

credulous as an ordinary mortal in the direction of his wishes. Modern chemistry has as yet been unable to produce even dead protoplasm; nay, more, hardly two chemists are agreed as to its formula; but Haeckel is ready and anxious to believe that this compound arose accidentally at some almost infinitely remote period of the earth's history. And what are the convincing facts which bring him to this conclusion? All the carbon now found, as coal, &c., was, when the earth became cool enough to allow water to remain on its surface, probably for the most part distributed as carbonic acid gas through the atmosphere; therefore, the composition of the atmosphere was different then from what it is now. Further, the density and electrical conditions of the atmosphere were quite different. In like manner the chemical and physical nature of the ocean, its temperature, density, amount of salt, &c., must have been very different from what they are now. "In any case, therefore, even if we do not know anything more about it," says he, "there remains to us the supposition, which can at least not be disputed, that at that time, under conditions quite different from those of to-day, a spontaneous generation, which now is perhaps no longer possible, may have taken place." He then leaves his readers to their choice between creation and spontaneous generation, adding, in effect, that since the latter hypothesis *has lost its former* difficulty, a believing mind, as well as a scientific intellect, should accept it.

Having accounted for the life of his most primitive speck of protoplasm, he goes on to evolve from this the whole of the animal and vegetable kingdoms. A portion of the protoplasm hardens on the outside, thus forming a cell wall; another portion, having been walled off on the inside, forms a nucleus; and we have a complete cell, which he employs as a structural unit. This may divide into two; these two may divide and subdivide *ad infinitum*. As all animals and vegetables are but aggregations of cells, if sufficient time be allowed, all may be descended from this primeval particle of protoplasm. Are you not curious to look through the microscope and behold the type of your earliest ancestor?