might have been expected, and all, except one who died, were quite cured in the course of five weeks, without any other bad consequences than that most of them were deeply pitted in their faces. Nearly all of them had secondary abscesses both on the trunk and the extremities; but these, after having been opened, healed in a short time without any ill results. In order to protect the sight, I used nitrate of silver, which I thought more sure than collodion.

The tension of the skin was very much relieved by the external use of linseed-oil, mixed with one-fifth part of carbolic acid, rubbed into the surface with a soft brush. Bed-sores and secondary abscesses were treated in the same manner.

Besides the generally favourable results of this treatment, there were also some remarkable circumstances which convinced me of the good effect produced by the sulphurous acid. These may be thus summed up in a few words.

1. The use of the sulphurous acid fumigation and the sulphurous acid internally evidently mitigated the primary and secondary fevers; the heat of the body was remarkably lowered, and the thirst was quenched even when the primary and secondary fevers ran very high.

2. The symptoms generally following the primary and secondary fevers of small-pox—as the pains in the back and the articulations, severe headache, vomiting, pyalism, etc.—were evidently mitigated by the internal use of the sulphurous acid; and I feel, moreover, inclined to believe that the sulphurous fumigations, which, to tell the truth, were used in an uncommon strength in all the rooms, probably assisted the internal use of the sulphurous acid in no slight degree.

3. There were, moreover, some facts which at least seemed to make it highly probable that the sulphurous acid and the sulphurous fumigations have a really destructive power on the small-pox virus. Of instances pointing in that direction I will cite a few.

When the quarantine hospital was being fitted out, the house-surgeon and the servants were all immediately revaccinated; and this revaccination had, at least in two of them, already produced true vaccine vesicles when they were shut up in the quarantine hospital. No sooner, however, had they been exposed to the sulphurous fumigations than the vesicles dried away without any following suppuration, just as the small-pox vesicles were afterwards seen to do on other patients who, before the beginning of the suppurative stage, arrived at the hospital. One other fact is perhaps more striking than all: a carpenter had been taken into the quarantine in order to make some new beds for the patients, and remained there among the sick for some time. When he had done his work he was let out, after having been exposed to strong sulphurous fumigations. He was then outside under strict observation during fourteen days; and when no precursory symptoms could be observed in him he was revaccinated with complete success, and had true vaccine pits a second time, for he had been vaccinated twenty years before.

But be all this as it may—and every one may explain these facts as he likes—at all events so much is certain, that a malignant small-pox has been successfully treated and stamped out of this island in the aforesaid manner, without having infected a single person of its inhabitants. This is a fact which cannot be denied, and facts are, as we all know, “stubborn things”. There was certainly an extensive focus for contagion; and it is seldom the case that quarantine regulations are sufficient to destroy a disease of such tenacity and frightful virus as that of malignant small-pox. Experience has, on the other hand, shown that the Icelanders are, no less than other people of the globe, extremely liable to the small-pox contagion. In the past century the small-pox was very often imported into this island, and every Iclander is still shocked when he reads of the frightful epidemic of that kind which, in 1707, killed one-fourth part, or 18,000, of the inhabitants. Even in this century—viz., in 1840, small-pox was imported here; and in one parish where vaccination had been neglected it destroyed no less than one-eighth of the people, leaving others blind and lame, or very much disfigured. These instances are, amongst many others, a great warning against the erroneous and dangerous doctrines of the “antivaccine” apostles, who even in this *ultima Thule* are preaching their baneful and stupid dogmas.

The neglect of vaccination was clear enough in all the French sailors who came into our quarantine. Among the seven affected with confluent variola, I could not detect any true vaccine marks on their arms, although they told me that they had been vaccinated in their younger days.

