

stitutional, or autogenetic origin, and the sundry modes of treatment, and the antidotal remedies devised for the removal of the hypothetical condition of the vital fluid—eliminative, antacid, or otherwise? That it may be done—that it has been done in a number of cases—I have satisfied myself, and knowing how prone human nature is to self-deception, I have guarded against the personal element by inviting the presence and co-operation of several medical men of the highest ability and scientific acquirements as witnesses.

My chief desire is, that my simple plan for the cure of rheumatism shall be thoroughly tested by the profession at large; of its efficacy, my own experience, and that of a number of my professional brethren, assures me. I cannot expect, however, that every one who may be equally convinced by personal trial and experience, shall also accept my explanation of its *rationale*. The pathology and physiology of the nervous system are not yet established on sure grounds; its supposed laws are subject to many contradictions, which only a more extensive knowledge of its principles, and their application, can elucidate. Nor would I wish to appear as proclaiming its efficacy in every case. I am satisfied, indeed, that endocarditis will still claim a place in the sad category of fatal diseases; but I also feel that, in cases possible of cure, the abortive plan proposed must claim precedence as the most rapid, safe, and permanent; from its very nature, the most potent to anticipate or remedy functional or organic disorder in the heart and its appendages. One other important result is likely to flow from its general adoption, viz., the reduction to very moderate dimensions of that class of applicants to whom the physician has so often reluctantly to refuse the benefits of life insurance, on account of the existence of permanent cardiac injury, caused by undetected lesion in cases of ordinary acute rheumatism.

#### A NEW TEST FOR ALBUMEN IN URINE.

Dr. Wm. Roberts thus writes in the *Lancet*: When an albuminous urine is treated with a saturated solution of common salt, not the slightest reaction takes place; but if the brine be slightly acidulated with hydrochloric acid, the albumen is thrown down as a dense white cloud. This reaction constitutes a most delicate test for albumen in the urine. The best degree of acidulation for this purpose is obtained with about 5 per cent. of the dilute hydrochloric acid of the Pharmacopœia. A little more or a little less acid makes no appreciable difference in the sensitiveness of the test. Common salt dissolves in about two and a half times its weight of water at 60° F., and increase of temperature does not sensibly increase its solubility. The salt of commerce is always more or less dirty, and the solution requires filtration to fit it for use as a test. The salt solution should be fully saturated, otherwise the observer is apt to be led into error. In preparing the test with our common

English measures the readiest plan is to mix a fluid ounce of dilute hydrochloric acid with a pint of water, and to saturate this with common salt, and filter. Dilute hydrochloric acid may be replaced by dilute sulphuric, dilute nitric, or dilute phosphoric acid. All these acids are of the same saturating strength in the British Pharmacopœia, and all of them yield, with saturated salt solution, an equally sensitive reagent for albumen. Even acetic acid may be used, but the delicacy of the test in that case is not quite so great as when it is prepared with one of the mineral acids. The method of applying the brine test is similar to that followed with nitric acid. A portion of the suspected urine is placed in a test-tube, the test-tube is then held very much aslant, and the salt solution is allowed to trickle along the sides of the tube to the bottom, so that it may form a distinct layer below the urine. If albumen be present, a white-cloudy zone appears at the junction of the two fluids. Or the proceeding may be reversed. The salt solution may be first introduced into the test-tube, and then the urine added, with the same precautions as before, so as to obtain two distinct layers, one above the other, in the test-tube. It is important to be aware that the precipitation of albumen by acidulated brine is not due to a true coagulation. In this respect the brine test differs from nitric acid and boiling. In the two latter cases the albumen is transformed into the insoluble modification, which is known as "coagulated albumen." But when albumen is thrown down from urine by acidulated brine the precipitate is not insoluble; on the contrary, it is redissolved by free addition of water, or even by free addition of the albuminous urine itself. It is therefore essential to the efficient application of the test that the salt solution should be in excess at the point of expected reaction. This end is obviously secured in the above-described methods of testing. It may also be secured by adding to the suspected urine a volume of the salt solution at least equal to that of the urine in the test tube. If this point be not attended to the test is unreliable. For instance, if acidulated brine be added, drop by drop, to an albuminous urine, and the mixture shaken up after each addition, the first few drops either occasion no turbidity whatsoever or the turbidity produced disappears on shaking. But when by successive additions the quantity of brine approaches to or surpasses the volume of urine operated on, the turbidity remains permanent. In point of delicacy the salt test stands on a par with nitric acid. The minutest trace of albumen detectable in the urine by nitric acid is also detectable with equal ease by acidulated brine. In high-colored urines the brine test is distinctly superior. In this class of urine nitric acid produces a deepening of the tint, with, often, a disengagement of gas, which interferes with the sensitiveness of the reaction, but the brine test neither alters the tint nor causes disengagement of gas. On the other hand, I think that nitric acid gives a better idea of the quantity of