

of the sun on a drawing-board carried by a light frame attached to the equatorial. By means of this arrangement the details of the solar surface can be studied and sketched at pleasure. The advantages of this system Father Perry himself makes known in the following words: "The clock work of the equatorial keeps the image fixed in position on the paper whilst an accurate outline is traced of the umbra and penumbra of every spot visible on the disc. The details are then filled in as quickly as the nature of the sky permits, each position of the drawing being over and over again brought into coincidence with the projected image in order to detect and remove the slightest difference between them. By this means the final picture gives the advantage of all the best moments of seeing that occur during the progress of the observation, and not merely at one instant (as by photography) which may be far from being the best or a good one even on the finest day."

Father Perry's object in carrying on these accurate observations of the sun's surface, was to solve the still unsettled question of the formation of sun-spots, and if possible to find a clue to the connection between terrestrial magnetism and solar activity. He secured valuable data, but death overtook him before he fully accomplished the noble project he had in view. What characterized Father Perry's scientific work was thoroughness and almost perfect accuracy. These features of his observations won for him the unanimous and unqualified praise of his fellow-scientists, and brought him the honor of being chosen as the leader of several most important scientific expeditions sent out by the English government. His enthusiasm for his favorite studies conquered all difficulties and yet never led him to accept unsustained theories. He was, as a rule, an enemy to theories, for he believed that operations were easily distorted into a false meaning, if one possessed a mind already biased by a theory. Hence he insisted on methodic routine work; on no consideration would he permit any disturbance in the order of the duties he had undertaken to perform at Stonyhurst. Accordingly the results which he published on astronomical matters came to be implicitly trusted as deduced not from a few, but from a long series of observations.

Father Perry served for many years on the council of the Royal Astronomical Society, and on the Solar Physics Committees. He was a regular attendant at the meetings and his opinions and plans were ever listened to with the greatest interest and usually adopted. He took part, as we have already said, in several important astronomical expeditions; indeed it is said that he was a member of more scientific expeditions than any astronomer of his day.

He was in charge of one of the expeditions sent out by the English government to observe the transit of Venus in 1874, and again in 1882. The first of these took him to Kergulen, a desolate island about three thousand miles away from any inhabited spot; to observe the second transit he went to the island of Madagascar. For the benefit of readers who are not amateurs in astronomy it may be well to explain, that by a transit of Venus is meant the projection of that planet upon the sun's disc as a black round spot, and its apparent motion across the disc from east to west. The first of these transits known to have been seen by any human being, took place in 1639. The phenomenon moves in cycles of 235 years and 8 years alternately; the next transit of Venus take place in 2,004. Transits of Venus are important to astronomy in as much as they supply data by which the sun's distance from the earth, and, mediately, from the other planets, can be determined with far greater precision than by another method known. Two, three, even as many as four or five observing parties were sent out by almost every government in Europe and America to view the recent transits; the wonderful precision with which instrumental measurements can be made in our day, led to high hopes of success. Expectations were fairly well realized, in spite of unforeseen difficulties; astronomers now claim to be able to determine with great accuracy the distance of the sun on any particular day. Father Perry's skill in precise observation and recording, on both occasions won him unbounded praises from all the eminent observers who compared notes.

His visit to Kergulen Island in 1874, was not Father Perry's first scientific expedition. Total eclipses of the sun, which occur on an average every two