

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

resulting toxæmias. They are stated to recover after treatment of the oral infection. Hence we must either change our diagnosis in the cases which recover from dementia præcox to manic-depressive insanity, or admit that dementia præcox is not the incurable malady we have believed it to be.

The existence of chronic infection is determined by methods as follows: (1) Complement-fixation test of the blood for *Streptococcus viridans*. (2) Examination of the teeth: The X ray must be used. All capped and pivot teeth are extracted and all fixed bridge work removed. (3) Infected tonsils: These should be enucleated. (4) Gastro-intestinal tract: Involvement of stomach, duodenum, or lower intestinal tract occurred in 50 *per cent.* of cases. A routine examination is made and autogenous vaccines are used. *Streptococcus viridans* is the principal infecting organism but a virulent colon bacillus may be present.

At the Trenton State Hospital, as the result of treatment the average monthly discharges to admissions increased from 43 *per cent.* to 80 *per cent.* Mills does not hold these optimistic views, and states that teeth were freely sacrificed without a single convincing result. Anders also believes that the latest fad, as he terms it, has far-reaching baneful effects, although he admits that many morbid medical conditions may be oral in origin. He thinks that the medical and dental profession should protest against the all too common custom of extracting teeth on the mere assumption that when tooth root disease exists it is the cause of disseminated infection. All other foci of infection should be eliminated before consulting a dentist.

Fine also believes that too many teeth are extracted and thinks that the systemic disease may account for the dental disturbance. Fones thinks that dentistry should concentrate on the soft tissues (gums, pericementum and pulp), for these permit the ingress of bacteria into the lymphatics, thus producing many systemic infections. He agrees with Cotton.

Cahn states that there are faddists in every profession, and as hundreds of ovaries and appendices have been needlessly sacrificed, so have thousands of teeth, although a great number of seemingly hopeless cases have been cured by the eradication of oral sepsis. Any infected area should be removed, be it in the mouth, throat or prostate. The removal of vital and healthy teeth for the supposedly clearing up of an oral infection is gross ignorance and malpractice, but the removal of dead infected teeth or the clearing up of a pyorrhœa alveolaris should be strongly advised.

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*The Nature of So-called Idiopathic Epilepsy according to Recent Studies.*  
(*Archiv Neurol. and Psych.*, February, 1922.) Pagniez, P.

The formulated conceptions of idiopathic epilepsy still maintained are that it is a resultant of (1) a predisposition due to a congenital or acquired lesion of the nervous system, and (2) a precipitating cause, *viz.*, an intoxication, usually alimentary. The antecedent brain lesion is due to local mischief, possibly traumatic, but frequently toxic.

In a series of cranial war injuries French workers demonstrated 10 to 20 *per cent.* of subsequent epileptic seizures, partial or complete, and