At the time of these experiments I had under examination in a building attached to my laboratories a milch cow with tuberculous ulceration of the intestinal tract so extensive that every discharge of faeces meant, judged from frequent microscopical examination, the distribution of millions of bacilli upon the pasture on which she had been in the habit of grazing in common with other animals of the herd. The majority of these bacilli would not be exposed to the sun's rays, but would, as in the case of the experiments above referred to, be carried beneath the blades of grass into the crowns of the rootlets and the interstices of the upper layers of soil, there to lie sheltered until the first succession of drying winds reduced the soil in which they were contained to a desiccated condition. It occurred to me that here we had possibly a factor in the widespread distribution of tuberculosis amongst the grazing and milch cattle of this and other countries which has not hitherto been taken account.—I am, etc.,

HAROLD SWITHINBANK.

Stronechregan House, by Fort William, N.B.,
Sept. 13th.

## RETURN CASES OF SCARLET FEVER.

SIR,—Your correspondent, Dr. William Robertson, in the BRITISH MEDICAL JOURNAL of September 20th, unwittingly does me some injustice through his having mistaken my position in one or two important particulars. I have never contended (whatever others may have done) that "the more hospital isolation, the more scarlet fever," and I do not think that statistics will support such a contention except, perhaps, to a limited extent in certain places. What I have contended is that hospital isolation, no matter how thoroughly it may be carried out, has not materially reduced either the prevalence or fatality of scarlet fever. (There is no adequate evidence to show that the present mild type of scarlet fever is in any way the result of hospital isolation. In most towns the change of type took place before hospital isolation was practised.)

As a matter of fact this contention is no longer seriously contested, and I have therefore felt justified in asserting that the hospital isolation of scarlet fever, regarded as a preventive measure, has been a failure.

The question I have endeavoured to answer is, What has been the cause of this failure? I quite agree with Dr. Robertson that the importance of "endemicity," and of such influences as "soil, atmosphere, and amenity," has been underrated, and therefore *pro tanto*, the influence of personal infection has been overrated. This no doubt partly, perhaps largely, accounts for the failure of hospital isolation, which obviously can only be expected to operate against personal infection. But it cannot entirely account for the failure, because, after all, scarlet fever is an infectious disease, and personal infection must be one important factor affecting its spread.

It is here, I suggest, that the possible effect of infection carried from hospital must be taken into consideration. It is recognized that "return cases" do to some extent nullify any benefit otherwise obtained by hospital isolation. The only question is, to what extent? I have tried to show that the number of recorded "return cases" only partially indicates the extent of the mischief done by infection carried from hospital, but I readily admit that the mischief may vary in different places. It is quite possible that my explanation is inadequate. If so, a further one must be sought; but that it is a partial explanation cannot, I think, be denied in the face of the figures published by Dr. Niven for Manchester.

I heartily concur with the statement that the whole truth about hospital isolation and scarlet fever is not yet known. Indeed, I believe we have yet very much to learn—for example, the extent to which overcrowding in hospitals exists, and has existed, and its possible effects in aggravation of type, etc. It is on this account that I have more than once urged the desirability of a full inquiry into the whole question, it being now over twenty years since the last departmental inquiry was made. Such an investigation, I cannot but think, would be likely to throw fresh light upon many points about which we are still in uncertainty. But, for reasons which are not very obvious, this proposal for an inquiry has hitherto been strenuously opposed.—I am, etc.,

Leicester, Sept. 22nd. C. KILLICK MILLARD.

SIR,—In his reference to the able and significant report to the Local Government Board recently made by Dr. Darra Mair on "a prevalence of throat illness in and near the Ditcham Park Estate, Hampshire," Dr. Killick Millard makes the following observations (BRITISH MEDICAL JOURNAL, September 13th, p. 821):

> None of these twenty-two cases of illness happened to occur in the actual house to which the Case child returned from hospital. Hence there was technically no "return case" as usually defined and recorded.

