

the tail, make double furrows with transverse ridges resembling those of *Bilobites*, and there are even some mollusks which by the undulations of the foot or the hook-like action of its anterior part, can make similar trails. A question arises here as to the value of such things as fossils. This depends on the fact that many creatures have left their marks on the rocks when still soft on the sea bottom, of which we have no other indications, and it also depends on our ability to understand the import of these unconscious hieroglyphics. They will certainly be of little use to us so long as we persist in regarding them as vegetable forms, and until we have very carefully studied all kinds of modern markings.<sup>1</sup> Nor does it seem of much use to assign to them specific names. The same trail often changes from one so-called species, or even genus, to another in tracing it along, and the same animal may in different circumstances make very different kinds of tracks. There will eventually, perhaps, arise some general kind of nomenclature for these markings under a separate sub-science of Ichnology or the doctrine of Footprints.

I have said nothing of true *Algæ* or seaweeds, of which there are many fossil species known to us by their forms, and also by the carbonaceous or pyritous matter, or discharge of colour from the matrix, which furnishes evidence of the presence of organic material; nor of the marks and trails left by seaweeds and land plants drifting in currents, some of which are very curious and fantastic; nor of those singular trails referred to the arms of cuttlefishes and the fins of fishes, or to sea jellies and starfishes. These might form materials for a treatise. My object here is merely to indicate the mode of dealing with such things, and the kind of information to be derived from them.

When we come to the consideration of actual footprints of

<sup>1</sup> Geologists are greatly indebted to Dr. Nathorst of Stockholm for his painstaking researches of this kind.