

cancer if the organism were the cause of the tumour. But Mr. Plimmer has isolated from a cancer an organism which has produced swellings which Mr. Plimmer describes as "malignant tumours" and he says that these tumours are "certainly not carcinomatous." This suggests that there may be one cause for carcinomatous malignant tumours and that the same cause may produce malignant tumours which are not carcinomatous. It may be so; but it seems to me that Mr. Plimmer has definitely assumed a conclusion which if proved would be of the greatest scientific importance and in support of which he has produced no satisfactory evidence in THE LANCET.

I pointed out in my letter in THE LANCET of April 1st that "it is important to know whether the culture used in each case was made from a body which had died from disease or from a freshly removed tumour, but this information is wanting." Mr. Plimmer's reply is: "With regard to the fourth paragraph in Mr. Malcolm's letter the culture used was, as stated in the third section of my paper, isolated from the case there mentioned."

In experiment No. 9 the culture used was "made from the abdominal glands of No. 8." I wanted to know whether in any of the other cases the culture isolated from the cancer mentioned by Mr. Plimmer had been cultivated in the body of an animal that died and had been obtained again as a pure culture from that body before being used for these experiments. Mr. Plimmer leaves this indefinite still and I think it is an important point.

I am, Sirs, yours faithfully,

Portman-street, W., April 11th, 1899. JOHN D. MALCOLM.

INDURATIVE MEDIASTINO-PERICARDITIS.

To the Editors of THE LANCET.

SIRS,—I have been interested in Dr. Whipham's communication on "Chronic Mediastinitis (Indurative Mediastino-Pericarditis)" which appeared in THE LANCET of April 1st and 8th.

The very careful clinical and pathological accounts which the author of the communication gives are an example of what is required in considering a comparatively rare disease like the one in question. Four years ago, when I collected all the cases of indurative mediastino-pericarditis which I could find, I was much struck by the incompleteness of the records, and I notice that Dr. Whipham repeatedly refers with regret to the fact that the details of the cases in various particulars are incomplete. I fully recognise that that was so, and hope that in future Dr. Whipham's example will be followed, and that the cases of the disease in question, which is a most interesting one, will be more fully recorded. Although full clinical and pathological records are often very tedious reading, it is only by the publication of such that anyone who attempts to elucidate a comparatively rare disease by an analysis of the cases can obtain the facts necessary for his purpose.

The diagnosis of indurative mediastino-pericarditis is, as Dr. Whipham says towards the end of his communication, a matter of considerable difficulty. I was very amused to read that a case was under so able a writer as Dr. Taylor for a considerable period and that cirrhosis of the liver at one time was thought to be the explanation of the symptoms and physical signs, and that in one of Dr. Whipham's own cases a consultation of the physicians at St. George's Hospital took place without any definite diagnosis being made. I can also make a similar confession. For the last 18 years there is no disease which I have been more interested in and more constantly on the look-out for than indurative mediastino-pericarditis. Under such circumstances one is apt to diagnose the disease one is interested in probably more frequently than one ought to do and to see its signs where they do not exist, but I well remember one case which during the patient's life I always regarded as a simple case of chronic bronchitis and dilated heart but which to my surprise at the post-mortem examination turned out to be a typical specimen of indurative mediastino-pericarditis.

The disease undoubtedly is difficult to diagnose, but the difficulties are by no means insuperable in the majority of cases and a careful consideration of its most essential features will as a rule save a physician from error. There is one sign of indurative mediastino-pericarditis which I miss from Dr. Whipham's communication—i.e., inspiratory swelling of the veins of the neck which although not a constant sign of indurative mediastino-pericarditis is, I believe, when

present of great significance. I am inclined to think, however, that it is more frequently absent than present in the disease in question and it is to be remembered that it has been recorded (Petrina) in a case of mediastinal tumour. When, however, it is present and especially when we also have a pulsus paradoxus it is not too much to say that indurative mediastino-pericarditis is the most probable disease present.

I am, Sirs, yours faithfully,

Mosley-street, Manchester.

THOMAS HARRIS.

"LOCK HOSPITALS AND LOCK WARDS."

To the Editors of THE LANCET.

SIRS,—Referring to your annotation in THE LANCET of April 8th allow me to point out that the Liverpool Lock Hospital which has been closed comprised in reality the lock wards of the Royal Infirmary though in a separate building and in an adjacent street. It is too true that the very name of "lock" hospital acts to a certain extent as a deterrent, but if that which we call "a rose by any other name would smell as sweet" I fear that what we know to be a lock hospital would under any other name be equally ostracised and equally unfortunate. The Liverpool Lock Hospital, received patients not only from Liverpool and its neighbourhood, but from very distant places, it and the Manchester Lock Hospital being the only two of the kind in the whole north and centre of England. It is a significant fact that in three London hospitals the lock wards have been absolutely closed as such, in three others the beds have been reduced, whilst five more have never had any lock wards. Unless the attention of the British nation can be roused to the necessity of supporting these hospitals and wards we shall before long be without either lock hospitals or lock wards.

