

This provisional statement, which emphasises the now generally recognised difference between the germ-substance and the body-substance, requires, however, two further qualifications in order to embrace the great characteristic facts of life and death as modern embryology and the phenomenon of descent have unfolded them.

Only in rare instances can we observe the continuity of cells—*i.e.*, of those organisms which, so far as our knowledge goes, form the ultimate units of living matter. Weismann recognised, as did the great botanist Nägeli, and long before both of these the philosopher Herbert Spencer, that though in the cell, with its nucleus and protoplasm, we may have arrived at the last microscopically visible independent units of life, we must—with the atomic theory in chemistry—assume the existence of much smaller units in all living matter, compared with which even the nucleus of the cell is a very complex aggregate. If the continuity of life is dependent upon that of an underlying living substance, this substance must be only an infinitesimal portion of any visible cell or nucleus. The conception of a continuous germinal substance has thus taken refuge in the more refined conception of a germ-plasma, as distinguished from the body or somatic plasma: the former is immortal within the limits of the conditions of organic life, the latter is

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Germ-
plasma and
body
plasma.

Naturforscher - versammlung at Salzburg, reprinted in 'Essays upon Heredity,' transl. by Poulton and others, Oxford 1889; see also the 'Studies in the Theory of Descent,' transl. by Meldola, 2 vols., 1882, and the earlier essays of Weismann mentioned in the preface, p. viii.),

has become both scientifically and popularly recognised and debated, are given in Geddes and Thomson, 'The Evolution of Sex,' p. 93; also in M. Delage's great work, p. 349, &c., and in Wilson, 'The Cell,' p. 295, &c.