

to the sun and winds areas which were previously kept cool and damp under trees, or which, lying on the lee side, were protected from tempests; as already stated, it is supposed that the wholesale destruction of the woodlands formerly existing in countries bordering the Mediterranean has been in part the cause of the present desiccation of these districts, while in the Tyrol the great increase and destructiveness of the debacles has been attributed to the wholesale deforesting of that region, and the consequent exposure of the soil to rain and melted snow; (2) by drainage, the effect of this operation being to remove rapidly the discharged rainfall, to raise the temperature of the soil, to lessen the evaporation, and thereby to diminish the rainfall and somewhat increase the general temperature of a country; (3) by the other processes of agriculture, such as the transformation of moor and bog into cultivated land, and the clothing of bare hillsides with green crops or plantations of coniferous and hardwood trees.

2. On the Flow of Water.—(1) By increasing or diminishing the rainfall man directly affects the circulation of water over the land. (2) By the drainage-operations, which cause the rain to run off more rapidly than before, he increases floods in rivers. (3) By wells, bores, mines, or other subterranean works, he interferes with underground waters and consequently with the discharge of springs. (4) By embanking rivers he confines them to narrow channels, sometimes increasing their scour, and enabling them to carry their sediment further seaward, sometimes causing them to deposit it over the plains and raise their level.

3. On the Surface of the Land.—Man's operations alter the aspect of a country in many ways: (1) by changing forest into bare mountain, or clothing bare moun-