

even steppe resulting from its deeply filled state has a width of 15 miles for a distance of 75 miles. Less isolated from moisture than the higher Pamir, it receives sufficient precipitation to form one of the most luxuriant pastures of Asia.

In the higher Alai valley there are but two seasons—winter and spring. For nearly ten months of the year it lies deep-buried in snow, a vast expanse of white from range to range. Then no man lives upon the plain and its gray wolf-packs are free to hunt the wild sheep and wandering ibex. By July the snow has melted and like magic the grass turns green; a myriad of marmots leave their holes to visit one another in the warm sunlight, uttering their shrill notes of warning when the caravans come down. A thousand Kirghiz families descend from the passes round about, with their long camel trains caparisoned and rich-laden with nomadic wealth, and each caravan with its flocks of sheep and goats, herds of camels and cattle and horses, proceeds to its traditional camping-ground. For a while it is all life and merriment in a world of grass and wild flowers, a wonderful valley of green with poppies and buttercups and peopled by men and animals, with here and there a group of round felt-domed khibitkas; a land whereover days of mist give way to skies of blue purity. But through it all the mountains stand colossal and cold, reminders of soon-coming snow, and from their ice-domes, 15,000 to



Fig. 438.—Springtime in the Alai Valley.

23,000 feet in height, it creeps fast down upon the grass. Ere spring has finished bloom, winter has come and the valley is left frozen in snowbound emptiness.

But, though it is a remarkably rich pasture, there is scarcely rain enough—too little over the western or lower part. It is to the shortness of summer and relatively heavy snow of winter that the richness of its grass steppes must be attributed. There is enough water from melted snow in the ground to keep things fresh with the occasional help of mountain mists; enough in the upper half and all is full green there when winter falls to bury it, but in the lower half, the sun dries out all the water and leaves a plain of parched grass.

The Alai valley is thus a semi-arid type of desert basin. Of all the basins to be considered by us, it is unique in that it yields four of the deposition zones, so interwoven and interlapping that alluvium, moraine, and loess are found one over the other, and correlation becomes relatively easy. Kettle-hole pools are found on its widespread moraines, but they do not belong, organically speaking, in the lacustrine division of a desert basin; so that the lacustrine zone is here lacking. But the alluvial, flying sands, loess, and glacial zones are all especially well represented. Its nuclei of dunes, though small, are not very disproportion-