

not like that of the moon, by rugged mountain peaks and deep valleys, but by stupendous masses of burning gas, which are whirled up by storms raging over the surface of the sun, as are the pillars of sand by the sirocco of the African desert. These flames are visible beyond the disc of the moon after it has hid the luminous body of the sun. Such mountains of glowing gas have been noted during every eclipse of which we possess a scientific record; and it was observed that they sprung from a ring of rosy-colored light which enveloped the dark orb of the moon. Outside them, and extending at places for a degree beyond the the sun, there was always observed an irregular halo of white light. For a long time, through the most perverse reasoning, these phenomena were supposed to be appendages of the moon; but the observations made during the eclipse of 1842, and the photographs made during that of 1860, left no doubt that these protuberances or prominences belong to a solar atmosphere, less luminous than the body of the sun.

It was after the eclipse of 1860 that the value of the spectro-scope, in the investigation of solar physics, became evident; and, therefore, the next eclipse was looked forward to with eagerness as likely to enable the spectroscopist to determine, beyond a doubt, the nature and composition of the protuberances and the corona. Consequently, a number of expeditions left Europe to observe, at different points along its central line, the eclipse of August, 1868, which began in Africa, crossed the Red Sea to Aden, and then traversed the Indian Ocean, India and Malacca. A Prussian expedition, under Dr. Vogel, stationed itself at Aden, where totality occurred soon after daylight. M. Janssen, an eminent French astronomer, made his observations at Gondoor, in India, and M. Rayet in the Peninsula of Malacca. Several English parties were organized, foremost among which were those under Major Tennant and Lieut. Herschel, both of whom took up positions in India. Dr. Vogel and Major Tennant aimed chiefly at obtaining photographs of the eclipse. During this eclipse there were observed several large protuberances and a corona. The rosy-coloured banks of cloud from whence these protuberances sprang were brightest about the equator. One very prominent protuberance retained the same position, and underwent very little alteration in shape during the period of the eclipse. The interest of the eclipse centred in the spectroscopic observations of the protuberances. Upon the whole, the reports of the different