

Part III.—Epitome of Current Literature.*

1. Anatomy and Physiology.

The Rôle of the Parasympathetics in Emotions. (*Psychol. Rev.*, vol. xl, p. 368, July, 1933.) Kling, C.

The writer points out that in fear quite half the bodily changes are expressed by the cranio-sacral outflow, that the degree of fear corresponds somewhat to the degree of parasympathetic influence, and that in terror the parasympathetic influence is manifestly dominant over the sympathetic. The evidence to support these statements consists in the fact that cardiac inhibition is most obvious in fear states, and the fall in blood-pressure and syncope are both due to splanchnic vasodilatation. The spastic condition of the œsophagus reported as "a lump in the throat" or a feeling of "the heart sticking in the throat", and the sensations of tightness in the throat which appear suddenly in terror and gradually in grief and worry and other chronic fear states, are parasympathetic in origin, since the vagus and spinal accessory are responsible for the innervation of the muscular coat of the œsophagus. The "dreadful scream of terror" due to reflex spasm of the laryngeal muscles with the simultaneous contraction of the chest cavity is due to the action of the vagus. The sinking sensation felt in the pit of the stomach is due to gastric contraction via the vagus. Intestinal hypermotility leading to diarrhœa or tonic spasm of the circular muscles of the intestine leading to constipation may both be due to vagus stimulation. A variety of other symptoms of worry, fear and terror can be shown to be due to stimulation of the parasympathetic. This parasympathetic view of the emotions is supported by Bechterev. In mild states of fear the vagus is almost solely in control. Amongst 800 students in psychology the writer found between the emotional depression traits of neurasthenia and reflex vagotonic symptoms a correlation of .47. There are many individuals who habitually express almost any kind of emotion by a characteristic pattern of vagotonic disturbance. Vagus dominance is extremely unpleasant in affective tone, while sympathetic dominance may be pleasurable. The writer finds no evidence for the reciprocal innervation of the two divisions of the autonomic system, but instead considers a double excitement and mixture of symptoms to be the rule.

G. W. T. H. FLEMING.

Respiratory and Pupillary Reactions Induced by Electrical Stimulation of the Hypothalamus. (*Arch. of Neur. and Psychiat.*, vol. xxix, p. 1179, June, 1933.) Ranson, S. W., and Magoun, H. W.

The authors explored the hypothalamus of 22 cats by means of the stereotaxic instrument of Horsley-Clarke. Respiratory acceleration associated with running movements was obtained from stimuli in the lateral hypothalamic area and in the region surrounding the fornix. Marked bilateral dilatation of the pupils was obtained from the same two areas. Bilateral constriction of the pupil resulted from stimulation of the optic tract, the pre-tectal area, and points near the line of separation between the central grey matter, and the tegmentum at the level of the posterior commissure.

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Spitting movements were obtained from stimulation at the level of the supra-optic commissures in the region of the subfornical component of the medial fore-brain bundle.

G. W. T. H. FLEMING.

Hypothalamus and Temperature Control. (*Arch. of Neur. and Psychiat.*, vol. xxx, p. 728, Oct., 1933.) Bazett, H. C., Alpers, B. J., and Erb, W. H.

The writers studied the brain-stems of cats with anterior decerebrations. They found that the animals had the capacity of reacting to cold and of regulating their own body temperature at a normal level (and probably of developing fever), in the absence of the corpus striatum and thalamus, which were not, therefore, essential. The presence or absence of temperature control appeared to be associated with the preservation of the hypothalamus just cephalic to the corpora mamillaria; the area included the nuclei surrounding the walls of the third ventricle and the infundibular nuclei. Such animals did not, however, show a normal hyperpnoea when exposed to excessive heat.

G. W. T. H. FLEMING.

The Localizing Significance of Spasticity, Reflex Grasping and the Signs of Babinski and Rossolimo. (*Brain*, vol. lvi, p. 213, July, 1933.) Kennard, M. A., and Fulton, J. F.

The authors investigated certain signs in tame chimpanzees before and after circumscribed surgical lesions of various excitable regions of the cerebral hemispheres. They found that lesions of area 4 cause flaccid paralysis of the contralateral extremities, a Babinski response and diminution of tendon reflexes. These signs became more pronounced after bilateral lesions. Lesions limited to area 6 are followed by spastic paralysis of the contralateral extremities, together with forced grasping, and increase in tendon reflexes, the Rossolimo response and fanning of the toes. These signs were present for a longer period after bilateral lesions. Recovery of motor power may be extensive, but the sign of Rossolimo persists permanently, even after a unilateral lesion. When areas 4 and 6 are both removed from one cortex, very marked spasticity and forced grasping appear. The extensor Babinski becomes exaggerated, Rossolimo's sign is increased and tendon reflexes become permanently exaggerated. In monkeys and baboons complete bilateral extirpation of areas 4 and 6 is followed by permanent and complete loss of voluntary power. Forced grasping and spasticity are extreme, and the involuntary postural and righting reflexes of Magnus and de Kleijn may be demonstrated readily. The bodily reflex status of such animals appears to be identical with that of thalamic preparations.

G. W. T. H. FLEMING.

Rôle of the Anterior Roots in Visceral Sensibility. (*Arch. of Neur. and Psychiat.*, vol. xxx, p. 99, July, 1933.) Stone, T. T.

The author found from experiments on cats that the anterior roots do not contain antidromic sensory fibres conducting painful impulses from the viscera, such as that produced by forceful dilatation of the gall-bladder. Section of the posterior roots, if a sufficiently large number are severed, will abolish visceral pain produced in this way. The author concludes that the posterior roots are the pathways into the spinal cord for certain painful impulses from the viscera.

G. W. T. H. FLEMING.

Neuro-muscular Irritability in Relation to the Biochemistry of the Minerals. II. Influence of Changes in the Ca/P and Na/K Ratio in the Food. (*Biochem. Zeitschr.*, vol. cclxii, p. 367, 1933.) Seekles, L., and Sjollem, B.

On a diet with a normal mineral composition, the physiological irritability is low and the AC/AO quotient (anode closing or opening) is less than 1. The composition of such a diet is Na/K = 1 : 6.1, Ca/P = 1 : .78, Ca/K = 1 : 3.52, Ca/Mg = 1 : .132. With an abnormally high Na/K ratio of 1 : 542, the AC/AO quotient is generally, but not always, increased, but it is regularly and more definitely