

runs over steppes and hillocks to Rishm, Husseinan, and Mahelleman, the latter situated on the very edge of the desert. "Fortunate the caravan which, after travelling through the dry desert, arrives at this point!"

Dr. Buhse describes the Kevir in the following striking passage, which perfectly accords with the description of the route I have given fifty-six years later:<sup>1</sup> "At Rishm limestone predominates; then follow hillocks of calcareous marl, rich in common salt, and then you go out into the Kevir, where the greyish yellow ground is at first fairly firm. Its principal constituents are: sand (50 per cent), carbonate of lime (16.7 per cent), oxide of iron (6.1 per cent), common salt (5.3 per cent), sulphate of soda (2.5 per cent), clay earth (2.1 per cent).<sup>2</sup> Salt crystals cover large areas. Farther into the desert the salinity increases to such an extent that pure salt occurs in the hollows and holes, and here and there forms large crusts of salt. It is possible only in the dry season to travel through this tract, where the least rain softens the ground and makes it so slippery that baggage animals especially are often lost. It is still worse to go in unfavourable weather through the Deria-i-nemek lying 80 miles from Rishm. But on April 14, 1849, the level ground in this tract was fairly dry. As could be seen in a hole, the underlying salt was about 28 inches thick and the layer of mud covering the salt crust about as deep. In some parts to the side of the caravan route the salt layer is said to be thicker. The breadth of this strip of salt depression, which seems to extend from west to east through the Kevir, may amount to  $5\frac{1}{2}$  miles. How far it extends and how far it is connected with other similar formations I could not ascertain. The southern shore is as muddy as the northern. At a small ruined building with a cistern firm ground is first reached again, and the eye is pleased by the appearance of a few solitary plants."

<sup>1</sup> "Die grosse persische Salzwüste und ihre Umgebung," *Deutsche Rundschau für Geographie und Statistik*, Nov. 1892. Dr. O. Quelle of Gotha has kindly sent me this extract.

<sup>2</sup> The specimens of salt, clay, and sand I brought home from the desert have been analysed by Dr. Albert Atterberg of Kalmar and the assistant Erik Jonsson at the Stockholm High School, and those from an earlier journey at the chemical station of Gefle. The details would take up too much space in this book, and must be left for a scientific work.