As to the action of the sulphurous fumigation and the sulphurous acid, I must still make the following remarks. As generally known, it is commonly believed that the fumes of sulphurous acid are poisonous, and we therefore still find them in Dr. Alfred Taylor's *Medical Jurisprudence* characterised in this way: “The sulphurous acid gas, when existing in a very small proportion in air, has the power of irritating the glottis so violently that, if accidentally respired, it would commonly compel

the individual to leave the spot before the vapours were sufficiently concentrated to destroy life.” But sure it is that, although this gas is very irritant to all those who are not accustomed to it, I feel from experience convinced that it may be respired to a far higher degree than has hitherto been commonly believed; and I therefore fully agree with Naquet, who (in his *Modern Chemistry*, translated by Wm. Cortis, p. 114) says: “Sulphurous anhydride has a pungent odour; it excites coughing, but is not dangerous, unless it form a large proportion of the atmosphere.” I feel convinced that patients may be accustomed to it to a high degree, without any bad effect, and I therefore regard it as far less dangerous or inconvenient than chlorine gas. I have, moreover, remarked that sulphurous acid gas may even be inhaled with benefit in bronchial affections, and it has often been remarked here, during severe influenza or epidemic catarrh, that the sulphur diggers at the sulphur mines at Krisuvik have been quite free from that epidemic. At the quarantine I remarked the same fact; and while an epidemic catarrh was very common, both in Reykjavik and all round in its neighbourhood, all the people in the quarantine were exempt from it. The great disoxydising effects of sulphurous acid cannot be denied, and its cooling effect upon the system may easily be demonstrated; its destructive effects upon parasitic life are likewise undeniable; and why should it not also be capable of destroying “microzymes”? I have fully tried its beneficial effect in typhus and enteric fever, and I have no doubt of its usefulness in many other zymotic diseases. But, alas! our modern medical science seems still to have a very small and limited faith in real chemical physics; most is left to the so-called “healing act” of nature; it is trusted to flesh and blood to destroy zymotic poisons, as though the inventions of the human mind would never be able to master them, and therefore we still read in some journals, and indeed in some medical works of standing, that even such dangerous poisons as the variola virus should be left to the curative effect of the system itself.

One very eminent and highly esteemed medical author, Dr. W. Aitken, speaking of the treatment of confluent small-pox, says in his *Science and Practice of Medicine* (London, 1866, vol. i, page 260): “Small-pox must run its course, for it is not under the influence of any specific;” and another, Dr. Hermann Lebert of Berlin, in his *Handbuch der Practischen Medizin* (Tubingen, 1863, vol. i, page 71), writes to the effect that he has found it sufficient, even in confluent small-pox, to keep the patient in a moderate temperature, and give cooling medicines. But it must be remarked that both those authorities reckon the mortality from confluent small-pox at from 35 to 50 per cent.

Nearly ten years since I wrote in the *Edinburgh Medical Journal* my humble opinions about the disinfectant treatment of typhus, which I then thought might be extended to some, or perhaps most, other zymotic diseases. Time has confirmed in me the opinions which I then expressed, and has, moreover, convinced me of the worthlessness and danger of the so-called “expectant treatment” in all cases of malignant epidemics.

Reykjavik, October 10th, 1871.

EXFOLIATION OF THE BLADDER.

By GEORGE BUCHANAN, A.M., M.D.,

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My attention having been directed to this subject by reading a paper in the *BRITISH MEDICAL JOURNAL* for October 14th, I think the record of the following case occurring in the male, may prove interesting, as an addition to the important series of cases recently recorded in the *JOURNAL*.

Mr. C., aged about 60, a tall gentleman, of spare habit and sallow complexion, was placed under my surgical treatment by Dr. J. G. Wilson, his family medical attendant.

Dr. Wilson informed me that for several years Mr. C. had been in the habit of consulting him for dyspepsia, accompanied by rather vague urinary symptoms, the passing of urine being sometimes attended with pain. Both ailments were from time to time mitigated by the use of the water of some of the German spas, to which he was annually in the habit of resorting. Last year the continental war prevented his annual visit, and to that, along with anxiety as to some of his relatives who were engaged with the armies in the field, he attributed his being worse than usual last winter.

