

## John Evershed

The death on 1956 November 17 of John Evershed ended a very long and fruitful career in solar physics. When he was born Abraham Lincoln was still alive and the Franco-Prussian war was still to come. Before that war was over, while still a small boy, his interest in the Sun was aroused by a partial solar eclipse and for the rest of his long life the Sun remained his dominant interest. In his youth he met and conversed with Charles Darwin, Alfred Russell Wallace, and many other prominent scientists whose names are part of history.

The details of his career have been recorded adequately elsewhere and need not be repeated here. His name is perpetuated in the 'Evershed effect' in sunspots, which he discovered in 1909; but of course this is only one of his many discoveries which are classics in solar physics. It does not seem to be generally known, however, that in 1895 he demonstrated that line spectra of gases and vapours can be produced by raising them to high temperatures under conditions which exclude other influences, such as electrical or chemical stimulation, which many at that time thought to be the cause of the characteristic emissions. This is so much taken for granted nowadays that it seems somehow astonishing to be reminded that it ever had to be demonstrated.

Evershed was above all an observer in the full sense of the word; his attention was always directed on to his surroundings, near and far. He seemed to notice everything that went on around him. It was a delight to go for walks with him in the woods on the hill behind his house; every few yards he would stop and point out some insect, plant, or patch of lichen, so inconspicuous as to be completely unnoticed by his companion, and expatiate on its features of interest. He knew precisely where and when to find the migrating Painted Ladies on the summit of Pitch Hill, and where the orchids or rare fungi were to be found. He was the only person known to the writer to have noticed a cloud phenomenon for which there appears to be no satisfactory explanation, namely clouds which are dark brown in colour although exposed to brilliant sunshine. It was impossible to be bored in his company or to leave him after a visit without having had one's interest aroused or quickened in some aspect or other of nature.

Another example of his powers of observation—of *noticing*—may be mentioned. During his early experiments with a liquid prism he happened to be in a shop in which were displayed bottles of various liquid chemical reagents. He noticed that one of these bottles displayed prismatic colours much more strongly than the others. It occurred to him that the liquid in this bottle might give better results in his prism than that originally used, and it did indeed; the liquid was ethyl cinnamate. This was completely typical of him; he noticed things and he saw their significance—things that the vast majority of people would not see at all.

Evershed had a quite exceptional capacity for making effective instruments out of the most unpromising materials and with the simplest tools. He did not possess a lathe or any other machine tool apart from a small hand-operated bench drill, and yet thus handicapped he managed to equip his underground observatory at Ewhurst to such good effect that his solar spectrograms are not surpassed in quality by any produced with more orthodox and much more

costly equipment. Some of his devices were frankly comical; for example the fine adjustment in declination of his coelostat was effected by knocking a piece of wood with a hammer.

He never attempted optical work, which he regarded rather naively as in the same class as miracles or magic, and those who were privileged to help him in this respect were in consequence often embarrassed by the unbounded, almost extravagant, admiration and gratitude which their efforts called forth.

He did not die in harness; failing sight had put an end to observations a year or two before his death. He bore this misfortune with more fortitude and resignation than his friends had expected. It cannot be said that his life's work was finished, because astronomical research will never end; but it can surely be said that few lives have been lived more fully than his and few men have pursued their chosen path in life more assiduously and more fruitfully.—F.J.H.