quite an unnecessary amount from that small fee due to them.

I am, Sirs, yours faithfully,

Cullompton, Devon, Jan. 19th, 1902.

G. G. GIDLEY.

* * Our correspondent, when making his annual return for income-tax purposes, must include his income "from all sources," that from his appointment as medical officer included. He may claim the repayment of the duty deducted by the Post Office authorities (provided, of course, that he has paid income-tax on the return made by him), and should direct his claim for repayment to the Secretary, Inland Revenue (Repayment Branch), Somerset House, W.C. We presume his statement "every Christmas quarter" at 1s. 2d. in the £ refers to last Christmas only.—ED. L.

THE SANATORIUM TREATMENT OF CONSUMPTION.

To the Editors of THE LANCET.

SIRS,—A few words will suffice in dealing with Dr. Arthur Latham's references to my letter. I am informed that there is nothing to support my "deduction" that a patient must spend two or three years in a sanatorium. I never made it. I merely quoted the words of Dr. Clifford Allbutt *verbatim et literatim* who declared that this length of time was necessary for the obsolescence only of the disease. The attitude of Germany I have (and want) nothing to do with. Suffice it to say that Germany has had 40 years' experience of sanatoriums and has not made the progress we have who have relied exclusively on works of sanitation. Dr. Latham says that I recognise sanitary defects as the main etiological factor in consumption, and yet object to the removal of patients from such debilitating influences to the "fresh air" of sanatoriums. What I said was that, having recognised the cause, you should remove it and not the patients. I claim that the money squandered on sanatoriums which could be used for striking at the root of the trouble is badly spent. It may be that these institutions form "only one of the lines along which we have to work," but I have yet to learn that any serious effort has been made by the association at their own expense to clear away insanitary dwellings and remedy sanitary defects. The modern notion is not to trust to tried methods but to convert the earth into a mighty limbo for the aggregation of cases of infective, and so-called infective, diseases the occurrence of which could and should have been prevented. I am sorry I said something which had been already said by Sir John Burdon Sanderson. I tender that gentleman my apologies for having presumed to think in the same grooves as himself.

Now for the "fresh air" of sanatoriums. I regard it as a humiliation that latter-day "scientists" are prepared to do battle for a theory which is consumed at its own focus. The tubercle bacillus is or is not a pathogenic organism. Is it only pathogenic when it is desired to terror-strike governments into the passing of compulsory laws? to obtain powers for the wanton destruction of the country's foodstuffs? to intimidate municipalities? and does its pathogenicity stop at the doors of the sanatorium? Does the *circulus vitiosus* become converted into an angelic halo when once the patient has taken up his abode? I leave Dr. Latham's assertion that in the midst of the coughing and spitting sanatorium crowd there are considerably fewer tubercle bacilli than in an ordinary dwelling to the judgment of your readers. The bactericidal properties of the sunshine which, of course, finds its way into all sanatoriums, even in our *triste* climate during the winter months, prevents the "spread of infection," &c. One wonders if, in addition to forming a corner in fresh air, the association has taken out Royal Letters Patent for the exclusive manufacture of sunshine during the winter months. But this organism, the pathogenicity of which justifies sanitarians in demanding the most preposterous restrictions, leaves the medical and surgical staffs of Brompton Hospital severely alone, although tubercle bacilli are found there in enormous numbers. It does not touch the stationary inhabitants of health resorts frequented by consumptives, although these poor creatures in search of health are hunted from place to place, forbidden to land, and shut out of hotels by the panic-mongering of public health enthusiasts who are supposed to take a kindly interest in their fate. The theory of the infectivity of consumption shares with the "endogenous spore-formation" theory the honour of being a means to an

ignoble end. When the assertion that spitting at large constituted a terrible public danger was referred back to the scientists who had proclaimed that exposure to one-minute's sunlight killed the tubercle bacillus we were told that the real danger lay not in the bacilli, but in their practically indestructible spores, which delectable theory left a distracted world without means of escape. It was not necessary that these spores should ever have been *seen*. The new method of philosophising is to start a theory and then invent facts to fit it. In the fulness of time somebody had the courage to doubt the existence of these spores, and now the theory is given up. I am advised to apply to one of the London isolation hospitals for a refutation of my argument that aggregation is bad. I shall there learn that "the sequelæ and complications compare favourably with those which obtain in ordinary houses." Secondary infection and post-scarlatinal diphtheria never do obtain in ordinary houses. They are the fruits of aggregation solely. I can assure Dr. Latham that he will have to look beyond these islands—beyond the continent of Europe—before he finds any evidence which will justify the existence of the aggregation hospital.

