Morphologically the microscopic examination of animal and vegetable tissues had thus led not to a clearer definition of the great differences which exist in the forms and structures of the larger and the full-grown organisms, but rather to a conviction of their intrinsic and essential sameness. These differences could not be explained in the purely morphological manner in which Haüy had shown how to trace the difference of crystalline forms to the shapes and configuration of the "molécules intégrantes." The diversity of forms had to be traced to processes of growth or development — *i.e.*, the purely morphological examination led on to the developmental or genetic study of organic forms. And this was made still more evident when the microscopic examination revealed yet other and more important elements in the composition of organic structures, elements which were seemingly quite shapeless or amorphous. The skeleton, which had so long seemed to contain the key to the understanding of organic forms, the framework of the plant structure, the cell-walls and partitions, with all their geometric figures and arrangements, turned out to be of quite secondary importance compared with the cell contents, the substance called in animals by Dujardin sarcode, and in vegetables by Von Mohl protoplasm, and with the nucleus or cell-kernel, which had been discovered by Robert Brown.[1] Accordingly great interest attached

48. Transition to the study of development.

sional basis for physical astronomy. Both generalisations involve unsolved problems, with the difference that the formulation of the cellular theory is not as precise as that of gravitation.

[1] Both the discovery of the nucleus by Robert Brown and that of the cell contents by Dujardin preceded the enunciation of the cellular theory. Brown's discovery was referred to both by Schleiden and Schwann. In fact, Brown's researches were much better known and followed up in Germany than in England. His papers were trans-