

organism as Haüy attempted to build up crystals out of his "molécules intégrantes." The most elaborate analysis of this conception is put forward in the 'Micellar Theory' of the celebrated botanist Nägeli, which in Germany has found favour with many eminent biologists as a provisional programme of the various problems involved. It is clear that the conception of the physiological unit opens out two distinct lines of research. We can approach it on the one side by artificially producing in the chemical laboratory more and more of those chemically stable compounds which we find in the living organism. After Wöhler had produced urea artificially in 1828, the number of these artificial syntheses greatly increased, and we are specially indebted to M. Berthelot for having shown how all the simpler chemical compounds contained in the organism can be put together by inorganic processes. Some of the more complex substances have likewise subsequently yielded to this synthetic method. "It is possible," we are told, "that after a time our knowledge of chemistry may have advanced sufficiently to enable us to produce albuminous bodies artificially by synthesis."¹ "We are already able artificially to build up, atom for atom, out of their elements a series of organic compounds, some of a very complicated character. We no longer doubt that all the rest, even the most complex, will be thus produced; it is only a question of time."² But the ways in which the

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Synthesis of
organic
substances.

¹ See O. Hertwig, 'The Cell,' p. 16. | Chemistry,' transl. by Wooldridge, p. 313.

² See G. Bunge, 'Physiological