proved the condition to be one of cerebral irritation rather than of meningitis. And in four days both the symptoms and the temperature had settled down.

As to the etiology of the condition present in both cases, one of double complete hemianopsia passing into double quadrantic hemianopsia, there are two possible solutions. In both cases there was certainly some actual damage done, i.e., some (probably permanent) injury to the lower part of the cuneus on the mesial surface of the right occipital lobe. Such damage would readily account for the persistent quadrantic hemianopsia. It is for the other condition, that of transient double complete hemianopsia, of temporary total blindness, that there are two possible solutions. On the one hand, this may have been caused by hæmorrhage at the moment of the wound, by blood effused along the mesial aspect of the occipital lobes, which by pressure caused immediate total blindness, and later became organised into a small clot. And on the other hand, it may be due, as suggested by Major F. W. Mott, R.A.M.C. (T.), to a profound but passing shock-effect, which made itself felt also in the opposite occipital lobe, and for the time being paralysed the function of the entire visuo-sensory apparatus.

A CASE OF SEVERE TETANUS; RECOVERY AFTER INTRA-CEREBRAL INJECTION.

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AND

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THE patient, a Moslem, was admitted into hospital on March 2nd, 1915, with pronounced trismus, easily evoked prolonged spasms in the sterno-mastoids, deltoids, biceps, pectorals, and recti abdominales, and rigidity in both legs. His friends stated that he had been ill for five days. No external wound could be found. On the 3rd he was worse; the spasms were more frequent and he had some opisthotonos. In the afternoon of this day 5 c.c. of the Pasteur Institute antitetanic serum were injected into each cerebral hemisphere after turning down a small flap at Roux's point and drilling a hole in the skull. On shaving the scalp preparatory to operation a small scabbed-over wound was discovered over the left parietal bone. There were also injected 5 c.c. intravenously, but a little of this was spilt. On the 4th there was distinct improvement. The rigidity was less and his speech was improved; swallowing of small quantities of fluid was possible. Serum, 10 c.c., was given intravenously, and hypodermic injections of 5 c.c. of 1/40 carbolic acid every two hours were commenced, but were discontinued later on in the day. On the 5th there was a great improvement. He was able to swallow milk freely; complained of great hunger. Serum, 10 c.c., was injected intravenously. On the 8th there was continued improvement. The muscles of the jaw and arms were relaxed; other muscles were improved, but stiff and hard. He could eat solids. On the 10th continued improvement. The muscles of the lower extremity were still stiff. He was discharged completely cured on the 26th and went out in his normal state of health.

The case is published to swell the small number of cases of successful treatment of severe tetanus which seem to show that severe tetanus, even with a short incubation period, is not absolutely hopeless, but that energetic treatment is worth trying. The wound in this case looked about a week old or less.

Busra.

Reviews and Notices of Books.

Principles of Human Physiology.

By ERNEST H. STARLING, M.D. Lond., F.R.S., Jodrell Professor of Physiology in University College, London. Second edition, with 566 illustrations, 10 in colours. London: J. and A. Churchill. 1915. Pp. 1271. Price 21s. net.

IN the short period which has elapsed since the publication of the first edition considerable advances have been made in physiology, and the author has found it necessary to rewrite much of the sections dealing with voluntary muscle and with the circulation, in addition to making modifications of other parts of the work. New sections have also been introduced dealing with nutrition of the brain and with the innervation of the bronchi. The general shape of the book has been somewhat altered, and so have the length and breadth of the page, small type is introduced here and there, the number of pages has been reduced from 1423 to 1271 consequent on the changes just mentioned, while the number of illustrations and the general arrangement remain much the same as in the first edition. Book I. deals with general physiology, Book II. with the mechanisms of movement and sensation, Book III. with the mechanisms of nutrition, and Book IV. with reproduction.

There are no very material changes in Book I., which includes the structural basis of the body, the material basis of the body, and the energetic basis of the body. Some matter that was in ordinary type in the first edition has been now relegated to smaller type, and rearrangements of matter are effected in several of the chapters. Some additions are made to the chapter which deals with the intimate nature of muscular contraction, and the recent work of A. V. Hill is included. The chapters dealing with the physiology of the central nervous system are particularly interesting, practical, and suggestive. On p. 443 some new matter dealing with the functions of the corpus striatum, and "conditioned reflexes"—the latter under the heading of Higher Associative Functions of the Cortex—is added, otherwise the text seems much the same as in the previous edition. The chapter on speech is well worthy of careful perusal. Before dealing with the autonomic nervous system—which stands very much as it did in the first edition—there comes in quite appropriately a chapter on the nutritive and vascular arrangements of the central nervous system. There are some small changes under "colour blindness."

So far as Book II. is concerned the additions and changes are not many. We find, however, valuable and suggestive additions in the author's discussion as to "the significance of the double nerve-supply to the glands" (i.e., salivary glands), p. 673. In regard to deglutition, it might be well to state in the description of Fig. 334, showing curves obtained during this act, that these curves were obtained, if we recollect aright, by Meltzer and Kronecker. In connexion with the movements of the stomach a very short paragraph is added on Carlson's well-known views on the "pangs of hunger" (p. 701).

Some changes have been made, in view of recent work, in the section dealing with the activation of pancreatic juice. Under the heading Structural Changes in the Pancreas which accompany Secretion the observations on the "islands of