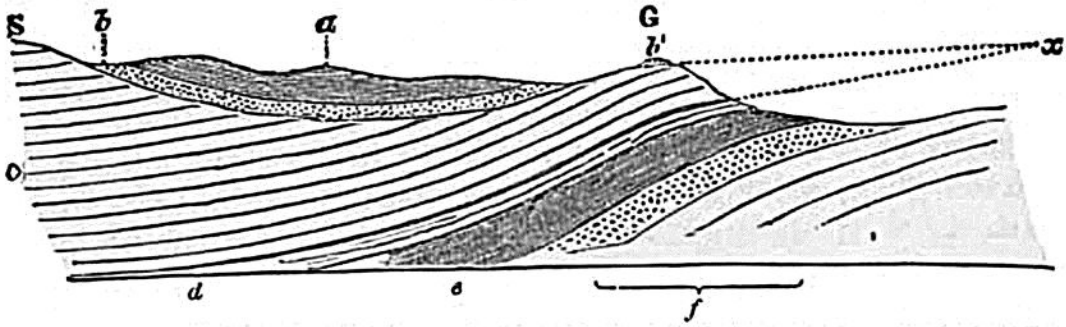
Fig. 329.



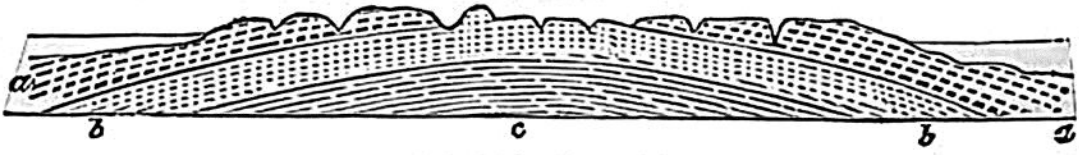
Section showing that the Weald had been denuded of chalk before the Lower Eocene strata were deposited.

S. Relative position of Saffron Walden.
G. Chalk-escarpment above Godstone, surmounted by a patch of the Lower Tertiary beds, b'.
a. London Clay. *b*, b'. Lower Tertiaries. *c*. Chalk.
d. Upper Greensand. *e*. Gault. *f*. Lower Greensand and Wealden.
x. Point at which the present upper and under surfaces of the chalk, if they were prolonged would converge.

It is therefore inferred, that, if we prolong southwards the upper and under surfaces of the chalk, along the dotted line in the above section, they would converge at the point x; therefore, beyond that point, no white chalk existed at the time when the Eocene beds, b, b', were formed. In other words, the central parts of the Wealden, south of x, were already bared of their original covering of chalk, or had only some slight patches of that rock scattered over them.

The island, or islands, in the Eocene sea may be represented in the annexed diagram (fig. 330); but doubtless the denudation extended

Fig. 330.



Island in the Eocene Sea.
a. Chalk, Upper Greensand, and Gault. *b*. Lower Greensand. *c*. Wealden.

farther in width and depth before the close of the Eocene period, and the waves may have cut into the Lower Greensand, and perhaps in some places into the Wealden strata.

According to this view the mass of cretaceous and subcretaceous rocks, planed off by the waves and currents in the area between the North and South Downs before the origin of the oldest Eocene beds, may have been as voluminous as the mass removed by denudation since the commencement of the Eocene era.

But the reader may ask, why is it necessary to assume that so much white chalk first extended continuously over the Wealden beds in this part of England, and was then removed? May we not suppose that land began to exist between the North and South Downs at a much earlier epoch; and that the upper Wealden beds rose in the midst of the Cretaceous Ocean, so as to check the accumulation of white chalk, and limit it to the deeper water of adjoining areas? This hypothesis has often been advanced, and as often rejected; for, had there been shoals or dry land