

without knowing it herself, or without the surgeon being able to discover it even on inspection.'

"Surely there is matter here for the serious consideration of any medical man who undertakes to advise Her Majesty's ministers on the working of the Contagious Diseases Acts; and especially with regard to the extension of those Acts to the civil population.

"It is not my intention or wish in any way to offer an opinion here on the propriety or the operation of the Acts referred to. But as the responsibility of the principles upon which those Acts are framed will be thrown ultimately upon the medical profession, and the practical application of those Acts will involve the personal responsibility of medical men, I am somewhat jealous for the future honour of our profession, and anxious that any opinions and advice given by us to the Legislature should stand the test of time, and, in order that they may do so, that they should be established upon a really scientific basis."

### NEW PROCESS FOR THE UTILISATION OF SEWAGE.

We have recently had an opportunity of inspecting another new process, brought forward by Mr. Reginald Smith, for the utilisation of human excreta. It is founded on the patents of M. Badin, and, by permission of the directors of the Great Eastern Railway Company, has been tried for some time past on the metropolitan extension works at Bishopsgate.

The apparatus consists of a truncated cone of wire gauze, which is fixed, base downwards, in a cylinder of perforated metal. The cylinder is surrounded by, and nearly fills, a strong water-tight cylinder of galvanised iron, connected by a union joint with an air-tight cistern. The outer cylinder is about three feet high. The space between the cone and the inner cylinder is filled with some porous substance, with spent tan, in the experiment which we witnessed. This substance, whatever it may be, is saturated with some powerful antiseptic compound. The excreta, both solid and liquid, fall into the cone, the mouth of which is about six inches in diameter. Here the solids are retained, while the liquids filter through the tan, are disinfected in their passage, and finally pass into the outer cylinder, and thence to the tank. The cylinders must, of course, be changed by the company when full, and the tank emptied; but it is calculated that the apparatus is large enough to retain the whole excreta of one adult for twelve months, so that with a family of six it would only be necessary to change the cylinder every two months. When full, the cylinder with its contents, and the liquid in the tank, are to be removed to the Company's works, the liquid boiled down, and mixed with the solids, tan and all, taken from the cylinder. The whole is then dried, pulverised, and sold as "human guano."

It would be premature to express an opinion on the chance of success which this scheme possesses. It has obviously much to recommend it. The whole of the manurial ingredients are, no doubt, preserved by the process; and they are only diluted by the addition of tan, or some similar substance, which has some value in itself, and the weight of which is said not to exceed that of the solid matters. The manure obtained would be a real manure, and not one from which nearly all the valuable matters had been washed by a deluge of water.

On the other hand, the difficulty of replacing waterclosets by any such system as this is too great to be overlooked; and we think the promoters will act wisely in trying it first as a substitute for the filthy and noxious middens still largely used in some country towns. If such an experiment resulted in sanitary and financial success, the difficulties in the way of the further development of the system might perhaps be overcome.

DR. MUTER has been appointed Analyst for the Wandsworth district for a period of twelve months.

## Correspondence.

"Audi alteram partem."

### VACCINO-SYPHILIS.

To the Editor of THE LANCET.

SIR,—I was unfortunately unable to attend the meeting of the Royal Medical and Chirurgical Society on the 28th ult., and therefore had not the advantage of hearing Mr. Hutchinson's most interesting communication; but, after reading the details of his cases, so fully reported in your journal of to-day, I am unable to adopt the conclusion arrived at by him, and apparently by the Fellows present with the exception of Mr. de Méric, that the fourth series is an undoubted instance of vaccino-syphilis; but I am disposed to regard it as a case of vaccination in a person already syphilitic rather than one of syphilis conveyed by vaccination. At any rate, I do not think this case can be placed in the same category with the others previously brought before the profession by himself and by Mr. Thomas Smith, as so many fallacies present themselves in it.

These cases are of such extreme importance, and are liable to so many sources of error, that they ought not to be recorded as authentic so long as a reasonable doubt exists as to their true interpretation; and to arrive at this, it is, above all things, necessary that the patient should have been watched by a competent observer, especially at the commencement of the disease before the local symptoms have disappeared, so that the chain of evidence may be continuous from the beginning, and guaranteed by a responsible person; but in the case before us this does not appear to have been done, and it seems to me that there are many serious flaws and gaps in the links, to some of which I beg to direct attention.

