

### The Cuban Hurricane.

The hurricane which has just laid waste many parts of Cuba is by no means the first, or probably the worst, that has devastated its shores. In fact, according to Mr. A. POEY, of Havana, no fewer than 355 hurricanes have been experienced on the island, between the year after the discovery by COLUMBUS, or 1493, up to 1855. Of these, the large number of 245 have occurred in the three months of August, September, and October. It is probable, as great storms almost invariably move in a circular direction, or rather, more strictly, in parabolic curves, and describe immense spaces in their course, that the details hitherto furnished by the telegraph are but the beginning of disastrous particulars to come.

What is known as the great Cuban hurricane, described by Mr. REDFIELD in the *American Journal of Science* of January, 1846, was traced more than three thousand miles. The terrific hurricane of 1858 was first observed, at just the present time of the year, that is, on Oct. 20, at the Windward Islands. It visited, directly after, Porto Rico, Hayti, and the Bahamas. Then, recurving its axis, it passed over Bermuda on the 24th, its violence there being tremendous. After this, it swept to the north-east, until it nearly reached the shores of Europe. This storm is, we believe, considered by meteorologists to have exceeded in diameter all of which there are any records. Its ravages were felt seven hundred miles east of Bermuda, in the same latitude, and its western edge grazed New-York, causing the barometer to fall heavily, and impelling on our shores the extraordinary tides of Oct. 24 and 25. It is said that most of the Atlantic hurricanes begin, like this one, to the east of the Windward Islands, and proceed toward the west north-west, sometimes reaching the coast of the United States, and almost invariably curving around in latitude  $25^{\circ}$  to  $30^{\circ}$  toward the north, and then toward the north-east, following, after making the bend, a course nearly parallel with the coast. Of fifteen hurricanes recorded by REDFIELD, and delineated in the chart which accompanies the paper above mentioned, ten follow this general direction.

The great gales in the Bay of Bengal and in the China Seas have much the same characteristics as those of the Atlantic. Their rate of progress is, however, much slower, so that the use of the telegraph—as originally proposed by REDFIELD—to give warning of their approach, might be more valuable or effectual than in the Atlantic. Of course the barometer is of great service for this purpose. But most ships lost in hurricanes, cyclones, or monsoons are probably wrecked not by the first pressure of wind and sea, but because of their inability to escape from the vortex. One case is cited, that of the clipper-ship *Charles Heddle*, which sailed from Mauritius to Muscat in the usual course of the hurricanes of the Indian Ocean. She was overtaken by one advancing at the slow rate of four miles an hour, and kept in the vortex 117 hours, at a supposed distance of fifty miles from the axis of the gale, while the wind veered five complete revolutions. A skillful navigator now knows how to avoid being enmeshed in this way—that is, when such avoidance is possible. But the power of the tempest sometimes mocks at all skill, and forces destruction on the best trained seamen as well as the most ignorant ones. From these considerations, it is to be feared that the list of marine losses reaching us from Cardenas, Matanzas and Havana, as the work of the late hurricane is very incomplete, and that a more disastrous catalogue will be reckoned up hereafter.

These phenomenal storms, not the least curious feature of which is that they never touch either of the poles or the equator, have been made of late years a profound study by meteorologists. Such investigators as FITZROY, MAURY, and others have measured their origin, scope, and duration with such nicety as to equip the navigator and the inhabitants of regions subject to their fury with a knowledge, and consequent protection, formerly unthought of. Immunity from harm, however, is, as we may infer from the late Cuban disasters, not to be attained. The average damage and loss of life may, indeed, be diminished, but absolute exemption from the evils wrought by these mighty convulsions of the elements can never be hoped for by man.