

He says:—"The idea on which the method is based is that the function of the kidney must be considered as one of osmosis, or in other words, that the work of the kidney may be calculated from the product of the gland, i.e. from the urine and its source, the blood, or rather the blood serum, and that these two fluids, the solvent of which is water, are subject to the law of osmosis. By osmosis we understand the changing relations between two chemically similar solutions of different concentrations, which have for their purpose the equalization of these differences of concentration. The equalization of the difference of osmotic pressure between the blood, i.e. the serum and the urine takes place in the kidney. By virtue of its two antagonistic functions—the secretory activity of the glomeruli and the resorptive power of the convoluted tubes—the kidney, aiming in two directions, undertakes the regulation by the differences in tension, which are constantly being influenced by the metabolism, the heart's action, etc.

"This ingenious theory, which is built on Van't Hoff's teachings of osmotic pressure, although not new, was expounded by A. von Koryani, to whom the honour of having created a new method of examination in applied medicine is due. Koranyi found, as had already been shown by others in the physiological laboratory, that in man there is a marked constancy in the osmotic concentration of the blood while the kidney function remains normal, and that, on the other hand, there is an increased concentration of the blood if there is kidney disease. He found, further, that with the increase of the osmotic concentration of the blood there was a corresponding decrease in the osmotic pressure of the urine. Everything was interpreted from the premises that while the kidney function is normal, all nitrogen-containing molecules will be excreted by the kidney, while if there be a disturbed kidney function a retention of nitrogenous compounds in the blood will occur."

We have practised cryoscopy of the blood in only a few instances. Cryoscopy of the urine we have found to be a valuable confirmatory sign, generally agreeing very closely with the indications derived from specific gravity and the percentage of urea, although the presence of albumen does not alter the freezing point to the same extent as it changes the specific gravity. A normal freezing point of the blood in a patient with one useless kidney would seem to indicate definitely that the other kidney had normal functional power.

The same information regarding the quantity of inorganic matter present in the urine, especially of the salts, may be determined by estimating the electrical conductivity. Reinger, Gebbert and Schall have constructed a convenient apparatus for this purpose. It is especially