When I saw him, on December 20th, I found him suffering from cystorrhœa, the urine when cooled being loaded with ropy mucus and clouded with phosphatic deposit. The calls to pass urine were very frequent, obliging him to rise almost every hour during the night, and there were both pain and difficulty in micturition. On examination with a bougie,

I found a contraction at the membranous portion of the urethra; but that it was simply spasmodic, seemed probable from the fact that it had become occasionally spontaneously improved. With a little care I managed to pass a No. 5 silver catheter without pain, but after it was introduced it was firmly grasped by the urethra. Next day the spasm was nearly gone, and the urethra easily admitted an instrument of moderate size. The passage of bougies was continued daily till all tendency to contraction seemed removed, and the symptoms abated somewhat. Triticum repens in infusion was used for many weeks, without much influence on the appearance of the urine. Subsequently, I tried the effect of washing the bladder every two or three days with astringents, with some temporary benefit, but without any decided result. In the spring Mr. C. went into the country for a few weeks, and returned improved in general health, but with all the urinary symptoms much the same as when I desisted from active treatment. He then went abroad to try once more the effect of some of the German waters.

In September last, in the course of a continental holiday, I visited Baden Baden, and happened to meet my patient, Mr. C. I was surprised to find him very much improved in every way, the urinary symptoms having entirely disappeared, so that he now enjoyed a refreshing sleep during the night without requiring to rise; and that he was free from any uneasiness was obvious to me, for he was two or three hours with me taking his ice, and listening to the music in front of the Kursaal. On questioning him as to how this came about, he informed me that he had been to Wildbad, where he had taken a course of water and baths. But the crisis of his complaint happened when one day he felt unusual difficulty in passing urine, and, after considerable effort, expelled a white membranous substance, which he described as being like a little bag just of the size of the bladder. This he preserved, and shewed to his medical man, who declared it to be an exfoliation of the mucous membrane of the bladder expelled entire.

Since the discharge of this membranous cast of the bladder Mr. C. has had neither difficulty nor pain in micturition; the urine remains free from mucus and sediment; in fact, all the symptoms of cystorrhœa have disappeared.

ON INTEMPERANCE AS A CAUSE OF CHRONIC BRIGHT'S DISEASE.*

By WILLIAM ROBERTS, M.D., F.R.C.P.,
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DR. DICKINSON, in his recent able work on *Albuminuria*, has called in question the generally received opinion that the abuse of ardent spirits is, either alone or as reinforcing other etiological conditions, one of the most important causes of chronic Bright's disease. In an elaborate chapter he adduces a considerable array of statements and figures which have led him to the conclusion that, setting aside the cases associated with gout, alcohol has but a slight and remote effect in producing degeneration of the kidneys. This opinion, coming from such a quarter, and apparently supported strongly by facts, is likely to have a considerable influence on the minds of the next generation of practitioners, and, if it be an unsound opinion, is sure to lead to serious mischief in practice. This is the reason why I have considered it desirable to examine the evidence on which this opinion is grounded, and to bring the results of my inquiries under the notice of the Section.

The evidence hitherto relied on by writers on renal disease, in proof of the evil effects of alcohol on the kidneys, is of the same kind as that which is held sufficient to establish the connexion between intemperance and cirrhosis of the liver—namely, the fact that a large number of drunkards and intemperate persons are found among the subjects of chronic Bright's disease. Not only has this connexion been recognised by all writers on Bright's disease in this country and America, where intemperance is rife, but even in Germany and France, where the vice, at least in the form of spirit-drinking, is less prevalent than with us. The morbus Brightii of drunkards is a well understood type of disease among German writers. The impression that has grown on my own mind from an experience of several years both in public and private practice—much of which has been among patients suffering from renal disorders—is very strong that the intemperate, if they escape the earlier perils of delirium tremens, cirrhosis, and alcoholic phthisis, fall victims in large numbers, in their later years, to renal degeneration.

My present purpose, however, is not to set forth the facts which support the old opinion, but to show the inadequacy of the arguments brought forward by Dr. Dickinson in support of the contrary and new one.

