

of this disease; and these are set forth in the discussion which took place at the meeting of the British Medical Association, already referred to, on "The Origin, Effects, and Treatment of Septic Affections of the Urinary Tract."

One of the peculiarities of the human body is that certain parts or organs may be grouped together into systems, and the component parts of such systems have more or less relationship to each other, perhaps by continuity or perhaps simply by function. In these cases of relationship it is curious to notice how often the components of these systems are further related by having a similar nervous, blood, or lymphatic supply; and these relationships are also made more apparent by the liability of one member of a system to become diseased if another member is already affected, even though this disease can be proven not to have been communicated to the second organ or part by direct continuity. Let us first shortly consider the connection by continuity of the component parts of the genito-urinary system. The urethra, whose mucosa is covered with follicles, is connected with Cowper's glands, the seminal vesicles, and the prostate, and is continuous with the bladder. The bladder is connected by the ureters with the kidneys; and here it is at once apparent that if one part is infected it should be physically the easiest thing imaginable for that disease to be communicated to any other part of the genito-urinary system. This is shown by the manner in which, when the urethra are dilated and the fluid columns between the bladder and the renal pelves are thereby rendered continuous, bacterial invasion of the kidneys takes place through these columns of urine from a septic disease of the lower urinary region. But, unfortunately, this extension by direct continuity is only one of two well-known paths. As Newman has pointed out, the course which the lymphatics pursue from the bladder is one of direct distribution along the submucous connective tissue surrounding the ureters to the capsule of the kidney. They then penetrate the renal substance, and thus, in those acute cases following urethral instrumentation in which the kidney is affected without suppuration, the virus is conveyed to the cortex of the kidney by the lymphatic channels. This connection accounts for those cases of very acute septic absorption resulting from injuries of the lower urinary tract, but especially of the upper portion of the urethra and the neck of the bladder, in which a violent septic poisoning is induced without the mucosa of the ureters or renal pelves being affected, or, if so, only implicated in the inflammatory process to a slight degree. These cases may terminate fatally in forty-eight hours and on microscopic examination the whole of the kidney is found to be completely permeated, and the walls of the bladder and the ureters are likewise infiltrated with septic micro-organisms.