the irritating action of urine which has undergone ammoniacal decomposition and that such decomposition is necessarily associated with cystitis. Johannes Miller* of Wurtzburg was the first to upset this idea. He showed that in seventy-three per cent. the cases cystitis urine was acid. Soon after these observations of Miller, Melchoir† reported the results of sixty-two very accurate observations. He found that ammoniacal decomposition was only a minor phenomenon and that in many of the severest forms of cystitis acid urine was present even up to the time of death. Almost all researchers now reach the uniform result that the bacillus coli communia, or a very closely related microbe, is the one most frequently found in cystitis. In one hundred and twenty cases collected by Rostoski‡ this germ was found in eighty cases.

Whenever the bacterium coli communis was found alone the urine was acid; whenever proteus vulgaris, it was alkaline. Alkalinity with bacteria coli communis is said to be always due to the association of other microbes. Some of the following conclusions of Melchoir are most significant:

1. "The bacillus coli communis is most frequently found not only in cystitis but also in pyelitis and suppurative pyelonephritis.

2 "The bacillus coli communis may be destroyed and crowded out by those microbes which decompose urea, and produce alkaline urine.

3. "The bacillus coli communis often appears to cause hemotogenous infection from the intestines.

4. "Pyelonephritis, especially that caused by the bacillus coli communis, is often the source of a secondary cystitis.

5. "Even the microbes which decompose urea may cause pyelonephritis with acid urine and without the presence of complicating cystitis."

Instrumentation and Diagnosis.

Within a few years the cystoscope has revolutionized our knowledge of the pathology, diagnosis and treatment not only of cystitis but of many other hitherto more obscure urinary disorders.

In former times when the principal factors in etiology were stricture of the urethra, foreign bodies in the bladder, and enlargement of the prostate, and when there was no means of viewing the bladder mucoss, the finger through the dilated urethra and the sound were the only and rather dubious means of exploring the bladder. Digital exploration with its attendant dangers was then common practice. As late as 1883 Sir Henry Thompson§ in his work on Digital Exploration reported as the result of two years' observation by that method a ser es of over thirty cases of tumors in the bladder upon which he had operated. Most significant in contrast is the report of Alexander Stein two years

* Rostoki. Deutche Medicinischi Wochenscrift, 1898, s. 235.

† Monatsbericht uber den Gesamtleistung, Heft 10.

‡ Deutche Medicinische Wochenscrift, 1898.

§ Belfield, Am. Gyn. & Obstet. Jour., Jan., 1899.