

It is to these inequalities at the bottom of the sea, we must attribute the origin of currents, for if the bottom was equal and level, there would be no other current than the general motion from east to west, and a few others which might be caused by the action of the winds; but a certain proof that most currents are produced by the flux and reflux, and directed by the inequalities at the bottom of the sea, is, that they regularly follow the tides, and change their direction at each ebb and flow. See *Pietra della Valle* on the subject of the currents of the gulph of Cambay, and the accounts of all navigators, who unanimously assert that in those parts where the flux and reflux of the sea is the most violent, the currents are also most rapid.

Therefore it cannot be doubted but that the tides produce currents whose direction always answers that of the opposite hills and all mountains between which they flow. Currents produced by winds, also follow the direction of those hills which are under the water, seldom running opposite to the wind which produces them, any more than those which are occasioned by the tides follow the direction of their original cause.

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