

nave to one another. We should bear in mind the powerful constricting capacity of the supra-renal capsules, which might become the cause, not only of monstrosities, but also of other brain diseases, such as congenital hydrocephalus.

Dr. Obersteiner observed that hypertrophy of the brain is a very rare disease. He had a case of it in a boy *æt.* 8 years. There was no great impairment in intelligence. The brain, without the fluid of the ventricles, weighed 1920 grammes.

Dr. Stekel stated that he had observed in migraine a lowering of temperature to occur with some regularity. The same declension was observed in a case of sarcoma affecting the supra-renal capsules. He holds that the condition of the supra-renal capsules had a significance in migraine.

WILLIAM W. IRELAND.

---

### 3. Physiological Psychology.

*A Criticism of the Applicability of Plethysmographic Curves in Psychological Questions* [*Zur Kritik der Verwendbarkeit der plethysmographischen Curve für psychologische Fragen*]. (*Zeit. f. Psychol. u. Phys. d. Sinnesorgane*, H. 5 and 6, 1902.) Müller, R.

This lengthy and able paper presents an interesting study of the historical evolution of the plethysmograph, and then discusses the interpretation of its results. Lehmann's plethysmograph was used. Müller is not, however, like Lehmann, prepared to admit a psychological interpretation of plethysmographic curves, but considers that at present such interpretations are in a high degree confused and uncertain. However simply the plethysmogram may be obtained, its interpretation presents complex possibilities of error which involve some of the most debated points in the mechanism of the pulse. We are therefore yet far removed from the time when we shall be able to give a settled representation of the relations between psychic and circulatory processes. The schemes of C. Lange, Lehmann, and others are, Müller believes, without justification. Before we can take psychic elements into consideration we have, he argues, three different orders of physiological waves to allow for in interpreting the curve of the volume of the pulse: (1) the pulse-wave proper; (2) respiratory waves, and also waves which correspond to, and perhaps are, Traube-Hering waves; (3) S. Mayer's waves, which are of longer periodicity than the Traube-Hering waves. These waves are discussed at some length, and Müller severely criticises the statement of Lehmann that "those oscillations of the pulse which do not depend on the breathing or on muscular movement are of psychic origin." The paper deserves careful study by all who are interested in the psychological applications of the plethysmograph. It by no means follows, however, that the necessity of recognising waves of infra-cortical origin in the plethysmographic curve altogether invalidates psychological interpretations.

HAVELOCK ELLIS.