

the organic disturbances of disease. Here nature has arranged and actually performed the experiment for us; the only difficulty being the physiological one, that the cerebral disturbances are almost as obscure as the mental states which they are used to explain. All such cases of abnormal mental changes are classed together under the name of abnormal psychology. It includes all questions which relate to nerve physiology and pathology, illusion, hallucination, mental disease, hypnotism.

On the other hand, experiments may be arranged for the normal stimulation of the sense organs—skin, muscles, special senses—under artificial conditions as explained, in part below. On these lines modern experimental psychology falls into two great departments. As the normal properly precedes the abnormal, it is well to consider the line of researches based upon external experiment first, confining ourselves in this paper to a more or less cursory view of results already established.

II. PSYCHO-PHYSICS

In attempting to give a succinct account of the growth and main results of what we have called external experimental psychology, we must forewarn the reader that it is with very modest and, it may be, minor facts that we are concerned. Here we have a characteristic of the new method. Any fact in natural science is valuable for its own sake; and it is only after there has been a vast accumulation of such facts, that broader principles may be inferred from them. The problems we are called upon to consider are such preliminary applications of experiment, and their full value for mental interpretation is only now beginning to be apparent.

We have already stated that the two conceptions of quantity and time, or duration, may be made applicable to facts of consciousness, thus giving us means of relative measurement. According as we are dealing with one or the other conception—according as we are aiming at determinations in quantity of sensation, or in the duration of mental