

same way, and this may be an index of impaired physical resistance in the whole family. Grenier also asserts that delirium is more frequent in the descendants of alcoholics.

Dr. Legrain shows that a slowness of evolution, frequency of relapse, feebleness of mental faculties, and poly-morphism of delirium characterize the effects of alcohol on the degenerate offspring.

Krafft Ebbing (*Psychiatrie*, 1890) defines insanity from the anatomic point of view as "a diffuse disease of the brain accompanied by nutritive, inflammatory, and degenerative changes." The division between mental and brain disease is one for convenience and much wordy debate, lacking in scientific *raison d'être* and yet well worthy of comparison and attention. Psychologic classifications are eminently unsatisfactory, at least when striving to search out causes for pathological changes.* J. Batty Tuke (*British Med. Jour.*, May 30, 1891) remarks (and what he says is nearer right than most), "Insanity is not a disease, but a symptom produced by morbid conditions which may arise primarily in the brain, or secondarily from depraved conditions of the general system." Certain causes produce demonstrable (not always demonstrated) changes of tissue, as inflammation, hyperemias of excitation, traumatisms and adventitious products, toxic agents, senile degenerations, epilepsy, and syphilis. Over excitation of the brain is acknowledged as an inducer of insanity independent of other morbid factors. If the nutrition of the cells is unduly interfered with for a long continued period of time, a series of changes ensues not only in the cells themselves, but also in the vaso-motor and vaso-dilator control systems, which may be temporary or permanent.

The circulatory apparatus is overtaxed to meet the increased demand; but the cells being stimulated beyond the health limit a condition of unstable equilibrium between nutrition and function is reached, and consequently, instead of normal discharge of energy, irregularity of discharge is produced by the prolonged maintenance of over vascularity.

Malnutrition is both a powerful exciting cause and itself competent to irretrievably damage the brain. In this country we are less influenced by the deprivation of food, being better provided in this particular than any other large nation, but the people are more subject to disorders of over-tension from protracted strains on the nerve resistance. We are less given to alcoholism because our food supply is ample and the craving for stimulants by underfed stomachs less general; but owing to the intensity of effort, our habits of fierce competition, there is induced a feverish restlessness and higher cell activities. The brain being the stimulator and inhibitor of all nutrition, as Clouston points out, hence becomes responsible for the functions of all the organs, and as they fail it suffers harm.

Melancholia often occurs in certain anemias and is a transient state in many toxemias, notably the uneliminated by products of katabolism. The action and reaction of the peripheral organs upon the brain is shown in numberless ways, in the therapeutic value of careful nutritive regulation in the insane, which is often alone curative. It is again shown in

*Always excepting those exact studies made by such men as Prof. G. Stanley Hall and the physiologic students of psychology.