I am, Sirs, yours faithfully,

Liverpool, April 11th, 1899.

FRED. W. LOWNDES.

DEATHS UNDER NITROUS OXIDE.

To the Editors of THE LANCET.

SIRS,—The case reported by Dr. Howard H. C. Dent in THE LANCET of April 8th is of considerable interest and importance, and as it appears to me to very forcibly illustrate certain points which I have for many years endeavoured to emphasise I hope you will kindly allow me to make a few remarks upon it. The interpretation which I would offer of the symptoms so clearly described by Dr. Dent is somewhat different from that which he advances. In order to make myself perfectly clear it is necessary to first draw attention to one of the most important points—perhaps the most important—in the administration of anæsthetics. With all anæsthetics, but more particularly with nitrous oxide when administered free from oxygen, mechanically obstructed breathing, dependent upon the direct or indirect action of the anæsthetic itself, is very liable to arise. I have elsewhere entered at length into the numerous causes which may come into play in the production of this particular form of respiratory embarrassment and I need not refer to them here. Some degree of obstructed breathing is usually produced whenever pure nitrous oxide is administered in the customary manner to healthy persons. As a general rule, however, no harm results because the removal of the anæsthetic allows air to enter the lungs and the asphyxial phenomena rapidly vanish. But in subjects whose air-passages are already narrowed by any pre-existing conditions respiration becomes much more quickly obstructed than is usually the case, and should the patient's general state be unsatisfactory circulation will not of course hold out against the respiratory arrest as long as under other circumstances.

When nitrous oxide is administered free from oxygen three definite asphyxial phenomena arise towards the end of the administration; these are obstructive stertor, convulsive muscular movement, and cyanosis. I have quite recently shown that all of these incidental factors may be made to come and go during any given administration of nitrous oxide and oxygen by diminishing or increasing the percentage of oxygen. The three phenomena are, in fact, anoxæmic in nature and are not essential to the anæsthesia of nitrous oxide. The stertor of ordinary nitrous oxide anæsthesia is the audible expression of obstructed breathing and the latter does not as a rule occur without the former. It may, however, happen that the obstruction comes about noiselessly and, as in the case under consideration,

respiratory movements may continue for a while, even though the air-way be quite occluded. The obstructed breathing produced by pure nitrous oxide appears to have as its immediate cause spasm of muscles capable of closing the superior opening of the larynx. The spasmodic action of these muscles takes place in conjunction with the contraction of other muscles throughout the body. If the hand be placed over the larynx of a person deeply under the influence of pure nitrous oxide the whole organ will usually be found to be spasmodically raised as in the first half of the act of deglutition, and when it is thus drawn up so that its superior aperture becomes closed by the epiglottis and base of the tongue respiration ceases. It would be premature to attempt to specify the muscles which contribute to the occlusion of the larynx. The point which I would emphasise is that arrested breathing under nitrous oxide is almost invariably obstructive and is rarely, if ever, dependent upon respiratory paralysis.

It will, I think, be clear from the above considerations that although nitrous oxide is the safest general anæsthetic known there are certain cases in which it is distinctly dangerous. Some years ago a well-known writer on the subject of anæsthesia read an exhaustive paper on the physiological action of this gas and, in his zealous advocacy of its safety and universal applicability, went so far as to deny that it was an asphyxiant. Now, teaching of this kind can only have effects such as we find in Dr. Dent's case, and the sooner its fallacies are recognised the better will it be for all concerned. I do not for one moment deny that in the hands of those who have had special experience pure nitrous oxide is a safe anæsthetic, even though its administration be pushed to the point of arrested breathing. But like other drugs it is not suitable in all types of subjects. To state that the pure gas is not an asphyxiant is, I venture to think, a most misleading doctrine. Fortunately our present knowledge enables us to disprove this assertion, but it will, I fear, be some time before the truth becomes universally accepted.

It is a matter for congratulation that at the present time we have reliable means at our disposal for obtaining nitrous oxide anæsthesia free from unnecessary asphyxia. This can be accomplished by administering the gas with proper percentages of oxygen. By this system the one disadvantage of nitrous oxide is eliminated and we have at our command an anæsthesia so safe that it is difficult to conceive any fatality arising during its maintenance.

I am, Sirs, yours faithfully,

FREDERIC HEWITT.

Queen Anne-street, Cavendish-square, W., April 11th, 1899.

WHERE SHALL WE BUILD OUR NATIONAL SANATORIA FOR CONSUMPTIVES?

To the Editors of THE LANCET.

