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PHOSPHATURIA.

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The urine is justly regarded as the most important excretion of the body, from a clinical standpoint. Its constitution varies with every change of diet, habit or health. This very sensitiveness, whilst it gives us the reasonable hope that, at least, every serious disease would be accompanied by a corresponding change in the constitution of this excretion, at the same time warns us that we must be very cautious in our deductions, lest we ascribe to disease a change that has been caused by exercise or diet. But if our knowledge were sufficiently thorough, we should be able to tell the difference, and to read disordered function, by the character of this excretion almost as accurately as we do a book. I believe that our knowledge of the urine is only in its infancy, and that at no distant day its importance in diagnosis will be much greater than at present. A wide field lies before the diligent student, the cultivation of which will yield him abundant satisfaction. Personally, I am willing to declare, that I have received more light in the understanding of obscure cases from even my imperfect knowledge of this subject, than from the study of any other single physiological system.

In making a diagnosis we pay attention to the urates, because ready to the eye in cold urine; to the amount of urea, because readily estimated by the urinometer and even by the eye, but the variation in the amount of phosphates is frequently neglected, probably because being largely held in solution they must be precipitated. Phosphoric

acid is found in every tissue and fluid of the body, in combination with a base and excreted in the urine, the amount varying greatly in certain pathological conditions. It is to the diagnostic importance of this variation that I wish to draw attention. I am aware that Prof. Vogel, after making a thousand observations, has declared that he can draw no inference of any clinical value, so I shall endeavor to avoid the quicksands of doubt and keep to a few points that seem to me to be solid and useful ground in differential diagnosis. Anything that will remove doubt and render diagnosis more certain, is of the utmost importance, and I hope that a discussion of this subject will prove interesting and, perhaps, useful. Every one has been puzzled over symptoms that may mean a great deal or nothing at all. In such cases any definite symptom that would set the physician's mind at rest, even as to the reality of some of the symptoms complained of, would be very acceptable. If we discover oxalate of lime crystals in the urine of a patient suffering from a number of subjective symptoms, it is satisfactory, so far as it forms a basis of certainty, from which to reason. We call the trouble oxaluria, for want of a better name, but it does not follow that we regard the crystals in the urine as anything more than the most definite of a number of uncertain and unsatisfactory symptoms.

Prout, Golding, Bird, and others drew attention to the deposit of phosphates in the urine as a valuable symptom, and even styled the disturbance giving rise to it, phosphaturia, and expressed their belief in a phosphatic diathesis, but later investigations have dispelled the belief in any such constitutional tendency. I do not think that these acute observers understood the phenomenon to constitute the disease any more than we mean by the term glycosuria, to convey the idea that the passage of sugar in the urine constitutes the disease. They doubtless looked upon it as the most constant and definite of a number of symptoms presented by some constitutional disturbance not thoroughly understood. But they overlook the important fact, that a sample which is muddy from phosphatic sediment may contain very much less of these salts than one that is perfectly clear. Indeed the probability is that the muddy sample will have a deficiency of phosphates, as we shall see hereafter. Different views have been held on this

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