The first kind of evidence adduced by Dr. Dickinson is based on the results of *post mortem* examinations of persons who had died of delirium tremens, or of individuals who, having been notorious drunkards, met with a violent death.

From the records of St. George's Hospital, he obtained the details of the *post mortem* examinations of fifty-two adult males who had died of delirium tremens. From the same sources he took, for comparison, the same number of examinations of adult males who had met with accidental death, excluding such as had been notoriously drunken. The state of the kidneys in these two sets of cases is shown in the following table.

	Delirium tremens (average age, 38).	Accident (average age, 41).
Natural	28	32
Congested	14	5
Slight or uncertain changes in the cortex ..	3	1
Large, smooth, mottled	3	1
Granular surfaces	3	6
Cysts, without other changes	1	7

The first thing that strikes one in examining this table is, not the slightness of the alterations in the delirium tremens cases, but the enormous proportion of serious organic disease in the accident cases. Is it to be believed that one in every seven or eight presumably healthy persons of the average age of 41 is the subject of granular kidney, or of the large smooth mottled kidney? This point alone would seem sufficient to fatally vitiate these observations. If the delirium tremens cases be taken by themselves, they present a sufficiently strong indication of the evil effects of alcohol on the kidneys. In nine cases, serious changes, either advanced or incipient, existed in the kidneys; in fourteen cases, there was congestion; and a perfectly natural state existed only in a little more than one-half. It is to be borne in mind that renal degeneration is usually a late event in the life of the intemperate; and that, consequently, the signs of renal disease in those who die at an average age of 41 might be expected to be found, for the most part, only in an incipient stage.

Dr. Dickinson next refers to the papers of Dr. Ogston of Aberdeen, who has minutely recorded the *post mortem* appearances of a chronic kind met with in the bodies—first, of seventy-three persons who were notoriously intemperate, and who had perished suddenly from the effects of accident, suicide, or homicide, and while apparently in ordinary health and activity; and, secondly, of forty-four additional persons of the same habits, who had also perished suddenly while apparently in ordinary health, but whose death was more directly traceable to the abuse of stimuli. The changes found in the kidneys are thus tabulated by Dr. Ogston.

First Series—73 cases, average age about 43 years.

General fatty degeneration in 1 case.

Hyperæmia in 4 cases.

Hypertrophy in 13 cases (in 5, lobulated; in 2, the cortices pale and attenuated; in 2, with yellow patches of fatty degeneration over the cortices; in 1, with partial obliteration of the tubuli; in 2, with granular surfaces; in 1, with (12) pus-depôts in one kidney; coincidentally in 1, with albuminous urine).

Atrophy in 1 case (kidneys attenuated, pale, with yellow fatty deposits in their cortices, serous cysts on their surfaces, and albuminous urine).

Buff-coloured, and cortices attenuated, in 4 cases (in 2, with albuminous urine).

Abnormal appearances in the kidneys, in all, in 23 cases, or in 31.5 per cent of the whole.

Second Series—44 cases, average age about 48 years.

Extensive fatty degeneration in 6 cases (surfaces granular in 3).

Hyperæmia in 9 cases (with albuminous urine in 1).

Hypertrophy in 14 cases (in 2, confined to the right kidney; in 2, kidneys lobulated; in 2, cortices pale and attenuated; in 1, tubuli obliterated; in 3, extensive fatty degeneration; in 4, marked hyperæmia; in 3, substance softened; in 2, atrophy of the left kidney; in 2, albuminous urine).

General atrophy in 3 cases (both kidneys in 1, right kidney in 1, left kidney in 1).

Partial atrophy in 6 cases (tubuli wasted in 2, cortices in 4).

Partial fatty degeneration in 5 cases (tubuli wasted in 1, surfaces granular in 1, cortices attenuated in 1, albuminous urine in 2).

Abnormal appearances in the kidneys, in all, in 28 cases, or in 63.6 per cent of the whole.

I am at a loss to understand how Dr. Dickinson could study these

* Read before the Medical Section at the Annual Meeting of the British Medical Association in Plymouth, August 1871.