In my pamphlet, *The Failure of the Isolation Hospital*, published a year or two ago, I called attention to the absurdity of a definition so trammelled and hampered with limits of time and place as the accepted definition of a "return case." Surely this definition should be amended, if for no other reason than that the statistics based on it serve no higher purpose than to secure the withdrawal of public attention from a question of prime importance. It is certain that much comfort and satisfaction are derived by the lay members of sanitary committees from such innocent-looking "returns." That they are of the smallest scientific value few would now maintain. In this city we had last year twenty-five cases which squared with this convenient postulate. What further havoc was created by the infecting cases from which they took their origin deponent sayeth not. It is only in the light of such evidence as was accumulated by Dr. Darra Mair that we are able to form some idea of what may be expected from the turning loose on the community of such carriers of disease as the discharged patients of these pest houses, miscalled isolation hospitals. That the potentialities of such cases are far greater than the definition allows may be gathered from a study of the case of diphtheria to which Mr. Shirley Murphy called attention some time ago. It will be remembered that a patient discharged from one of the hospitals of the Metropolitan Asylums Board went from place to place establishing new centres of infection over a period of seven or eight months! To the recognized evils of aggregation—for it is absurd to call the present system "isolation" (which is the separation of cases from each other as well as from the rest of the community)—must be added not only the protracted infectivity of the hospital treated, but the astounding fact that from the scarlet fever ward are disseminated the germs of both scarlet fever and diphtheria, and probably, also, of the variants of both. That one of these is communicated in an increasedly fatal form is pretty generally recognized.

Is it the mission of the public health profession to advocate the continuance of an institution which is bearing such fruits? The very highest ground that was ever taken by pro-isolationists was merely an irrational surmise. Only once in the whole history of scarlet fever "isolation" has a definite pronouncement been made as to the good accruing from such institutions. The late Sir Richard Thorne Thorne gave such evidence before the Royal Commission on Vaccination, instancing the experience of Warrington and another place. Later on he returned and asked permission to modify his previous statement. In both places fever had largely increased!

The aggregation of the infective sick lacks the sanction of both science and experience. The findings of bacteriology are against it. The experience in all protracted wars tells in its disfavour. Years ago it would have died of ridicule but for the fact of its municipalization.—I am, etc.,

Nottingham, Sept. 18th. EDWARD DEAN MARRIOTT.

## THE MICRO-ORGANISM OF YELLOW FEVER.

SIR,—In the BRITISH MEDICAL JOURNAL of September 20th some comments are reported to have been made, in the discussion on yellow fever, upon the work of Reed and Carroll which give an erroneous interpretation of their experiments. Reed and Carroll filtered the blood serum of a yellow-fever patient through a Berkefeld filter, and with the filtered serum produced yellow fever in individuals inoculated with it. Both Mr. Cantlie and Dr. Manson (pp. 858 and 861 respectively) in their remarks intimate that this proves that micro-organisms are absent from the blood in yellow fever. Reed and Carroll's work doubtless needs corroboration; but, assuming its correctness, it merely proves that the specific contagium of this disease, be it bacterium or protozoon, is so minute that it will pass through the pores of a porcelain filter. There is nothing unique in this; the same is the case in foot-and-mouth disease,

in Cape horse sickness, and with a micrococcus isolated by Durham in asylums dysentery.—I am, etc.

King's College, W.C., Sept. 22nd. R. TANNER HEWLETT.

## UNWARRANTABLE ADVERTISING.

SIR,—I read in your issue of September 20th the comment made by Sir William Broadbent upon a certain advertisement appearing in the *Medical Bulletin*, of which I am editor in Philadelphia, U.S.A. In answer to the criticism, I would say that in the advertising pages of the *Medical Bulletin* and in truth in all medical publications in the U.S.A., the editors of the journals are in no way responsible for the endorsements sent in by advertisers of preparations, drugs, or other material that have been accepted as legitimate or that come within the scope of medical ethics. I can assure Sir William Broadbent as well as your readers that the *Medical Bulletin* and its editor appreciate most thoroughly the facts set forth by him of the unauthorized use of his name and his endorsement of the preparation referred to in his letter.

