

The investigation of the psychiatric personality determines (1) the presence or absence of mental disease, (2) the mental intelligence level, and (3) deviations or rectitude of character, as egocentricity, sex-conflict, anti-social trend, lack of self-respect, of ambition, of amenability to reason and authority, emotional faculty, unbridled acquisitiveness, etc.

Character then determines the life-activities of the individual. Defective intelligence is stationary and cannot be advanced, but character-growth can both be stimulated and improved. Healy believes in emphasis of the study of character as a thing by itself. Mental tests, so strongly advocated to-day, do not cover all the elements of intelligence. They are insufficient for the determination of conduct-prognosis, of the outcome of character traits, or of vocational possibilities. Psychologists are beginning to awake to this fact. Aristotle's dictum cannot be maintained—that good intelligence will prevent a man from doing wrong; that if he was not a fool he would not do wrong.

Investigations in a large factory showed that mental tests gave little useful information except regarding clerical workers. There is otherwise little correlation between the tests and the behaviour prognosis, *i.e.*, success at work. Some of the most reliable workers may have poor mental capacity, *e.g.*, label-pasters and laboratory cleaners. In fact intelligence may be a handicap in very necessary phases of industrial life; there is instanced a delinquent defective whom his master stated to have been the *only* one who had ever carried out his particular work satisfactorily.

Healy holds that responsibility is hardly a feasible category in such a scheme of classification. Responsibility is a metaphysical conception not open to clear definition, and *in practice* has little to do with the successful management of many cases. In this regard the law seeks finite answers to questions that are unanswerable. It is high time that in the practical issues hereon dependent psychologists should make a plain declaration to the legal profession. JOHN GIFFORD.

## 2. Neurology.

*The Vascularity of the Cerebral Cortex of the Albino Rat.* (Journ. Comp. Neurol., August, 1921.) Craigie, E. Horne.

By vascularity is here meant the sum, per unit volume of tissue, of the lengths of the capillaries measured with the micrometer in successive serial sections. Craigie reports observations on the relative vascularity of the various cell laminæ of the cerebral cortex of the albino rat. He finds that in every cortical area examined the lamina granularis interna (Brodmann's lamina IV) is much the most richly vascular, the lamina pyramidalis (III) coming next, with the lamina ganglionaris (V) very little behind it; the poorest layer is the lamina multiformis (VI) in every area except the insular, where the lamina zonalis (I) is very slightly poorer. These observations are interesting in reference to what is at present known of the development and functions of the laminæ. From the work of J. S. Bolton, G. A. Watson, Ariëns Kappers, van Valkenburg, Nissl, van't Hoog and others, it appears that the granular layer (IV) is a primary layer having functions originally receptive, that the functions of the infragranular layers (V, VI) are mainly those of projection and

intra-regional association, and that the supragranular layers (II, III), which are the last to appear phylogenetically, are concerned chiefly with associations of a higher order (interregional), including intellectual processes. It is interesting now to learn that these newer and more highly specialised portions of the cortex are less richly vascular than the granular layer (IV), from which, according to Kappers and van't Hoog, they have phylogenetically been developed (cf. *Journ. Ment. Sci.*, April, 1921, p. 229). Further, the observation that the infragranular layers, which give rise to corticifugal fibres, are less richly vascular than the granular and supragranular layers, which are receptive and associative in function, has suggested to Craigie a comparison with lower centres in the brain stem, where likewise the motor nuclei are less richly vascular than the sensory and correlation nuclei. Whereas in projection cells the nervous current is directly realised and led away, in the granule cells with short axons forming an intricate network the stimulation is kept within a circumscribed region, so it is perhaps only reasonable to expect that such a region of concentrated local activity should have the relatively rich blood supply that Craigie finds.

Comparing different cortical areas with one another, he observes that the average vascularity of all the layers is the same in the occipital as in the temporal region, and is only slightly less in the præcentral region. The parietal region is distinctly richer than the others, while the insular region is much the poorest.

Differences of vascularity in the two sexes, and in different strains of rats, appear to be more marked in the cerebral cortex than in other parts of the central nervous system. The vascularisation of the more recently evolved centres appears more susceptible than that of more ancient regions to sexual, hereditary or environmental influences.

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### 3. Ætiology.

*The Relation of Oral Infection to Mental Diseases.* (*State Hosp. Quart.*, November, 1920.) Root, W. R.

Cotton cites cases where extraction of unhealthy teeth in early mental cases resulted in marked improvement or recovery, and states that insanity can be prevented or cured by principles discussed in his paper. The organism principally concerned in dental infection is a non-hæmolytic streptococcus known as *Streptococcus viridans*. The non-hæmolytic group of streptococci are non-pus-producing, slow-growing organisms which do not cause pain, swelling, or even a rise in temperature, hence easily overlooked, producing a chronic infection. They may suddenly become active and cause the death of the patient. The extraction of teeth alone may not correct the results from a secondary focus in the kidney, liver, or gastro-intestinal tract. The streptococcus may damage the intestinal mucosa and allow the colon bacillus to pass through into the lymphatic circulation. Thus toxic-infectious psychoses may be caused. The physical disabilities of the mental patient must be more seriously considered and treated.

Manic-depressive insanity, dementia præcox and the paranoid states are stated to have a common ætiology, namely, chronic infections and