

### III.—RELATION OF THE NERVOUS SYSTEM TO BODILY TEMPERATURE IN DISEASE.

I.—H. SENATOR. *UNTERSUCHUNGEN UEBER DEN FIEBERHAFTEN PROCESS U. SEINE BEHANDLUNG.* (*Researches on the febrile process and its treatment.*) Berlin, 1873.

II.—W. WINTERNITZ. *UEBER WESSEN U. BEHANDLUNG DES FIEBERS.* (*The nature and treatment of Fever.*) *Wiener Klinik*, I. Heft, 3, March, 1875.

III.—H. C. WOOD. *A STUDY OF THE NATURE AND MECHANISM OF FEVER.* *Toner lecture*, No. IV., Jan. 20, 1875.

I. Although Senator's work appeared some time since, we deem it best to incorporate it into this review, as its thorough contents enable it to serve as a basis and criterion of subsequent researches. Commencing with a historical survey, Senator cites in succession the different views concerning the febrile process, viz.: the earlier theory of increased production of caloric—Traube's explanation of diminished loss of heat by spasm of the cutaneous vessels, and on the other hand Leyden's experimental results, according to which, both calorification and the radiation of heat are augmented, while the loss by evaporation is reduced. Hereupon he details his own researches, made on seven dogs, which number is perhaps sufficient for the object sought, though it hardly justifies such an extended record, about fifty pages being filled entirely with figures, the calculations from which the reader is not expected to make, as the author himself introduces them. The excretions of the animals were analyzed, and the loss of heat determined in the normal state, during abstinence and during a fever caused by subcutaneous injection of fresh pus from abscesses which the author prefers to purulent sputa, as the latter proved always fatal. The results varying in absolute numbers in the different cases were the following:

1. The formation and excretion of urea, the index of the destruction of the albuminous tissues, is augmented during the entire duration of fever, when compared with a corresponding period during abstinence, but the diurnal quantity of urea is *much less* than during the time when the animals are well nourished.

2. The loss of  $\text{CO}_2$  and water is increased, as compared with the non-febrile state *under the same conditions*; as the conditions for excretion are more favorable.

3. The water is mostly eliminated by the kidneys, hence the preponderance of the sensible over the insensible losses.

4. The insensible losses, especially the exhalation of  $\text{CO}_2$ , are

nerve is subjected. But the very occurrence of this reflex paralysis, as it was once assumed by Brown-Sequard, is at present a matter of serious doubt. Wood, however, admits that an antagonistic force to the inhibitory centre is likely to exist, to reason by analogy, and may also have a share in the production of fever; whether, however, this force is the chemical tendency of the tissues themselves, or whether the *depressor* is antagonized by an *accelerator* chemical nerve is as yet a matter of doubt. Certainly some substances seem to act on the tissues themselves; thus our author found a reduction of temperature by nitrite of amyl after division of the cord, and the same was proven for alcohol by Binz, etc. Murri has also succeeded in producing the same grade of fever in dogs by injection of pus before and after section of the cord. Wood himself did not find the inhibitory centre paralyzed in pyæmia, since he could lower the temperature by stimulation of the sensory nerves. If Heidenhain did not succeed in that, it was owing probably to his having employed feeble currents, while Wood made use of a decidedly intense irritation. Still, Wood claims for the centre, if not paralysis, at least a state of paresis in pyæmia; but even this is a matter of doubt in view of the fact that Murri could obtain pyæmic fever after separation of the tissues from the inhibitory centre. Besides, Wood obtained a greater reduction of temperature in the feverish than in the normal animal by stimulating sensory nerves, and still he finds it "an almost necessary inference that in septic fever the inhibitory centre has lost in part its susceptibility." This rashness of conclusion is an unpleasant feature in an otherwise highly creditable American production. H. G.

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#### IV.—BEARD AND ROCKWELL: ELECTROTHERAPEUTICS.

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A PRACTICAL TREATISE ON THE MEDICAL AND SURGICAL USES OF ELECTRICITY, INCLUDING LOCALIZED AND GENERAL FARADIZATION; LOCALIZED AND GENERAL GALVANIZATION; ELECTROLYSIS AND GALVANO-CAUTERY. By Geo. M. Beard, A.M., M.D., and A. D. Rockwell, A.M., M.D. Second edition, revised and mostly rewritten, with nearly two hundred illustrations. Large 8vo. 794 pp. New York, 1875: Wm. Wood & Co. Chicago: Jansen, McClurg & Co.

In writing a notice of the second edition of a well-known work, it is rarely necessary to go much beyond generalities. It usually differs from its predecessor only in that the author has remodeled a few paragraphs, added a little here and there, so as to bring it more nearly up to the existing state of knowledge on the subject