

COMET OR NO COMET.

A distinguished scientific gentleman in New Zealand, Mr. Charles O'Neill, C.E., has discovered that the supposed comet, about which so much discussion took place recently, was no comet at all. Writing to a Wellington paper on the 16th ultimo, he says:—"What has been called a comet has now appeared for about ten days, sometimes bright, and sometimes scarcely visible to the eye; for instance, on Wednesday night it was scarcely observable. The light in the sky was first pointed out to me on Monday, the 2nd February, at the Bay of Islands, by Lieut H. J. Jeffreys, an able and efficient scientific officer, of H.M.S. Alacrity, who, at the same time, doubted whether it was a comet or the zodiacal light. I observed it afterwards for several nights, during the voyage from the Bay of Islands to Wellington, sometimes bright and sometimes indistinct, usually about 9 p.m., in a south-westerly direction. At present it seems to me doubtful whether it is a comet or the zodiacal light. In astronomy the zodiacal light is a faint nebulous aurora, which surrounds the sun in the plane of its equator, and from the descriptions given by those who have closely observed zodiacal lights, there seem to be, at least, some good grounds for supposing that the light that has appeared for the last ten days is not a comet but a zodiacal light.

Kepler supposed the curious phenomenon of zodiacal light to be the solar atmosphere, but it was first accurately described by Dominici Cassini, who gave it the name by which it is known. It is visible immediately before sunrise or after sunset in the place

before sunrise, or after sunset, in the place where the sun is about to appear, or has just quitted the horizon. The apparent angular distance of its vortex from the sun varies according to circumstances from 40 to 100 degrees, and the breadth of its base perpendicular to its axis from 8 to 80 degrees. Many opinions have been entertained re the nature and cause of this singular phenomenon. Cossini thought it might proceed from the blended light of an innumerable multitude of little planets circulating about the sun, as the Milky Way owes its appearance to the light of agglomerated myriads of stars. Euler endeavored to prove that it proceeds from the same causes as produce the tails of comets. Kepler had ascribed its appearance to the solar atmosphere and the same hypothesis was adopted by Mairan and others, till it was shown by Laplace to be untenable, and he gave his reasons very fully. Sir John Herschel remarks that "it may be conjectured to be no other than the denser part of that medium which, as we have reason to believe resists the motion of comets, loaded perhaps with the actual materials of the tails of millions of those bodies, of which they have been stripped in their successive perihelion passages. An atmosphere most of the sun it cannot be." According to recent hypotheses of Mayer and William Thompson, the zodiacal light has been held to consist of a vast number of meteorites, which circulate around the sun, and are gradually falling into that luminary, their impact contributing to restore the solar heat and light lost by radiation. But considerable doubts have been thrown on this theory. M. Liais, who has observed it with the greatest

LIAIS, who has observed it with the greatest attention in Brazil, asserts that he has often seen it opaquing the sky from west to east. Humboldt, in his travels, states, "During my stay in the vailey of the Tuy and Aragua, the zodiacal light appeared almost every night with extraordinary brilliancy. I had perceived it for the first time between the tropics of Caracos, on the 18th January, and it was after seen in the evening. The point of the pyramid was at the height of 53 degrees, the light totally disappeared nearly three and a half hours after sunset, without any diminution in the serenity of the sky. Again, I had observed it more beautiful still at the back of the Cordilleras of Mexico. In 1804 the light rose sometimes to more than 60 degrees above the horizon. The Milky Way appeared to grow pale compared with the brilliancy of the zodiacal light. Sometimes during nights equally clear, I sought in vain for the zodiacal light when, on the previous night, it had appeared with the greatest brilliancy."

From the striking similarity of the supposed comet to the above descriptions of the zodiacal light, I assume that what we have seen for about ten days is the zodiacal light, and not a great unknown comet.
