

ridian this equilibrium can no longer exist, since the waters of the part opposite to the moon being at the greatest distance possible from her, they are less attracted than the remaining part of the globe, and hence their relative weight, which always retains them in an equilibrium, impels them towards the opposite point to the moon. Thus in the two cases, when the moon is at the meridian of a place, or at the opposite meridian, the water must be raised nearly to the same height, and consequently fall and rise, when the moon is at the horizon either at her rising or setting. Thus a motion, such as we have just mentioned, necessarily disturbs the whole mass of the sea, and agitates it throughout its whole extent and depth; and if this motion appears insensible in the open seas, it is nevertheless no less real; but as the winds cannot ruffle the bottom in an equal degree with the surface, the motion of the tides is necessarily more regular there, although directed alternately in the same manner as at the top.

From this alternative motion of flux and reflux there results, as already observed, a continual motion of the sea from east to west, because