

magnitude of the rivers. All that can safely be said theoretically is, that an exceptionally heavy precipitation in the peripheral mountains must of necessity be followed by an augmentation in the rivers and an enlargement of the Kara-koschun. The same effect is produced by a warm, bright summer following upon a snowy winter. But what do we know about it, seeing how seldom the country in which these phenomena occur is visited by Europeans, and then in but a fugitive manner! The persistent shrinking of the Kara-koschun points to the existence of a climatic periodicity; but it may equally well be caused by an increase in the number of the marginal lakes on the right side of the lower Tarim, as also by an extension of agriculture. These problems however I can only thus briefly touch upon, I cannot attempt to solve them.

In skeleton outline the plan of the Tarim system resembles a drooping birch, as contrasted with the pine-like Indus and the palm-shaped outline of the Amu-darja and Sir-darja, and thus is very different from the peculiar Indo-Chinese rivers, which, after having gathered up their waters in Eastern Tibet, cut their way through deep, long, fantastic gorges through the mountains. The Kara-koschun is the root of the tree, the Tarim its trunk, and the various tributaries its branches, while the catchment-areas of these last would pass for the clusters of foliage. The Kerija-darja, the rivers of the Kirk-saj, and several others are branches withered and cut off. The functional activity of the river-system works however in a direction opposite to what it does in the tree. For whereas in the latter growth proceeds from the root upwards, and the sap rises through the trunk, and penetrates thence into the branches and leaves, in the river-system the »sap» gathers first in the remotest tentacles, and flows downwards through the branches and the trunk, so that it is through its peripheral activity that the terminal lake is maintained. It is true, the Amu-darja and the Sir-darja flow across burning deserts on their way from their source-regions to their terminal lake, but in their case how different is the entire hydrographical arrangement! Their gathering-grounds form a compact territory, from which the united stream gradually advances. On the other hand the main artery of the Tarim system is surrounded on all sides except the east by its source-regions, so that it thus flows within a ring of mountains. Throughout the whole of their long course across the desert the two rivers of West Turkestan are joined by practically no tributaries; whereas the Tarim on the contrary receives almost at the end of its course the two large affluents of the Kontsche-darja and the Tschertschen-darja. And yet the same law holds good in the basin of the Tarim that holds in the basin of the Aral, namely that as soon as the rivers issue into the deserts of the lowlands they receive no augmentation of volume, but on the contrary decrease rapidly down towards their respective terminations. The only difference is that each of the affluents of the Tarim ought to be separately compared with the Amu-darja and the Sir-darja. In this respect the Tarim alone, the Kontsche-darja alone, the Tschertschen-darja alone, occupies severally the same position as the Amu-darja or the Sir-darja. The shape of the basin of East Turkestan forces the rivers to flow together, and so to become affluents of each other mutually.

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