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SOME CURRENT CONCEPTIONS OF THE GERM PLASM[1]

IT is a commonplace of observation that the first decade of the present century has been, so far as the study of heredity and the germ plasm is concerned, a period of observation and experimentation, rather than of theorizing. The speculations as to a physical basis of heredity and its ultimate structure, which began with Naegeli's conception of the idioplasm and micellæ and culminated in Weismann's elaborate system of ultra-microscopic bearers and determiners of heredity and development, have given place to a renewed activity of observation on the structure and functions of the cell in reproduction and especially to experimentation in hybridizing and all forms of plant and animal breeding. We need not go so far as to say that evolution was on its death bed before the Mendelian revival. The study of the ultimate structure and processes of the plant cell has gone on from Von Mohl's time at least without much regard to such highly speculative disciplines as natural selection, Neo-Lamarckianism, neo-vitalism, etc.; still there can be no question that with the rediscovery of Mendelism and the possibility of bringing a great mass of both breeding and cytological data, as to unit characters, gametic purity, segregation and germinal variation and the behavior of the chromosomes in nuclear division and fusion, synapsis and reduction, into one harmonious theory of development, a great impetus has been given to the study of the funda-

[1] Address of the vice-president and chairman of Section G, Botany, American Association for the Advancement of Science, December, 1911.