

led psychologists to consider more closely the conditions under which a mathematical treatment is at all possible, and to recognise that exact and accurate measurements must precede all application of an abstract calculus. Herbart's ideal was that of a psychical mechanics; he opposed¹ the idea of a union of physiology and psychology. And yet this was just the direction in

¹ In a very interesting note at the end of the introduction to the second part of his larger work on psychology, Herbart explains his position with regard to physiological psychology. It refers to certain extracts which he makes from Rudolph's 'Grundriss der Physiologie,' in which that eminent physiologist referred to Herbart's 'Lehrbuch der Psychologie.' "It is not only a metaphysical but also a logical error to confound psychological and physiological research. Psychological phenomena are not in space, but space itself, with all that appears in it, is a psychological phenomenon, and, indeed, one of the first and most difficult facts for psychology, which, in the treatment of it, would behave very improperly if it began by discussing the forces in the nerves; for the question is not, where sensations come from, but how sensations acquire the form of space. Now, I maintain further, that the difference between lifeless and living matter—that is, between physics and physiology—cannot be understood until we know mind by means of psychology, for in all the countless elements of the organised body—in plants as well as in animals—there is an analogue of mental development which cannot possibly be found on the surface of phenomena. We observe internally a fragment of *our own* mental existence. This fragment is developed into scientific knowledge through

speculative psychology based on metaphysics. This knowledge meets another equally metaphysical science, natural philosophy, with its conception of matter—that is, of such matter as we know through chemistry and dynamics. Then only can the question be put, how such matter must be constituted, so that its separate elements are determined, not only through their original quality, but also through a development analogous to the mental one," &c. The section closes with the following characteristic passage: "Those who favour empiricism can learn from the present state of physiology how much, or rather how little, mere experience can do. Physiology, as an empirical doctrine, has attained a height which nobody can despise. Moreover, it proceeds in the light of modern physics. Nevertheless, it has eagerly sucked up, as the sponge sucks up water, that philosophy of nature which knows nothing, because it began by construing the universe *a priori*. Towards this error no science has proved so weak, so little capable of resistance, as physiology. The talk about life has become the Dead Sea in which all spirit of philosophical research is drowned, so that, if a resurrection is at all to be hoped for, it must be born anew in quite unbiassed minds" ('Werke,' vol. vi. p. 65, &c.)