ABSTRACTS

NEURO-ANATOMY AND NEUROPHYSIOLOGY.


The author's conclusions are stated as follows.

When young puppies and kittens were decerebrated by sectioning the midbrain at a level bounded dorsally by the cephalic border of the superior colliculi and ventrally by the cephalic border of the pons, the red nucleus was all, or nearly all, removed. These animals exhibited decerebrate rigidity in the extensor muscles of the fore legs and to a less extent in the hind legs.

If the transection was made to pass from the cephalic border of the superior colliculus to the optic chiasma, the red nucleus and other groups of cells forming the hypothalamic nuclei, nuclei proprii pedunculi, and corpora subthalamica were left intact. Animals transected thus retained the ability to right themselves and to progress in the manner normal to animals of like age.

When the transections passed through the cephalic end of the red nuclei or close to this end of the nuclei, the ability of the animals to right themselves and crawl was impaired.

It is evident that the postural reaction is independent of the red nucleus and that it develops before the rubrospinal tract becomes myelinated.

Successful locomotion in young cats and dogs seems to require the presence of an intact red nucleus and possibly other structures in the hypothalamus.

J. V.


Impingement upon the optic disc of a circular light-point subtending an angle of 1° produces sensations of light. The occurrence of these sensations is dependent upon the intensity of the impinging light and the area of the disc upon which the light falls. The threshold for light-intensity is significantly
lower when the light ray falls upon the edge of the disc than when it falls in the centre. A sudden increase in the intensity of the stimulus-light falling upon the optic disc results, under certain conditions, in an impression of movement. (a) This impression of movement is more frequent when the stimulus-light falls near the edge of the disc than when it falls in the centre. (b) The direction of the movement perceived corresponds to the position of the light relative to the centre of the blind spot, e.g., movement to the right when the stimulus-light is exposed to the right of the centre of the projected blind spot. (c) Movement is seen more often in the anticipated direction as the position of the light-point approaches the edges of the blind spot. There is no clear evidence of practice.

These observations seem to offer confirmatory evidence for the hypothesis that the visual phenomena which occur when the blind spot is stimulated by light are due to affection of sensitive retinal areas as a result of the diffusion of light by the refracting media of the eye.

C. S. R.


Changes of posture occurring among a group of 56 children during a total 278 nap-periods in a nursery school were observed and recorded. The number of naps observed for each child varied from 1 to 16. The total number of postural changes observed was 875, which is an average of one change in 25 min. during an average nap-period of 79 min. These children spent the greater part of their total sleeping time on the right side. The left side was slightly favoured, the abdomen ranked next, the back lowest. The rank-order of the four postures is the same when initial posture rather than total sleeping time is considered. A comparison of the sleeping postures most favoured by the individual children with scores on a comprehensive test of handedness does not bear out Sidis' assertion that the most right-handed individuals tend to sleep on the right side. It is suggested that the slight preference for the right side is the result of factors other than handedness, and that individuals in whom hand-preference is more strongly developed are slightly more likely than others to sleep on the side opposite to the preferred hand. Children whose postural habits during sleep are most uniform tend to fall asleep somewhat more quickly than those whose habits are variable. This suggests that kinæsthetic factors are operative to some extent in the induction of sleep. Changes in the posture of the entire body are more frequent than any single kind of partial change in posture. Movements are least frequent during the early stages of sleep.

C. S. R.