Now if a patient of the so-called isolation hospital falls a victim to secondary infection during a residence of a few weeks, how shall the sanatorium patient escape who is kept within striking distance of the cause of his disease for two or three years? If the organism does not strike there can be but one explanation, which is that it is powerless to strike and the theory of infection cannot be logically held. To enter into the pretence that there is some skill in sanatorium treatment which cannot be acquired by a man of average intelligence without serving an apprenticeship deserves to be called by a name which describes it passing well.

There is no more need for large "special" hospitals than for "special" physicians. The Nordrach Institution had a world-wide reputation while its construction was primitive in the extreme, consisting of a pair of villas with an old, disused factory as an addendum.

A word in conclusion. The profession will do well to adopt an even more cautious attitude than usual towards published sanatorium statistics. We heard the other day of 14 out of 40 sanatorium "cured" patients being dead and one *in extremis* within 12 months of their discharge. The figures were published by patients' friends—not by the authorities of the sanatorium.

I am, Sirs, yours faithfully,

Nottingham, Jan. 16th, 1902.

EDWARD DEAN MARRIOTT.

"MUNICIPAL AUTHORITIES AND THE FEEDING OF INFANTS," AND "THE INFLUENCE OF MATERNAL FACTORY LABOUR ON INFANT MORTALITY."

To the Editors of THE LANCET.

SIRS,—In preparing the numbers of Vol. CLXI. of THE LANCET for binding I notice an annotation under the first of the above headings at p. 608 of your issue of August 31st, 1901, and at p. 814 of that of Sept. 21st, 1901, a letter by the health officer of Norwich (Dr. H. C. Pattin), to which, by your indulgence, I desire to make brief reference. In your annotation you characterise the circulation at Norwich and Darwen of a leaflet on the subject of infant feeding as a "most salutary precedent," whilst Dr. Pattin in his communication refers only to those issued at Nottingham, Newington, and by the National Health Society. Permit me to observe that this Norwich "precedent" is (like the present letter) a somewhat belated one, as for many years most excellent leaflets on this subject have been circulated by the Corporation and Sanitary Association of Manchester, and also by the East London Hospital for Children and the Liverpool Infirmary for Children. In addition, the Corporation of Stockport in 1899 widely circulated a similar publication which had been edited by the local medical society; hence your allusion to the Norwich and Darwen circulars as a "precedent" is unintentionally, but obviously, inaccurate. Let me also at once say that I am quite sure Dr. Pattin had no wish to ignore what has been done elsewhere and was no doubt unaware of it, though in regard to Stockport the facts are alluded to in the *British Medical Journal* of June 2nd, 1900, p. 1388, and

also in a prominent leading article in the same journal of July 7th, 1900, p. 38, on "Infant Feeding and Maternal Education," as well as in *Public Health* for February, 1901.

In reference to this question of maternal education, I think it is due to the progressive Corporation of Stockport to place prominently and distinctly on record to its credit the fact that it is the first and only body that has hitherto attempted to grapple practically with the question, as at the discussion on Infant Mortality at the Cheltenham meeting of the British Medical Association the teaching of infant hygiene was advocated by more than one speaker without any reference to the fact (of which at least two of them were fully aware) that such instruction was already being systematically given in the elementary schools at Stockport. On Feb. 1st, 1900, the teachers of that town, together with one of H.M. Inspectors of Schools (Mr. F. T. Howard, M.A.), met the sanitary committee by invitation, and the outcome of the conference was that the teachers unanimously agreed to arrange for the instruction of the elder girls in the feeding and management of infants, using as their guide a booklet (copy herewith), drawn up at their request by the writer and supplied by the sanitary committee. The committee also offered a money prize to each school in which the subject was taught, and supplied approved forms of feeding-bottles, &c. A trained health visitor was appointed who visited each school occasionally to supplement by demonstration and otherwise the instruction given by the regular teachers. My successor (Dr. Meredith Young) states that the system thus inaugurated works excellently, and personally testifies to the soundness and satisfactory result of the teaching, whilst the sanitary committee is not a little proud of the real "precedent" which its action has furnished.

