

amounts to about 70,000 feet. Now, as the thickness of all the more recent superincumbent strata, from the Devonian to the deposits of the present time, taken together, amounts to only about 60,000 feet, we were enabled from this fact alone to draw the conclusion—which is probable also for other reasons—that the archilithic, or primordial, period was of longer duration than the whole succeeding period down to the present time. During the whole of this immeasurable space of time, which probably comprises many millions of centuries, vegetable life on our earth seems to have been represented exclusively by the sub-kingdom of Thallus plants, and, moreover, only by the class of marine Thallus plants, that is to say, the Algæ. At least all the petrified remains which are positively known to be of the primordial period belong exclusively to this class. As all the animal remains of this immense period also belong exclusively to animals that lived in water, we come to the conclusion that at that time organisms adapted to a life on land did not exist at all.

For these reasons the first and most imperfect of the great provinces or branches of the vegetable kingdom, the division of the Algæ, or Tangles, must be of special interest to us. But, in addition, there is the interest which this group offers when viewed by itself. In spite of the exceedingly simple composition of their constituent cells, which are but little differentiated, the Algæ show an extraordinary variety of different forms. To them belong the simplest and most imperfect of all forms, as well as very highly developed and peculiar forms. The different groups of Algæ are distinguished as much by size of body as by the perfection and variety of their outer form. At the lowest stage we find