

17.
Insuffici-
ency of mere
observation.

nature, the greatest devotion of the observer and the collector, lead only a little way in finding out the hidden paths of natural things or the behaviour of natural objects; and however grateful we must be to those pioneers of knowledge who with unrewarded patience amass the material for later theorists, it is to the classification of a Linnæus, to the arrangements of a Cuvier, to the theories of a Darwin, to the measurements of a Bradley and a Herschel, most of all to the formulæ of a Newton or a Gauss, followed by the calculations of their pupils, that we are indebted for a real grasp, for a comprehensive knowledge, of great masses of natural phenomena.

18.
Practical
interest.

Next to the pure love of nature, the desire to apply natural knowledge, and to make it useful for practical purposes, has rendered in return great services to science. The Royal Society and the Royal Institution had both from their infancy a large admixture of the practical spirit. These were founded, more even than the academies abroad, to a great extent upon the desire to make knowledge useful.

The Governments of England and of France promoted

lar fables which are only to be pitied! What can I add to such a protocol? The philosophical reader will himself suggest what to say when he reads this authentic proof of an evidently wrong fact, of a phenomenon which is physically impossible" (Wolf, 'Geschichte der Astronomie,' 1877, p. 697 sq.) Chladni published his essay on the large mass of iron found by the traveller Pallas in Siberia in the year 1794, and, in spite of adverse criticisms, followed it up by a catalogue and an atlas of meteoric stones, suggesting that they were of cosmic

origin. Fortunately, a remarkable fall of stones, accompanied by meteoric phenomena, took place in 1803 not far from Paris, at l'Aigle in the department de l'Orne, and Biot was commissioned by the Academy to proceed to the district and examine the case. In the 'Relation,' &c., which he read before the Institute, he established the fact that a meteor exploded in the district, and that at the same time a fall of many thousand stones, weighing about 20 tons, took place (Biot, 'Mélanges scientifiques et littéraires,' vol. i. p. 15 sqq.)