cated case seems to have been established.[1] On the other side the influence of crossing, of the repeated division and fusion of different germ-plasmas, to which Darwin in his later writings attached more and more importance, and on which Weismann relies exclusively for an explanation of variation and natural selection, is denied by some biologists to tend in the direction of the gradual growth of definite characters: they point rather to the obliterating and diluting influence of such promiscuous fusion, and they maintain that the presence of an environment which always acts in a constant manner[2] is indispensable.

If we now look back for a moment on the fundamental change of ideas which the century has brought about in the biological aspect of nature, we are bound truly to halt in astonishment. In no department of thought have comparatively small beginnings and detailed discoveries, referring to infinitesimally small phenomena, led to such revolutionary ideas concerning those phenomena which most intimately affect our personal interests—the problems of life and death, of conduct and of health. The whole of this change has been brought about by introducing and extending those

[1] It is needless to give special references, as all the recent works on the subject, which have been largely quoted in this chapter, deal with this point. See, however, Yves Delage, 'L'Hérédité,' p. 196, for a very complete bibliography. He concludes as follows: "Il n'est pas démontré que les modifications acquises sous l'influence des conditions de vie soient généralement héréditaires, mais il paraît bien certain qu'elles le sont quelquefois. Cela dépend sans doute de leur nature. D'ailleurs on ne sait pas quelle est dans ce résultat la part de la transmission des modifications somatiques aux cellules germinales et celle de l'action directe des conditions ambiantes sur celles-ci" (p. 221).

[2] Hertwig, 'The Cell,' p. 319.