The patient was vaccinated in May, 1871, and did not come under Mr. Hutchinson's care until December, 1872, so that more than a year and a half had elapsed between the suspected vaccination and her first examination by him. All, therefore, that Mr. Hutchinson is able to aver of his own personal knowledge is, that the woman had a dusky mark on her arm, and was suffering from syphilis at the time he examined her.

The early history of the case—accuracy in which is absolutely essential in such an inquiry—appears to have been derived from the patient herself; and, as it was obtained so many months after the occurrence of the symptoms, can only be judged *quantum valeat* by each of your readers; it certainly fails to convince. And even if given by an ordinary medical witness so long afterwards, such evidence would, in my opinion, be insufficient to lead to a satisfactory conclusion.

To corroborate the statement that after the vaccination the woman had "a hard-edged ulcer, lasting three months," the report mentions that there was "a dusky scar at the seat of one of the vaccination punctures, very different indeed from a normal vaccine cicatrix"; but this fact proves little. My own limited experience is that revaccination, even when followed by good vesicles, rarely leaves typical marks in healthy adults; and that it sometimes does leave dusky or discoloured scars in them, when the punctures have been followed by inflammation and ulceration; here, though, I am open to correction by others better qualified to give an opinion on this matter. But that these troublesome sequelæ to revaccination are not infrequent in syphilitic persons I can confidently affirm, having seen several instances where it was attended by violent inflammation, with severe and persistent ulceration, which, on healing, left a superficial discoloured scar lasting many months.

I can also fully endorse Mr. Henry Lee's opinion, that revaccination will sometimes light up the dormant disease in a person already the subject of syphilis; and, without a previous knowledge of the patient, this may readily lead to a suspicion that impure lymph has been used.

A knowledge of these facts gives us, I think, a much more probable explanation of the symptoms which followed vaccination in this patient than by referring them to the very unusual occurrence of syphilitic contamination by vaccination; and, until further confirmatory data are obtained, we

are warranted in withholding our assent from this uncommon accident as the cause of her disease.

In his reply to the remarks made at the meeting, Mr. Hutchinson is reported to have said: "There were no facts to prove that the persons were the subjects of syphilis before vaccination." On the other hand, there were none to prove they were not; and, with all deference to his opinion, I think in the case now under consideration there is a strong point of evidence to show that the patient was, most probably, already syphilitic at the time of her revaccination. For she was vaccinated with her two grown-up daughters, from the arm of a baby which had previously been used to vaccinate a number of other persons. The contents of the vesicle therefore must have been exhausted before the patient and her daughters were vaccinated from it; consequently the same material—i.e., the oozing or the draining of the vesicle—would be used for all three of them; but although the mother afterwards had a bad arm, and suffered from an attack of syphilis, the two daughters, equally prone to contract the disease, escaped.

This circumstance contributes, moreover, a strong argument that the vaccinifer was not tainted; and, indeed, from the report, it is by no means clear that the family, or this child, were syphilitic. The vaccinifer was the third of these children, all living. The first had never shown any suspicious symptoms; the two youngest, whilst teething, had been treated for sores about the anus, and both are said to have large foreheads. Although we may justly regard such symptoms with distrust, yet soreness about the anus during dentition is by no means pathognomonic of syphilis unless the ulceration be distinctly condylomatous (mucous tubercles), which Mr. Hutchinson cannot positively assert, as he did not see the child until long after this had disappeared; neither is a slight enlargement of the forehead necessarily of syphilitic origin, for this also may be produced by other causes. The grounds then for believing that the vaccinifer was syphilitic are extremely slight, and far more than counterbalanced by the rebutting evidence above-mentioned.

I trust, Sir, by these remarks it will not be thought that I am seeking to throw the least discredit upon Mr. Hutchinson. Nobody can feel more strongly than myself the immense obligation we are under to him for having brought these most interesting cases before us in the very able manner he has done, and for the good service he has rendered in removing a question of such moment to us all from what, in the minds of many practitioners, was still debatable ground, to the domain of certainty. Anything that Mr. Hutchinson can vouch for from his own personal observation, and of his own knowledge, I unhesitatingly accept; but this case, constituting his fourth series, differs from his preceding cases in that he did not see the local condition of the patient for himself, and is, therefore, entirely dependent upon others for his statements. There is no doubt that the woman was the subject of constitutional syphilis, but in the absence of skilled observation, and with its several weak points which I have endeavoured to place before you, this case cannot be accepted as one of indisputable vaccino-syphilis, and I do not think it ought to go forth authoritatively to the public as such.

