

sympathetic or spinal centres. A number of this class of diseases are often concomitant with phthisis, pneumonia, ulceration of the bowels, and degenerated kidneys. The sudden invasion of diabetic coma: the chemical and organic changes found in acetonæmia; the morbid processes superinducing structural changes in Bright's disease; atheromatous and calcareous degenerations, and numberless other morbid changes and conditions, are now known to have their primary impulses in one or other form of mal-nutrition consequent upon nerve degeneration. It is not improbable that spasmodic dysmenorrhœa, visceral neuroses, some nervous forms of dyspepsia, certain *so-called* functional diseases of the heart, angina pectoris, and the various neuralgias, have the same origin. In a large number of such diseases are found destructive changes in the multipolar cells, and in the same central regions are seen the axis cylinders very much attenuated, to merely shrunken tissue. In many such cases, these otherwise active and necessary structures are changed so as not to be recognizable. A large number of heart symptoms, such as pulse intermittency, spasms, dyspnoea, or palpitation are now known to be neurosal in their origin, either through the vagus, the cardiac ganglia, or remote conditions of the sympathetic.

In this connection it is very striking to notice how the constituents of urine are determined by nerve conditions. The diabetes consequent on lesions of the organs in the base of the brain, or on some lesion of the sympathetic system, are evidences of this, and it is possible we might add to this category diabetes, due to defect in the so-called chemical changes of the blood. It is my opinion that albuminuria is only a symptom of many diseases and not a distinct malady in itself. It may be classed among the neuroses. We can even produce a change in the constituents or a superabundance of urine by diet without any disease existing, through the same influence.

We have a striking example of nerve influence in the kidney production seen in puerperal mania. Reference is not made here to that form of it superinduced by septicæmic poisoning from a disintegrating uterus, but to mania eccentrically produced from the impression made on the cerebro-spinal system through the great sympathetic. In the latter type there are found in the urine abnormal quantities of albumen. This is most

noticeable if convulsions should be present, and followed by any form of paralysis or sense perversion. As far as known its existence antedates the apparent physical results. The sudden appearance and disappearance of albuminuria is as strange a feature of kidney energy as are the abrupt invasion and departure of puerperal insanity itself, as seen in so many cases. Not only so, but in intermittent forms, the mental exaltation and this kidney elimination are co-existent, showing their interdependence from a common nerve influence. It is possible that the conditions favorable to the production of albumen may be found simply in the decomposition of normal elements in the blood-producing glands. As a rule, the more albumen there is in the urine the less urea and uric acid are to be found. There is either a check to the formation of these normal substances by the generation of albumen, or they are retained in the circulation as toxic agents, or contribute to the formation of albumen. It may be that on account of their liability to decompose and form new organic compounds, they may primarily produce disastrous results in the blood, and in a secondary way on the glandular system. The most common change of urea is into carbonate of ammonia, or into some other equally deleterious body with an alkaline reaction. We know the toxic effects of many vegetable alkaloids, so it is probable an analogous effect may be produced on the nervous system by an isomeric product of the animal economy. At any rate this hypothesis would explain in such cases the sudden production of mania, of convulsions or recovery, or equally sudden death. As a matter of fact, organic alkaloids are found in the blood of puerperal females, but their chemical grouping has not been determined. We have found that blood possessed of these unnamed alkaloids is usually—if not always—deficient in hæmacytes and hæmaglobin. It will thus be seen that specific diseases of individual organs can be traced to neurotic derangements. This is strikingly seen in skin conditions following some spinal diseases. The association of special lesions in the spinal cord so uniformly co-existent with degeneration of muscles, nerves and joints, is being closely investigated. From the condition of sections of the cord many of these diseases can be inferred. Cell change is followed by perverted function, or it may be permanent