and the action of the tide forms a counter-current, which causes the water near the banks to ascend, while that in the middle descends, and as then all the water must be carried down by the current in the middle, that of the banks continually descends thereto, and descends so much the more as it is higher, and counteracted with more force by the tide.

There are two kinds of ebbings in rivers; the first above-mentioned is a strong power occasioned by the tide, which not only opposes the natural motion of the river, but even forces a contrary and opposite current. The other arises from an inactive cause, such as a projection of land, an island, &c. This does not commonly occasion a very sensible counter-current, yet it is sufficient to impede the progress of boats and craft, and necessarily produces what is called a dead water, which does not flow like the rest of the river, but whirls about in such a manner that when boats are drawn therein they require great strength to get them out. These dead waters are very perceptible at the arches of bridges in rapid rivers. The velocity of the water increases in proportion as the diameter of the channel through which it passes diminishes, the impelling force being the same;

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