alliterative or rhyming words—and to respond by mere disconnected repetitions of former words. From the consideration of these characteristics of association Dr. Aschaffenburg will proceed to his study of association in abnormal subjects. Incidentally, the monograph treats other topics: community of associations, accepted as an evidence of the lack of originality (p. 92); the difficulty of assigning with certainty the period of life to which associated images date back (p. 87); and finally, the grammatical type of associations (p. 82). The associated words, as Kräpelin had indicated, are chiefly nouns, but three of the thirteen subjects respond with a large number of verbs, while another often associates adjectives. The author is unable, however, to trace these types, which correspond with those suggested by Münsterberg (*Beiträge*, IV.), to any characteristics of individual thought.

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Ueber die Wahrnehmung von Druckänderungen bei verschiedenen Geschwindigkeiten. GEORGE MALCOLM STRATTON. *Philosophische Studien*, Band XII., Heft 4.

Dr. Stratton's experiments seem to have been carefully made, and are discussed with considerable acumen. Were it not for what is, perhaps, a fundamental error in the interpretation of results, the work would be far above the average thesis in psychology.

The first of the three sets of experiments made by the writer was on the accuracy of momentary pressure changes. The method used was that of minimal changes. The stimulus was applied by a system of levers to the little finger. The results of 560 determinations show clearly that a change in the pressure could be perceived before the direction of the change, and that the perception of an increase of pressure is more accurate than that of a decrease. Weber's law was found to hold for 75–200 g.

In discussing these results Dr. Stratton concludes that the process involved is similar to that of absolute threshold perception rather than that of difference discrimination. The greater accuracy of perception for increase of pressure is ascribed to the intensifying effect of attention, the writer rejecting the fatigue hypothesis of Hall and Motora, who had observed the same phenomenon.

In interpreting his experiments Dr. Stratton assumes that the stimulus is pure pressure, and goes so far as to regret that movement cannot be entirely excluded. Does he suppose that a sensation of

pressure is possible without movement? The fact is, as can be shown by the simplest experiments, that constant pressure, if below the pain threshold, soon ceases to effect consciousness. Pressure without movement cannot, therefore, be considered a stimulus at all, or classed together with other sensory stimuli. Gustatory and olfactory stimuli, it is true, seem to lose their effect gradually, but this phenomenon is easily explained by fatigue. Fatigue cannot, however, be caused by a pressure so small that we can hardly perceive it. Dr. Stratton's assumption is all the more remarkable in view of his recognition of the resemblance of the process to that of threshold perception. He himself observed that the change in pressure seemed to him but a slight touch of the stimulated surface.

In another series of experiments the writer investigated the effect of variations in the rate of change on the accuracy of perception. The rate of change of the stimulus was regulated by the application of Archimedes' law of fluid pressure, as in the other experiments. The method of minimal changes was used. The least perceptible increase was found to be inversely related to the rate of change, a result exactly the opposite of that obtained by Hall and Motora. But instead of rejecting contemptuously the work of the previous investigators, as many experimental psychologists would have done, Dr. Stratton repeated the experiments of Hall and Motora and got the same results. The discrepancy between the results of the two sets of experiments must, therefore, be due to the methods employed. The increase of the threshold from decrease of the rate of change is explained by the effect of attention and the conditions of the observer's reaction. In support of this view the writer offers considerable evidence. The opposing results he explains on the supposition that differences are more easily perceived, the closer the objects to be compared. How this applies to continuous changes is not clear. Had the writer not started with what is, I believe, a radical misconception of pressure phenomena, he would not have rejected so hastily the physiological interpretation.

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Mesure de la Clarté de quelques Représentations Sensorielles. M. FOUCAULT. *Revue Phil.*, Dec., 1896.

The problem set out for investigation is the determination of sensible discrimination for weight or pressure. The method employed is that of right and wrong cases. Small boxes of uniform size were used, in which the different weights were placed. The experiments