

kernel, or out of the simple cells by the formation of a membrane. All the other forms of plastids or form-units met with, besides these, have only subsequently arisen out of these four fundamental forms by natural selection, by descent with adaptation, by differentiation and transformation.

By this *theory of plastids*, by deducing all the different forms of plastids, and hence, also, all organisms composed of them, from the Monera, we obtain a simple and natural connection in the whole series of the development of nature. The origin of the first Monera by spontaneous generation appears to us as a simple and necessary event in the process of the development of the earth. We admit that this process, as long as it is not directly observed or repeated by experiment, remains a pure hypothesis. But I must again say that this hypothesis is indispensable for the consistent completion of the non-miraculous history of creation, that it has absolutely nothing forced or miraculous about it, and that certainly it can never be positively refuted. It must also be taken into consideration that the process of spontaneous generation, even if it still took place daily and hourly, would in any case be exceedingly difficult to observe and establish with absolute certainty as such. This is also the opinion of Naegeli, the ingenious investigator, and he, in his admirable chapter on Spontaneous Generation, maintains that "to deny spontaneous generation is to proclaim miracles."

END OF VOL. I.