

I was of Dr. Mattison's opinion until recent experience proved to me that the means of diagnosis above suggested are open to grave errors which might lead to most serious results. Doubtless there are many cases in which a correct diagnosis may be made by one or other or both the tests he has so advantageously published. Yet there are instances where they will prove to be fallacious.

Take the physiological test of enforced abstinence for forty-eight hours. It is not always possible to have the suspected person placed in such a position, surrounded by the proper safeguards, and have the necessary espionage exercised to prevent the possibility of clandestine morphia-taking. Supposing, however, this supervision possible, the patient might have been addicted to some other drug—cocaine, phosphorus, paraldehyde chloral, etc., or even alcohol; the sudden and protracted deprivation of the accustomed drug would be followed by a train of symptoms so closely allied to those consequent upon the sudden withdrawal of morphia that it would require a very acute diagnostician to make a diagnosis that could not be called in question.

By means of the science of chemistry there is at our command a surer and better method. Urine can always be obtained from the suspected person, and a proper analysis of it will reveal the presence or absence of morphia. The Bartley mode of testing the urine, as set forth by Dr. Mattison, is open to error, for not only have I proved that the iodic acid and chloroform reaction test can be obtained with some urines in which I have absolute certainty no morphia exists, as evidenced by the source from which it was obtained, as well as by chemical analysis hereafter described, but also have had negative results by the Bartley test with urine voided by a patient known to be taking two and three-quarters of a grain morphia sulph. in twenty-four hours that, unless very critically examined, it was impossible to say any reaction had taken place, and yet a sample of this latter urine treated by the method hereinafter described unmistakably reacted to the iodic acid and chloroform test.

Upon these facts we are forced to the conclusion that some urines contain a substance or substances which unless separated before the final test is made will give a reaction the same as morphia; and that in some persons taking below three grains of morphia in twenty-four hours the Bartley test is not reliable.

The urines which, I am absolutely sure, contained no morphia, gave with the Bartley test a very positive reaction, and beyond a slight excess of uric acid in my own case, the persons from whom other specimens were obtained are in perfect health. I may further add that the uric acid separated from my urine when acidulated with hydrochloric acid, the uric acid collected in a filter and well washed, gave the reaction with iodic acid and chloroform. The question whether this is entirely due to the uric acid or some adherent substance has as yet not been determined, this together with the isolation of any other substance causing the reaction is reserved for further investigation now in progress.

The method I recommend for the detection of morphia in the urine is as follows:

Collect about twenty ounces (less will do) of the suspected urine. If