

it is of course true that the organ of the mind forms no exception to the law of "development by use," it is only in a very limited sense the fact that brain-work promotes brain-growth, and it is of the utmost importance that the precise conditions under which it so acts should be generally understood.

The brain does not grow in bulk or weight after a comparatively early age. Before the period of physical growth is completed, mental straining would be like racing a two-year-old colt, and almost inevitably issue in a break-down; and subsequently to that period there can be no question of increase in the quantity of brain-cells or molecules; the limits of development as to mass, though perhaps not as to weight, are then finally determined. The only physiological opportunity for development which remains after the age of childhood relates to the development of special qualities, capacities, or properties in the cerebral elements. Any rough application of the principle, that growth is stimulated or in any way promoted by exercise, must therefore be inadmissible in brain-culture during youth. Growth is not the end to be attained in this stage. The object to be gained is the internal arrangement of brain-molecules, under the reflex influence of special-processes of activity. The means to this end is training as distinguished from mere exercise. This is an important distinction. It is not work for mere work's sake that is wanted to cultivate the brain of a youth, but a skilful eliciting of cerebral function by education tending to formulate the energy of brain-tissues by leading or constraining it to useful lines of action. Brain-tissue is, so to say, a more costly part of the organism than any other; it is less easily repaired than other tissues, and needless waste by consumption in purposeless use is to be deprecated. Brain-work is only of use so far as it trains; it cannot promote growth, for the simple reason that growth after the earlier years of life is physiologically impossible. The measure of brain-growth is practically fixed by hereditary force, and this force operates more powerfully in regard to brain-tissue than to any other element of the body, so that mischief is peculiarly likely to result from abuse of the known laws of "development" in respect to this particular organ.

It follows from these general considerations that those who have the care of youth, and persons in authority who by their official regulations determine the nature and course of the educa-