

we need but point for corroboration to the large number of textbooks on chemical and microscopical diagnosis that have appeared lately, and to the springing up in all large centres of population, and even in smaller ones, of laboratories in which persons especially trained endeavor to meet this necessity. Physicians are realizing that a scientific diagnosis gives a rational basis for treatment; a treatment grounded upon a knowledge of the pathological factors at work.

I do not for a moment wish to decry ordinary clinical methods. They are absolutely essential, but surely no one is so skilled a diagnostician that he can dispense with such important accessory aids as can be given in many affections by an application of finer chemical and microscopical tests. This is now particularly true since we have learned that the vast majority of our diseases are micro-parasitic in nature and correct diagnosis often lies in the detection of the specific infective agent.

I will take up shortly a few of the applications of more exact methods of examination in every-day practice. To begin with that excretion which is the one most usually examined, the urine. Ordinarily we may be satisfied to test this for albumen, sugar, and perhaps urea, and we may apply a few tests to the sediment. Now we may have albumen present, and that, too, in large amount, without any kidney lesion; and again, absence of albumen from the urine does not always exclude a kidney lesion, unless it be absent after repeated tests. This last is particularly applicable in cases of chronic interstitial nephritis, a common and insidious disease. I would point out the necessity here, too, of taking more note of the amount of urine passed daily. A diabetic, for example, passes to-day three litres of urine, giving 6 per cent. sugar, yet two days ago the percentage of sugar was but 4 per cent. He may have passed, however, on that day 5 litres of urine. The same thing is true of percentage of urea, phosphates, sulphates, etc., as is true here. To get a correct idea of the amount of material actually excreted we must know the daily quantity of urine, as well as the amount of the various constituents contained in a sample.

The microscopical examination of urine is peculiarly productive of results. With the chemical tests, we can by this