I further desire to refer to Dr. G. Reid's suggestion¹ that mothers should not be allowed to return to work in factories for at least three months from the date of their confinement, as they would then probably suckle their babes till the most precarious period of life had been tided over. In Stockport, where the infant mortality was very excessive, I found on personal analysis of 5101 deaths of infants during 1890-99 that as many deaths (one-fifth of all) took place in the first month of life as in the second and third together, whilst three-fifths of all occurred during the remaining nine months, these figures closely conforming to those at pp. 11-17 of the Registrar-General's Annual Report for 1891. Having regard to the food- and comfort-yielding value of the mother's earnings, is it, therefore, worth while to advocate a measure that cannot possibly benefit four-fifths of the infants that at present die? And has it ever occurred to Dr. Reid that such prolonged idleness would inflict great and useless hardship on a large number of mothers whose infants die within a few days of birth, or long before the expiration of the suggested three months? Is it not, moreover, a fact that in 1893 or thereabouts a special sub-committee of the Council of the British Medical Association found itself unable to recommend this measure and that after careful inquiry by the Home Department the then Home Secretary (Mr. Asquith) decided against it? Judging from the enormous number of deaths from "prematurity," "low vitality at birth," &c., as well as from personal knowledge of the conditions of factory life, I am inclined to think that any legislative change, if such be practicable, should be in respect of pregnant women who often continue to work in the mills almost to the hour of their confinement. With regard to *crèches*, which Dr. Reid also recommends, they have been tried with most intensely disappointing results in Liverpool and other places, for the simple reason that mothers will not use them, preferring to pay as much as 4s. per week to some ignorant neighbour to look after their babes. The strict enforcement and extension of the Infant Life Protection Act, together with the instruction of those who in the near future will become mothers, seem to be the most hopeful means of dealing with this national evil. Apologising for the length of this communication on a subject which has for many years been of special interest and official importance to me,

I am, Sirs, yours faithfully,

CHARLES PORTER,

County Medical Officer of Shropshire; late Medical Officer of Health of Stockport.

Shrewsbury, Jan. 14th, 1902.

* * * Dr. Charles Porter encloses some admirable leaflets

dated 1899 and a pamphlet dated 1900. The word "precedent" was obviously incorrect and we think it well to apologise in advance to any municipality that may have issued leaflets previously to the sanitary authorities of Stockport.—ED. L.

THE RELATION OF THE CHURCH TO SANITARY REFORM.

To the Editors of THE LANCET.

SIRS,—The suggestion of "Vicar" in *THE LANCET* of Jan. 18th, p. 192, is most valuable—viz., that the edge of the chalice at the celebration of the Holy Communion should be wiped with a fair linen cloth between each administration. It will, I hope, become universal. Although the use of separate cups would, of course, absolutely eliminate the dangers of infection, yet it is extremely improbable that such a custom would ever find favour except among very few—in fact, though it is now some two or three years since the idea was suggested I have never heard of its being adopted except in a very few Dissenting places of worship. Rightly or wrongly, the "usages" of churches of the Establishment are governed mostly by tradition—ancient in all cases and in some supposed to be primitive: tradition first, sanitation, or what you like, second. Witness the almost unanimous opposition of the Church to cremation. Moreover, in many churches, and not only in those of the most "advanced" type, it is the custom for the celebrant not only to consume the wine that may be left, but also to rinse the emptied chalice and drink the rinsings—so great is the veneration (and surely no charitable person would sneer at it) in which the consecrated elements are held. How could this be done with a multitude of little cups?

I am, Sirs, yours faithfully,

Wherstead Vicarage, Ipswich, Jan. 20th, 1902. R. A. L. NUNNS.

THE ESTIMATION OF THE EFFICIENCY OF VACCINATION BY THE SCAR AREA.

To the Editors of THE LANCET.

SIRS,—The method of estimating the efficiency of a vaccination by the area of the scars produced seems to me unsatisfactory for the following reasons. By employing an aseptic lymph and by taking rigid precautions against sepsis throughout the course of the vaccinia, it is, I believe, possible to obtain good vesicles which will dry up without ever becoming pustular and which will leave hardly any scar at all. Results approximating this ideal I myself have obtained in a considerable number of cases of secondary vaccination by the following method. The operation having been performed with the usual aseptic precautions, a dressing of dry boric acid lint was applied and fixed with strapping. At the end of six days or a week, when the vesicles were well developed, this dressing was removed, the arm bathed with antiseptic lotion, and a dry dressing of bichloride gauze applied. When examined about 10 days later the pocks would be found to have scabbed over, the scabs being adherent to the gauze. It was then only necessary to cut the gauze so as to leave a circular piece adherent to each scab. When the latter fell off in the ordinary way it left only a very small scar indeed. In one case, for instance, although large vesicles developed, the spots when examined two months after presented small patches of hyperæmia not more than a third of an inch in diameter in which four or five little areas of scar tissue of about the size of a pin's head could be seen.

If, on the other hand, vaccination is performed without any special aseptic precautions the vesicle will become a pustule, the pustule an ulcer, a considerable portion of the corium will be destroyed before healing takes place, and thus a large scar will be produced. Now, I take it, that all bacteriologists will admit that pustulation is effected by the entry of pyogenic organisms into the vesicles. It appears to me, therefore, that the size of the resultant scar in vaccination depends almost entirely on the extent to which these organisms have been at work. I am thus driven to one of two conclusions, either that suppuration in the vesicle is not an essential of vaccinia, but is merely the result of sepsis and that, therefore, a large scar is of no value except as evidence of insufficient care, or that the action of pyogenic organisms is

¹ *THE LANCET*, August 24th, 1901, p. 549.