

present Chalk escarpment, in its beginning, is thus of older date than the Oolitic escarpment (fig. 57, p. 304), but it would be hard to prove this, except on the hypothesis I have stated.

When this slope of the Chalk and the overlying Eocene strata was established, the water that fell on the long inclined plain east of the escarpment of the Chalk necessarily flowed eastward, and the Thames, in its beginning, flowed from end to end entirely over Chalk and Eocene strata.

The river was larger then than now, for I am inclined to believe, that in these early times of its history, the south of England was joined to France, the Straits of Dover had no existence, and the eastern part of the Thames as a river, not as a mere estuary, ran far across land now destroyed, perhaps directly to join an extension of the north flowing river which we now call the Rhine. At its upper end, west of its present sources, the Thames was longer by about as much probably as the distance between the well-known escarpment of the Cotswold Hills and the course of the Severn as it now runs, for the original escarpment of the Chalk must have directly overlooked the early valley of the Severn, which was then much narrower than now (*see* p. 509). But by processes of waste identical with those that formed the escarpment of the Wealden (figs. 71, 72, 73, pp. 337–343), the Chalk escarpment gradually receded eastward, and as it did this the valley of the Severn widened, and the area of the drainage of the Thames was contracted.

By-and-by the outcropping edges of the Oolitic strata becoming exposed, a second and later escarpment began to be formed, while the valley of the Severn gradually deepened; but the escarpment of the Chalk being more