3. Physiological Psychology.

The Congress of Experimental Psychology at Giessen [*Erster Kongress für experimentelle Psychologie in Deutschland*]. (*Zeit. f. Psych. u. Phys. d. Sinnesorgane*, 1904, *Heft* 5.) *Dürr, E.*

At this Congress, which was presided over by Professor J. E. Müller, of Göttingen, fifty-one papers and demonstrations were brought forward, covering a very wide field of normal and abnormal psychology. Among the more interesting and important were those by Dr. Henri on the methods of individual psychology, Müller on colour-blindness and the theory of complementary colours, Dr. Guttmann on colour-weakness, which he finds associated with stronger than the usual simultaneous contrasts and by speedy exhaustion. In dealing with geometric optic illusions Ebbinghaus came to the conclusion that various causes must be invoked for their explanation. A paper by Tschermak, on the perception of depth, and the discussion which followed, showed a general tendency to harmonise nativistic and empirical theories. Exner dealt with certain extirpations of the cortex in dogs in relation to problems of sensation. Aerutz discussed the analysis of various kinds of tactile sensation. Müller described the extraordinary memory of Dr. Rückle of Cassel, who is, for instance, able to learn a series of 204 figures in eighteen or nineteen minutes, or only a quarter of the time required by Diamanti, and reproduce them in the most various orders; his memory is said to be of optic character, but with acoustic-motor elements. Weygandt read a paper on sleep, showing by experiments on himself that short periods of sleep do not suffice to remove the exhaustion of mental work. Claparède presented a new theory of sleep which he regards, not as the result of a kind of intoxication, but as an instinct, having for its object the prevention of intoxication. Martius discussed the influences of psychic processes on pulse and respiration, and showed that the contradictory results so far reached are due to defective methods. Groos dealt with the beginnings of art, and argued that it could not be derived exclusively from sexual sources. All these and many other papers are summarised by Dürr.

An important outcome of the Congress was the establishment of a society for experimental psychology, with Prof. Müller as President and Prof. F. Schumann of Berlin as Secretary. HAVELOCK ELLIS.

The Relation between Vaso-motor Waves and Reaction Times (*Psychol. Rev.*, *May*, 1904). *Wright, W. R.*

Does the reaction time of a subject vary in length in accordance with the rise and fall of his vaso-motor or Traube-Hering wave? In seeking to answer this question, Wright placed the subject in a room separate from the recording apparatus, so that all distractions were reduced to a minimum. A Hallion and Comte plethysmograph was attached to the subject's left hand, and with his right he operated a telegraphic key. On the table in front of him (but screened from his view) was a telegraphic sounder, furnishing the auditory stimulus to which he reacted. Air-tight rubber tubing and insulated wires connected the apparatus with

two kymographs in the experimenter's room. Five persons served as subjects.

Wright records his experiments and concludes that they show that the subject's reactions form a curve which in shape agrees with the curve of his vaso-motor wave. Patrizi, in a somewhat similar series of experiments on one subject, reached similar but less decisive results, and therefore concluded against any relation between blood supply and reaction time. Wright, by confirming Patrizi's results on a larger scale feels himself justified in negativing Patrizi's conclusions from those results. HAVELOCK ELLIS.

Some Cases of Coloured Hearing [*Audition coloréé*]. (*Arch. de Psychol., Feb.*, 1904.) *Lemaitre, Aug.*

Three interesting cases of this condition are here recorded. The first shows how the condition may be acquired. A boy, æt. 7 (he is now 14), was playing in the country, near Geneva, with some young peasants who were amusing themselves with trying to gaze at the sun. Immediately afterwards he lay down on the grass and went to sleep. A little later a young shepherd shook him and said: "Get up!" To the child's stupefaction he saw against the shepherd's chest a mass of brilliant and changing colour, appearing and disappearing with each word that he uttered. Since then this phenomenon has been more or less persistent, and the words uttered by others (not those spoken by himself) call forth an elongated mass of oval colour, about the size of "the hollow of the hand," the colour varying infinitely not only with the person who speaks but with the same person at different times. The deeper and stronger the voice is, the lighter the colour (though the boy himself remarks that one would expect it to be the contrary way). The phenomenon is so marked that the boy, who is very intelligent, is dazzled and unable, for instance, to write to dictation, or to copy when others are talking. There is also some degree of photophobia. He is nervous and restless, unable to control perfectly the movements of his limbs, and with fibrillar twitchings of the calves. His grandfather was somnambulistic. In explanation of the origin of the phenomenon Lemaitre puts forward the supposition that the child's nervous system had been rendered erethic by the insolation, and that the violent command "Get up!" overpassed the auditory region of the brain and reached the optic territory—an explanation which seems more ingenious than convincing.

In the preceding case the photisms were very variable. In a second case they were remarkably constant. It is that of a young man whose photisms are almost universal. He does not himself take much interest in them, yet when questioned concerning the colours of a long series of sounds and words, at intervals of a year, the examination being continued during three years, the changes in the colours were for the most part very slight.

In a third case the stability of the photisms was established not only for the individual but hereditarily. A boy, æt. 13, found that all the vowel sounds were for him accompanied by colours—*a* red, *e* white, *i* black, *o* yellow, *u* blue. He had never heard of the phenomenon from any other person, but on telling his mother he learnt that she also had