

simply the channel in which its waters flow ; it invariably follows the direction of the principal valley, and receives the tributaries dispatched to do it honour by the transversal or secondary valleys.

The mountain-groups, which are the cradle of the springs, and the nursery, so to speak, of the streams and rivers, form the *water-sheds*,\* or lines of partition between the waters descending from their opposite declivities. The study of these projecting and salient masses of our earth is of the highest interest for all engineers called upon to construct and superintend hydraulic works ; who, consequently, ought to be acquainted with the season of the floods and inundations of rivers—the rapidity, volume, and depth of their waters—as well as with their physical qualities, which necessarily depend on the nature of the soils they traverse.

The inhabitants of Mongolia look upon the water-sheds as sacred localities ; they collocate there immense piles of stones, on which they plant their floating banners, and the wayfarer stops to bend before them in prayerful worship. The Tungusians never pass these heaps without making it a duty to add to them a branch of cedar, that the " sacred summits " may never be diminished.

The water-sheds, in the interior of the mountains, sometimes bring close together two currents of water which in our thoughts we are not accustomed to associate with each other. Like two foster-brothers, destined to be separated when they grow up to manhood, the Rhone and the Rhine have their birth in the High Alps, their cradles being divided by an inconsiderable distance ; afterwards they part, the one to empty itself into the North Sea, the other into the Mediterranean. The springs of the Missouri and the Columbia, in the Rocky Mountains, are scarcely half a league apart ; yet the mouths of these two rivers, one situated on the Atlantic, the other on the Pacific Ocean, are about a thousand leagues distant in a direct line. The same statement may be made in reference to the Dwina, the Niemen, and the Volga, which diverge in three widely different directions. Their sources blend together, as it were, in the midst of a vast morass ; a fact which proves, moreover, that the soil does not always present a marked elevation at the point of separation of two opposed basins. Nevertheless, this elevation is the most general rule ; and the mountains ordinarily serve as the natural hydrographic frontiers.

Two great rivers, or basins, which are apparently opposed in every feature, may, however, be brought into contact through the intermediation of tributaries rising in the same high ground. When

\* [Water-shed, from German *wasser-scheiden*, signifying, the ground where the waters are *shed* off, or parted, in different directions.]