

[In what manner does the presumed relict of scarlatinal poison act in producing the peculiar after-effects of the disease? Granting the existence of an imperfectly exhausted *materies morbi* in the blood after the disappearance of the incompletely developed exanthem, attempts will be made to excrete this matter, under some form or other, by some of the various emunctories of the body. We cannot doubt that the skin is adequate to the task, since the after-effects are so extremely rare when a freely perspiring surface has been obtained soon after the recession of the rash, but when this means of excretion has been insufficient or stopped by cold or want of cleanliness, an attempt is made to get rid of the relict of the disease by some other outlet.]

From the researches of Wohler and others, with which the profession is perfectly familiar, it seems demonstrable, that, as a general rule, all effete matters existing in solution in the animal fluids are excreted by the kidneys. Accordingly, a large supply of blood is sent to these organs, their capillaries become dilated and congestion occurs. The almost necessary result of this pathological condition of the kidneys is a double lesion of their function. An exudation of the albuminous elements of the blood occurs, and renders the urine coagulable, its tint being often darkened by an admixture of red particles; whilst, on the other hand, the kidneys cannot carry on their important depurating functions perfectly; they eliminate but imperfectly the nitrogenized effete elements of the blood, and hence one or more of the normal constituents of the urine are detectable by chemical analysis in the circulating mass. Contemporaneously with these lesions, more or less effusion into the loose sub-cutaneous cellular tissue, to a varying amount, generally but not necessarily occurs.

The train of effects, often of a grave character, following scarlatina, are almost all, I believe, really referrible to the retention of the nitrogenized elements of urine in the blood; a conclusion, the adoption of which is justified by the analogy existing between the disease under consideration and *Morbus Brightii*, in which the existence of effete nitrogenized matter in the blood is, at least in several phases, a necessary accompaniment. The recognisable sequelæ of scarlatina referrible to this category are characterized by the tendency to the setting up of serous inflammation, especially of the pericardium, pleura, and arachnoid. Cases of pericarditis often have been by no means very unfrequent among the children who had suffered from scarlet fever; and certainly a month has not passed without meeting with cases of heart disease referrible distinctly to pericarditis following attacks of scarlatina.

It may not be uninteresting to those less acquainted with chemical manipulation, to describe a simple and easy process for the detection of the urea in the blood and serous fluids, in the cases just alluded to. Allow the blood to coagulate, decant the serum, and agitate it violently with its own bulk of rectified spirit; a dense deposit of albumen occurs, and the mixture may be set aside for subsequent examination, or, if time permits, this may be preceded with immediately. For this purpose, throw the whole on a filter, and evaporate the filtered fluid slowly to a drachm or two; then add to it an equal bulk of dilute nitric acid of the pharmacopœia, and once more filter. The filtered fluid, collected in a watch-glass, may be slowly evaporated to a few drops, and, on cooling, feathers of nitrate of urea will form in the liquor. Should the crystallization be imperfect, the deposited nitrate may be re-dissolved in a few drops of water, the solution decanted, and once more slowly evaporated. By this simple process, requiring no apparatus beyond an evaporating dish, any one may satisfy himself of the existence of urea in serous fluids containing it. With ordinary care the evaporation may be performed on the hob of a parlour fire-place, especially if a piece of card-board is interposed between the evaporating dish and surface of the

hob, to prevent any accidental elevation of the temperature to too high a point.—*Guy's Hospital Reports*, April, 1845, p. 131.

ON RHEUMATISM.

By C. J. B. WILLIAMS, M.D F.R.S., &c.

[Rheumatism is usually divided into acute and chronic; sthenic and asthenic are more appropriate terms. The crick in the neck produced by sitting in a draught is a kind of rheumatic affection, and the same may be said of lumbago and sciatica, which are neuralgic forms of the same complaint.]

The distinction between the forms of rheumatism is very easy, more particularly in chronic cases, in which the peculiar products of the inflammation are more confined to the specific parts that are affected. In the first place, there is the most acute and inflammatory kind—the acute diffused articular rheumatism—which affects all the joints, and is not confined to any particular structure. In acute rheumatism of the knee, you find the patella is floated up by the effusion under it, besides which there is a considerable enlargement with tenderness and swelling of the surrounding bursæ, and the skin may assume the appearance of common inflammation. This form resembles common inflammation, and is, consequently, more tractable. The second variety is the acute fibrous or fascial rheumatism, where the inflammation attacks chiefly the fibrous textures, the fascia between the muscles, the aponeuroses, the periosteum, and the fibrous coverings of the viscera, more particularly the pericardium. In the other form the pericardium is not affected. The endocardium is also affected. The seat of this inflammation is confined to the joints themselves; there is more or less pain and swelling in the joints, and also swelling between the joints in the fore-arms, the backs of the hands, and in the legs. There is a sort of diffused swelling over the limb affected, not simply a fluctuating swelling in the capsules and bursæ, but more diffused. This is one of the least tractable forms, and is less amenable to common antiphlogistics and requires specific treatment; depletion alone produces little benefit here. If the disease goes on long, it tends to produce the chronic form, together with muscular paralysis and atrophy. The third variety is the synovial or capsular rheumatism, affecting exclusively the capsules of the joints, and the synovial membrane. It is usually accompanied by great swelling, and distention of the capsules of the joints, particularly those of the knee joint. It is, like the other variety, intractable, and bears a close resemblance to gout. It occurs chiefly in cachectic and debilitated subjects, from an imperfect action of the kidneys. This is the form which becoming chronic, more particularly tends to produce the distortions of which I have been speaking. There are depositions in the joints, forming nodosities, creating permanent stiffness. In this form, too, it is that that peculiar deposit of lithate of soda has been found on the skin after perspiration. This affection closely resembles the chronic form of gout; it is said, too, sometimes to cause metastasis, but it affects the heart less than the other varieties. The fourth variety of rheumatism is the periostitic. Here there is pain, tenderness, puffiness, and swelling over some bony surface,—either over that of the cranium or the tibia. This is generally the result of syphilitic poison. Its tendency is to become chronic, and to produce nodes and bony deposits. It may also arise independently of syphilis. This form of rheumatism affects the head, producing obstinate headaches. It is not confined to the dura matter, but affects the interior of the head. It seems, too, to produce symptoms of a tetanic and convulsive character, closely resembling an attack of chorea. Another variety is the neuralgie, which is seated in the nerves, pro-