

trying it first in small doses, so as not to take more than twenty minims of acid a day, and stopping it for a day or so whenever the joints threatened, he managed to continue the acid for some weeks. Gradually he increased the dose, as advised, and early in June was able to take from forty to fifty minims daily. During this month, he had two sharp attacks of rheumatism in the hands and wrists. By the end of June he was taking seventy-five minims of acid daily; and on July 6th, this was increased to 100 minims. On the 7th, he began to experience considerable pain and stiffness in his joints, and kept his bed (he had been up daily previously) on account of the pain caused by walking. On the 8th, these symptoms were worse, and in the evening his wrists and elbows were very stiff and painful, but the knees were less so. The temperature had risen to 100·6. The acid was stopped. On the next morning he was better. Temperature 99. The joints were less painful and stiff; there was no redness and no swelling. On the 10th, he again took the acid, his joints feeling much better, and the temperature being only 98·4. In the course of the day, he took 100 minims of the acid; and by the evening the pains had returned in his wrists, elbows and knees. Temperature 100·6; pulse 100, full and soft; skin moist and perspiring. On the morning of the 11th, his right wrist was red, and swollen; the left less so. The knuckles of his right hand were also red, swollen and painful. His left knee was red, swollen and very painful and tender. He complained also of pain in the left side, but the heart-sounds were found to be clear; pulse 88; skin still moist. The mixture which had been stopped on the previous night, was discontinued till July 17th, by which date all the rheumatic symptoms had subsided. After this the man only remained in hospital seventeen days. During this period, he, of his own desire, resumed the acid drink, and on one occasion took as much as 125 grains of acid in the course of twenty-four hours. During the last fortnight of his stay in hospital, he had no severe pains in his joints, and whenever flying pains warned him, he discontinued the medicine for a day.

While the above case was under my care in the hospital, it so happened that another diabetic patient of mine, in visiting the wards, met Wright and compared notes with him. From him he heard such a favourable report of the acid treatment, that he requested me to order him the same medicine if I thought it suitable. I did so. A drink consisting of seventy-five minims of lactic acid in a pint of water was prescribed. Of this he took daily as much as contained thirty to fifty minims of acid; and on the fourth day he came to me complaining of a sharp pain in his right knee, which rendered the joint stiff, and made walking very painful. He also mentioned that he had less severe pains in his other joints, and expressed his opinion that he had caught a cold, which had produced rheumatism, a disease from which he had never before suffered. There was no swelling or redness of the knee or other joints. His skin, which had hitherto been harsh and dry, was soft and moist. The acid mixture was discon-

tinued, and in two days the pains had entirely ceased. During the next month, he made several attempts to take the acid mixture, but it was always followed in a day or two by pains in the joints. Early in May, he managed to take the mixture for a week, and then was laid up with such severe joint-pains, that I was called to visit him, and found him in bed with pains in his elbows, shoulders, ankles, and knees, and, as he said, all over him. None of the joints were swollen except the right knee, which was faintly red, decidedly swollen, and very tender and painful. The other joints were simply stiff and painful on movement. The skin was freely perspiring. Pulse 96, full and soft. The acid mixture was stopped, the joints were wrapped in cotton-wool, and alkalies administered. In the course of a week, all the symptoms had disappeared, and the patient was able to walk about, and resume his ordinary habits. This patient had never passed more than twenty-four grains of sugar an ounce while under observation. The excretion was generally not over fifteen grains an ounce.

*Remarks.*—The above record contains an account of the joint-symptoms which were observed in two cases to follow the administration of lactic acid. In the first case, at least six well marked arthritic attacks occurred; in the second case, under conditions less favourable for observation as to duration of treatment and place, one well marked attack occurred. The phenomena corresponded in all respects to those which are characteristic of acute articular rheumatism. They came on when the acid was taken, and ceased when it was discontinued. When moderate quantities of the acid were tolerated, an increase in the dose was succeeded by the painful inflammation of the joints. Coinciding with the development of the articular affection was the appearance of perspiration, at first only slight, but afterwards, in the more severe attacks, copious and acid.

These facts have dispelled the last lingering doubt in my mind as to the truth of the lactic acid theory of rheumatism. At first I doubted the connection between the administration of the acid and the production of the rheumatic phenomena. In my scepticism, I regarded it as an accidental combination. The recurrence of the joint-symptoms, however, on March 13th, following distinctly on the repetition of the lactic acid mixture, shook my disbelief. The coincidence of joint attacks with the use of the drug might occur once, and I thought even a second time; but, when I found it occur over and over again, there was no room left for the hypothesis of coincidence. To refer Wright's attacks to a series of accidental combinations requires, in my opinion, a much livelier faith than to accept the lactic acid theory of acute rheumatism. If to some Wright's case presents not evidence enough in the beautifully typical character of the artificially produced disease, and in the precision with which it could be manufactured at the will of the experimenter, then the second case comes in to refute any explanation founded on the assumption of an idiosyncrasy on the part of one patient.