

called cornstones, and the waters are harder. The waters are apt to be still harder in the Carboniferous Limestone tracts that sometimes rise into high escarpments round the borders of the great South Wales coalfield, and in Flintshire and Denbighshire.

Again, the waters that flow from the northern part of the Pennine chain, as far south as Clitheroe and Skipton, are apt to be somewhat hard, because they drain areas composed partly of Carboniferous Limestone. But, as a rule, wherever they rise in, and flow through strata formed of Yoredale shales and sandstones and Millstone Grit, the waters are soft; and this is one reason why so many reservoirs have been constructed in the Millstone Grit regions of Lancashire, Yorkshire, and Derbyshire, for the supply of large towns and cities such as Bradford, Preston, Manchester, and Liverpool. All the waters of the Carboniferous Limestone of Derbyshire, such as the Dove and the Wye, are hard. All the rivers that flow over the Permian rocks and New Red Sandstone and Marl, are, as a rule, somewhat hard, and the waters of the Lias, and the Oolitic and the Cretaceous rocks, are of necessity charged with those substances in solution that make water hard, because the Lias and Oolites are so largely formed of limestones, and the Chalk is almost entirely composed of carbonate of lime.

It thus happens that, as a general rule, most of the rivers that flow into the sea on the eastern and southern shores of England, as far west as the borders of Devonshire, are of hard water. The waters of the Severn are less so, but still they contain a considerable amount of bicarbonate of lime in solution. The waters of the Mersey, the Dee, and the Clwyd, are also somewhat hard, while those that flow westward in Wales are soft