relative tone of pleasure and of pain, it extending in two opposed nodes from an indifference zero.

In the author's experience the majority of subjects can discriminate these two factors of an empirical complex, although both are abstractions purely. The sensation-curves are constructed by using the stimulus values as abscissas, and sensational intensities as ordinates. The feeling-curves use likewise the stimuli as abscissas, the curve thence extending on either side with the varying tone.

A large set of such curves made from averages of many persons and sensations would have considerable descriptive interest and value, being suggestive at least.

Unilateral Facial Paralysis for Emotional but Not for Voluntary Movements. R. T. WILLIAMSON, M.D. London, British Medical Journal. March 10, 1900. Pp. 576.

Nothnagel (*Zeitschr. f. klin. Med.*, Bd. XVI., Hft. 5 and 6) has already shown that lesions of the optic thalamus give rise to paralysis of emotional movements of a part, without interfering with the voluntary control of that part. This, of course, is strongly in evidence of the James-Lange theory of the emotions, indicating as it does that a large and important division of the brain is devoted, in part at least, to the innervation of emotional bodily reactions to certain stimuli. The case of Dr. Williamson's, here reported, is a striking illustration of this neurological relation.

The patient in this case was a woman forty-one years old. Consequent to great mental excitement her left leg became totally paralyzed and her left arm partly so; the tongue, however, could be protruded straight. There was no loss of consciousness. There was hemianæsthesia to tactile and to pain stimuli on the entire left side, as well as loss of sensibility to heat and cold. There was no hemianopsia. All the voluntary movements of her face, such as showing the teeth, etc., were very nearly alike on both sides, the left exhibiting a very slight deficiency as compared with the right. But when, by the proper stimuli, she was induced to smile, the left side was a complete blank, while the right side showed the ordinary typical expression of joy.

Dr. Williamson judges the lesion in this case to involve directly or indirectly the posterior part of the posterior portion of the internal capsule, and in all probability the optic thalamus. This presumption previous typical cases have made probable.

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