

belt of foam above, had carried us a great distance down the slope; but our farther descent was by no means proportionate. Round and round we swept—not with any uniform movement—but in dizzying swings and jerks, that sent us sometimes only a few hundred yards—sometimes nearly the complete circuit of the whirl. Our progress downward, at each revolution, was slow, but very perceptible.

"Looking about me upon the wide waste of liquid ebony on which we were thus borne, I perceived that our boat was not the only object in the embrace of the whirl. Both above and below us were visible fragments of vessels, large masses of building timber and trunks of trees, with many smaller articles, such as pieces of house furniture, broken boxes, barrels, and staves. I have already described the unnatural curiosity which had taken the place of my original terrors. It appeared to grow upon me as I drew nearer and nearer to my dreadful doom. I now began to watch, with a strange interest, the numerous things that floated in our company. I must have been delirious—for I even sought amusement in speculating upon the relative velocities of their several descents toward the foam below. 'This fir tree,' I found myself at one time saying, 'will certainly be the next thing that takes the awful plunge and disappears,'—and then I was disappointed to find that the wreck of a Dutch merchant ship overtook and went down before it. At length, after making several guesses of this nature, and being deceived in all, this fact—the fact of my invariable miscalculation—set me upon a train of reflection that made my limbs again tremble, and my heart beat heavily once more.

"It was not a new terror that thus affected me, but the dawn of a more exciting hope. This hope arose partly from memory, and partly from present observation. I called to mind the great variety of buoyant matter that strewed the coast of Lofoden, having been absorbed and then thrown forth by the Moskoe-ström. By far the greater number of the articles were shattered in the most extraordinary way—so chafed and roughened as to have the appearance of being stuck full of splinters—but then I distinctly recollected that there were some of them which were not disfigured at all. Now I could not account for this difference except by supposing that the roughened fragments were the only ones which had been completely absorbed—that the others had entered the whirl at so late a period of the tide, or, for some reason, had descended so slowly after entering, that they did not reach the bottom before the turn of the flood came, or the ebb, as the case might be. I conceived it possible, in either instance, that they might be thus whirled up again to the level of the ocean, without undergoing the fate of those which had been drawn in more early, or absorbed more rapidly. I made, also, three important observations. The first was, that, as a general rule, the larger the bodies were, the more rapid their descent; the second, that, between two masses of equal extent, the one spherical, and the other of any other shape, the superiority in speed of descent was with the sphere; the third, that, between two masses of equal size, the one cylindrical, and the other of any other shape, the cylinder was absorbed the more slowly. Since

my escape, I have had several conversations on this subject with an old schoolmaster of the district; and it was from him that I learned the use of the words 'cylinder' and 'sphere.' He explained to me—although I have forgotten the explanation—how what I observed was, in fact, the natural consequence of the forms of the floating fragments—and showed me how it happened that a cylinder, swimming in a vortex, offered more resistance to its suction, and was drawn in with greater difficulty than an equally bulky body, of any form whatever.*

"There was one startling circumstance which went a great way in enforcing these observations, and rendering me anxious to turn them to account, and this was, that at every revolution we passed something like a barrel, or else the yard or the mast of a vessel, while many of these things, which had been on our level when I first opened my eyes upon the wonders of the whirlpool, were now high up above us, and seemed to have moved but little from their original station.

"I no longer hesitated what to do. I resolved to lash myself securely to the water cask upon which I now held, to cut it loose from the counter, and to throw myself with it into the water. I attracted my brother's attention by signs, pointed to the floating barrels that came near us, and did everything in my power to make him understand what I was about to do. I thought at length that he comprehended my design—but, whether this was the case or not, he shook his head despairingly, and refused to move from his station by the ring-bolt. It was impossible to reach him; the emergency admitted of no delay; and so, with a bitter struggle, I resigned him to his fate, fastened myself to the cask by means of the lashings which secured it to the counter, and precipitated myself with it into the sea, without another moment's hesitation.

"The result was precisely what I had hoped it might be. As it is myself who now tells you this tale—as you see that I did escape—and as you are already in possession of the mode in which this escape was effected, and must therefore anticipate all that I have farther to say—I will bring my story quickly to a conclusion. It might have been an hour, or thereabouts, after my quitting the smack, when, having descended to a vast distance beneath me, it made three or four wild gyrations in rapid succession, and bearing my loved brother with it, plunged headlong, at once and for ever, into the chaos of foam below. The barrel to which I was attached sunk very little farther than half the distance between the bottom of the gulf and the spot at which I leaped overboard, before a great change took place in the character of the whirlpool. The slope of the sides of the vast funnel became momentarily less and less steep. The gyrations of the whirl grew, gradually, less and less. By degrees the froth and the rainbow disappeared, and the bottom of the gulf seemed slowly to arise. The sky was clear, the wind had gone down, and the full moon was setting radiantly in the west, when I found myself on the surface of the ocean, in full view of the shores of Lofoden, and above the spot where the pool of the Moskoe-ström had been. It was the hour of the

*See Archimedes "De Incidentibus in Fluido,"—Lib. 2