SIRS,—The interest in the open-air treatment of phthisis which has been stimulated by the propaganda of the Association for the Prevention of Consumption and Other Forms of Tuberculosis and the proposals to establish sanatoria in this country have already had one useful result in drawing attention to the possibility of successfully treating this disease in such a climate as that of the British Isles. The conviction is gradually gaining ground that the fresh-air treatment may be successfully carried out without sending the patient out of England. This is important, for the majority of phthical patients are unable to afford the expense or to stand the fatigue of visiting foreign health resorts. The influence of climate in the causation of phthisis, once considered paramount, is now given a secondary place; and though our variable climate is still considered by many as an obstacle to successful treatment we may sanguinely expect within a very few years to find this idea less prominent. True, our climate is not the most suitable that is to be found, but "twill serve." Hitherto the treatment of phthisis at home has been considered so nearly hopeless by the public, if not by the medical profession, that systematic attempts at cure have never reached the completeness obtaining in many foreign sanatoria. That success is possible without leaving our own shores is known to most of those who have much experience in the treatment of phthical cases, but as a rule we have advised our patients to change their locality with the changes of season and in this country of many climates—or as has been said of climatic "samples"—to chase the sunshine from place to place. The

proposal to erect sanatoria must, however, direct our attention to the selection of such parts of the country as will be most suitable for all-round residence—districts where phthical subjects may be able to live in the open air all the year round with the maximum of sunshine and the minimum of rain. All cases are not alike in their climatic requirements, and just as some are benefited by the warmth of Egypt and others by the bracing cold of the Engadine altitudes, so will different localities in this country have their several claims to selection as sites for sanatoria. But whether we seek for comparative warmth or for bracing uplands, dryness of soil and air with a maximum of sunshine throughout the year must be considered as essential.

Before any large sanatoria such as are proposed in the scheme of the Association for the Prevention of Consumption can be commenced full information as to the climatic advantages of many localities will have to be collected, and I wish to draw attention to a district which has lately attracted my notice from the marked benefit received by a phthical patient who recently spent some time there. Several well-known health resorts are situated along the southern shore of the Bristol Channel and the climate of that district seems to be peculiarly equable and dry. Portishead shares the advantage of the rest of this district and has in addition characters peculiar to itself. Half an hour by train from Bristol it is easy of access. Rising above the village is a hill some 400 feet high dotted over with residences. The northern slope faces the Channel with the Welsh hills behind Newport in the distance; the southern slope looks across the valley to hills beyond. Towards the east the view extends to the Clifton downs, whilst westwards the Channel leaves free passage for the soft west breeze which is the prevailing wind. Sheltered thus by neighbouring hills from north and east, standing high above the water, and being favoured by an exceedingly clear atmosphere and small rainfall, the hills of Portishead are protected from cold winds and receive an amount of clear sunshine throughout the year which is exceptional. The tide of the Bristol Channel here rises and falls about 37 feet, and perhaps the air currents produced by this large diurnal alteration in the water level may account for the absence of fogs. The Welsh hills seem to attract the clouds and to draw them away from the south side of the Channel. Hill and dale, woods and lanes with fern-grown banks, tempt one to wander in the open air, whilst the sunshine and warm breeze allow of this out-door life without risk. Such is the account given me by residents and visitors and a short visit left me with the impression that they were not exaggerating. The drainage and water-supply are excellent. With these advantages it is not surprising to find statistical evidence that the place is healthy. An average death-rate of 12·35 per 1000 from all causes for the last six years shows a death-rate from phthisis of 1·48 and a zymotic rate of 0·99 per 1000 and a very low rate from pulmonary diseases such as pneumonia, pleurisy, and bronchitis. The fact that many tender and subtropical plants will stand the winter without protection speaks favourably for the temperature. There may be several places with climatic advantages equal to those of Portishead, but there must be few which would be more suitable for a prolonged residence for phthical subjects seeking health.

I am, Sirs, yours faithfully,

J. EDWARD SQUIRE, M.D. Lond.,

Physician to the North London Consumption Hospital, &c.
April 8th, 1899.

PREVENTION OF ZYMOTIC DISEASES.

To the Editors of THE LANCET.

SIRS,—I should like to bring before the medical profession the subject of the prevention of zymotic diseases with a view of making our first line of defence in these diseases much stronger than at present, seeing that the serious consequences which they produce are apt to last for life. I do not consider that we take sufficient precautions to ward off these affections early enough. I have been much struck in treating these diseases with the immediate and marvellous curative results which follow chlorine gargles in scarlet fever and glycerine and carbolic acid gargles in other zymotic diseases. From the moment they are commenced, while all the "ports" are kept open, the disease is arrested in its progress. Now, knowing all this, are we simply to go on for ever allowing these diseases to develop? I would say, Certainly not. We ought to advance and keep ourselves constantly protected