With apologies for the great length of this letter, which can only be excused on account of the vast importance of the subject,

I remain, Sir, faithfully yours,

GEO. G. GASCOYEN.

Queen Anne-street, Cavendish-square, Feb. 1st, 1873.

## NITROUS OXIDE GAS IN DENTISTRY.

To the Editor of THE LANCET.

SIR,—I should not intrude myself on your columns did I not feel, after reading your remarks on Nitrous Oxide in last week's LANCET, that the tendency of the latter portion of the article was almost to condemn the administration of this most useful anæsthetic.

Having given nitrous oxide in nearly two thousand dental operations without any unpleasant result, I should be sorry to discontinue its use, even though it be not a "true anæsthetic." I quite agree with you that the ruthless way in which nitrous oxide has been administered by unqualified

persons is much to be deplored. The rapidity of the action of nitrous oxide, as well as its peculiar effects upon respiration, are circumstances which point to the necessity of at least as much experience in its use as in the employment of chloroform in order that it may be given with perfect safety.

I certainly am averse from its re-administration in dental operations whilst the gums are bleeding, as, should the muscles about the glottis be partially paralysed, the blood naturally finds its way into the trachea,—an event which may have occurred in the late fatal case, but of which we unfortunately have no proof in consequence of there having been no post-mortem examination.

When operating on the mouths of patients under the influence of nitrous oxide, it is better to place them in an almost upright position, and the moment the operation is concluded to tilt the chair forward, in order that the blood may run out of the mouth and not back into the fauces.

There appears no proof in Miss Wyndham's case that the heart was primarily affected, as it seems that Mr. Mason was able to fetch Dr. Drake, "who returned with him and found the lady still alive." This is not the history of death through the heart. The increased rapidity of the pulse during the first inhalation was possibly due to the nervous excitement of the patient, and would most probably have been noticed even if no anæsthetic had been administered.

Looking at these few facts in an impartial manner, I think, Sir, you will allow that until we find some better anæsthetic, nitrous oxide, carefully administered by properly qualified surgeons, is far less dangerous and much more manageable than chloroform in dental operations.

I am, Sir, yours obediently,

Brook-street, Grosvenor-square,  
February 3rd, 1873.

GEORGE PARKINSON.

## THE INLAND REVENUE BOARD AND THE ADULTERATION OF CHICORY.

To the Editor of THE LANCET.

SIR,—According to *The Times*, the Inland Revenue Board are "surprised to find" that there is a trade in adulterated chicory, a roaster having been detected mixing scorched rye with this article, which he sells as chicory.

Why, Sir, this particular adulteration of chicory, as well as many others, some of them of a much worse description, and the existence of an extensive trade in adulterated chicory, were exposed by me in the reports of the Analytical Sanitary Commission of THE LANCET, now twenty-two years ago. It was then shown that nearly half the samples of chicory sold were adulterated. What, therefore, really is surprising is that the Inland Revenue Board should not have been sooner aware of the fact, and that they should have done so little, with all their vast opportunities, in the exposure and suppression of adulteration.

I am, Sir, your obedient servant,

ARTHUR HILL HASSALL, M.D.

Adelphi-terrace, Feb. 3rd, 1873.

## PRISON DIETARY.

To the Editor of THE LANCET.

SIR,—The recent Prison Congress having directed public attention to the various matters which concern the treatment of prisoners, it may interest your readers to learn what is the effect upon the physical condition of criminals, of the prison dietary known as Sir George Grey's, which was in use at the Louth County Prison until it was closed in June last, and is still, I believe, employed in several city, county, and borough gaols.

Before stating, however, the results I had obtained, it is desirable to show what was the condition of the prisoners on admission, which was as follows for the years ending September 29th, 1868, and September 29th, 1869:—

1867-8: Male prisoners, 535; average height, 5ft. 3½in.; average weight, 8 st. 13½ lb.; deficiency below standard, 10½ lb.

1868-9: Male prisoners, 551; average height, 5ft. 3½in.; average weight, 9 st. 3½ lb.; deficiency below standard, 8½ lb.

It appears from this that, on an average of more than