

the velocity of a river, therefore, increases at the passage of a bridge, in an inverse proportion of the breadth of the arches to the whole breadth of the river; the rapidity being very considerable in coming through the arch, it forces the water against the banks, from whence it is reflected with such violence as to form dangerous eddies and whirlpools. In going through the bridge St. Esprit, the men are forced to be careful not to lose the stream, even after they are past the bridge, for if they suffer the boat to go either to the right or left, it might be driven against the shore, or forced into the whirling waters, which would be attended with great danger. When this eddy is very considerable, it forms a kind of small gulph, the middle of which appears hollow and to form a kind of cylindrical cavity, around which the water whirls with rapidity: this appearance of a cylindrical cavity is produced by the centrifugal force, which causes the water to endeavour to remove itself from the centre of the whirlpool. When a great swell of water happens, the watermen know it by a particular motion; they then say the water at the bottom flows quicker than common: this augmentation of rapidity at the bottom, according to them, al-