was 16,600 feet, and on June 12-14 almost no signs of life were found on it. Its surface is covered with low rows of stony hillocks, consisting of sharp-edged broken strata of quartzite, running west and east. A few bushes of a willow were found after a 22 miles' march, but no lichens were seen; and the only animals noticed were a few broken-down *orongo*-antelopes, which slowly walked within a few yards from the party—too weary to pay attention to it. Only snow seems to fall all the year round in this desert, and rain must be quite unknown. In June, snow fell every day, and evaporated immediately. On June 15 the altitude was 17,080 feet, and the temperature -12° Celsius in the morning. The horses were severely suffering from the sharp stones, and broke down; so that the party was compelled to return, after having covered only 40 miles southwards. The desert stretched further south, as far as the foot of the snow-covered Kuen-lun. The return journey was extremely difficult, one horse only being able to stand it; and it was in a desperate condition that Roborovsky's party reached a spot where they had left some of their provisions.

The sand-storms in that part of Kashgaria, at the foot of the mountains, are simply terrible. The loess-terrace, which fringes the highlands, is easily destroyed by the wind, and the dust is carried in the air, becoming occasionally so dense that complete darkness prevails—nothing being seen at a distance of some ten yards. If it rains during such a dust-storm, the drops of rain evaporate as they fall, and the dust they carry with them falls in the shape of small lumps. Whole forests of poplars are buried in the loess-dust hillocks, forty feet high being blown round the trees, which soon die and slowly decay, after the wind has carried the hillock away, to spread the dust further on.

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Another excursion into the highlands, during which nearly 500 miles were covered and mapped, was made to lakes Achik-kul, Chom-kum-kul, and "Unfreezing"—a salt lake at an altitude of 13,300 feet, which has various species of *Gammarus* among its fauna—and to Prjevalsky's Ridge, which is a mighty chain of mountains, buried in snow, running west and east under a number of local names, and very rich in animal life in its northern spurs.

A fourth excursion was made along the Cherchen-daria, which flows in a flat-bottomed valley, and has on both its sides two strips of sands, arranged by the wind in the shape of *barkhans* (rows of hillocks), attaining the extraordinary height of 360 feet. Great numbers of wild camels, stags, antelopes, wild cats, boars, and masses of small rodents and spiders, belonging to a variety of species, inhabit these sands, while the banks of the river are covered with poplars, tamarisks, and rushes. Traces of recent desiccation are found everywhere, and immense spaces are occupied with marshes, now covered with rushes, and strewn up with masses of fresh-water molluscs—the former inhabitants of a great lake. The population of the Lob-nor depression consists of half-breeds between Aryans and Turco-Mongols, who live in huts made of rushes, keeping some cattle, and carrying on fishing to a great extent.

The accounts of Roborovsky's and Kozloff's excursions to lake Bagrach-kul, near Karashar, and Kozloff's, up the Konche-daria, are also full of interest, and, like the preceding, give a good idea of the physical characters, flora and fauna, of the visited regions. General Pyevtsoff's discussion of Roborovsky's altitudes and astronomical observations completes this very interesting volume.

P. K.

OUR BOOK SHELF.

Algebra for Beginners. By T. Todhunter. New edition, revised and enlarged by S. L. Loney. Pp. xxxvi + 428. (London: Macmillan and Co., Ltd., 1897.)

THIS excellent elementary treatise is too well known to require detailed description in these columns, so we need only refer to the changes which have been made by the reviser of the new and enlarged edition. Prof. Loney has given additional chapters on negative quantities, the theory of quadratic equations, logarithms, and miscellaneous theorems, each of which has been inserted in those parts of the book which seemed most appropriate. The chapter on factors has been rewritten, and chapters towards the end have been considerably expanded. By renumbering the paragraphs, and maintaining the old numbers in smaller type, the reviser has facilitated the use of employing both editions together; the newly-added paragraphs contain only one—namely, the new—system of numbers. As examples form a very important part of such an elementary book as this, Prof. Loney has thought fit to more than double the original number, the answers being, as usual, included in the list at the end. Teachers will thus find in this edition a most complete and efficient course, and one especially adapted for boys commencing the subject.

Picture Lessons in Natural History. A series of diagrams on roller. (London: G. W. Bacon and Co., 1897.)

THE four sheets before us, which, we presume, form only a portion of the series, include the Protozoa and "Invertebrates." From all points of view they seem admirably