

four or six? In the case of man we see that individuals who have lost one finger have the use of the hand impaired, while the few who happen to have six do not seem to be the better. How it was with the old Batrachians we do not know; but it is certain that if we could have amputated the claw-bearing little toe of *Sauropus unguifer*, or the reflexed little toe of *Cheirotherium*, we should have much injured their locomotive power.

The vegetable kingdom is full of similar examples of the early settlement of great questions. Perhaps nothing is more marvellous than the power of the green cells of the leaf as workers of those complex and inimitable chemical changes whereby out of the water, carbon dioxide and ammonia of the soil and the atmosphere, the living vegetable cell, with the aid of solar energy, elaborates all the varied organic compounds produced by the vegetable kingdom. Yet this seems all to have been settled and perfected in the old Silurian period, long before any kind of plant now living was on the earth. Perhaps in some form it existed even in the Laurentian age, and was instrumental in laying up its great beds of carbon. So all that is essential in plant reproduction, whether in that simpler form in which a one-celled spore is the reproductive organ, or in that more complex form in which an embryo plant is formed in the seed, with a store of nourishment laid up for its sustenance.

These arrangements were obviously as perfect in the great club mosses and pines of the Devonian and Carboniferous as they have ever been since, and we have specimens so preserved as to show their minute parts just as well as in recent plants. The microscope also shows us that the contrivances for thickening and strengthening the woody fibres and trunk of the stem by bars or interrupted linings of ligneous matter, so as to give strength and at the same time permit transudation of sap, were all perfected, down to their minutest details, in the oldest land plants. It is true that flowers with gay petals and some of the