Just as soon as I return home after my holiday is over in England, where I take pleasure in coming every year to see your great hospitals and your medical and surgical development, I will see that the unauthorized use of Sir William Broadbent's name is corrected. It is too frequently the case that advertisers on both sides of the Atlantic use without authority the names and endorsements of distinguished professional men, thus misleading the readers of medical journals. Every journalist will be only too glad to correct any unauthorized use of a physician's name in his journal.—I am, etc.,

London, E.C., Sept. 22nd. JOHN V. SHOEMAKER.

## THE SUPPLY AND PAYMENT OF *LOCUM TENENTES*.

SIR,—In writing a reply to "Locum Z," I am addressing it not only to him but all other *locums* as my colleagues in general practice will readily see for themselves the fallacies contained in his letter. First, in complaining about the fees paid, namely, a total of £218 8s. a year, he omits to consider the value of the board, lodging, and even laundry generally paid by the principal. This brings the earning power of a *locum* to over £300 a year, not at all a bad income for a single man, and quite on a par with salaries paid to solicitors, curates, tutors, scientific chemists, and others accepting employment as servants under principals. What does "Locum Z" consider the salary of a second or third-rate clerk to be with whom he compares himself? surely not more than £100 to £200 a year, out of which heavy city expenses have to be deducted. So much for the under-estimation of his own earnings, which, after all, are higher than those of assistants or house-surgeons. Now, as to the over-estimation of the general practitioner's income.

We will take the practice of £900 a year which he has in his mind. In the first place such a practitioner has to earn £950 to £1,000 to get a clear income of £900, the remainder representing bad debts, discounts, and wasted court fees. Now such a practice will probably in the country cost £150 a year for locomotion, £50 a year for drugs; during the winter months, at any rate, an assistant will be required costing £100; the proportion of rent due to the practice, together with surgery expenses, may be put at £40 a year more. The expense of a *locum* for three weeks during the summer, and keeping the house going, costs £20; and practically nobody else in a similar position, be he clerk, solicitor, merchant, or professor, has this drain on his income during a holiday from home. This practitioner should insure his life for half the value of the practice, representing the loss on its coming into the market as a death vacancy. He should also insure against sickness and accidents, because, unlike many other professional men, confinement to the sick room may ruin a man's practice. These insurances will cost another £25 a year, and finally there comes the crux of the whole question, the capital employed in such a practice, which any practitioner would place at about £2,000. Taking the income from this sum, if placed out elsewhere at 4½ per cent., we have a total loss to the general practitioner of £475, the difference—that is, £425—being what he actually earns, plus, of course, interest at 4½ per cent. on capital employed.

The difference, therefore, is only £175 a year in favour of the practitioner as compared with the *locum*, and does not the possession of £2,000 and the responsibility of being master entitle him to extra remuneration? "Locum Z." and I are dealing with a general practice of £900 a year, but these are comparatively few. Owing to the various reasons stated, the majority of us, namely, those with practices under £600 a year, can no longer afford holidays, and this I consider the blackest point in the life of the average general practitioner. The *locum* fee necessary, the cash in hand required for a journey, together with the possibility of higher expenses and troubles at home when the watchful eyes of doctor and wife are absent, constitute a sum total which comparatively few of us dare to face; hence no doubt the numerous advertisements from *confrères* who feel they can leave a small practice to take care of itself and seek hospitality in another medical man's house, because they cannot afford the annual holiday at the seaside which every clerk manages to put in. It is not the professional *locum tenens* who has cause for complaint, but the practitioner with a moderate-sized practice who must, owing to circumstances, leave some one in charge. I should like to hear suggestions from others thus situated, but take the liberty of making one, namely, that ten or more practitioners should combine and engage a medical man for the six summer months, sharing him out between them at rates according to season. Might they not give a lady a trial and waive prejudices, because after all the risks would not be greater than with the average male *locum* now obtainable? I for one shall be glad to join such an association for next summer.—I am, etc.,

September 21st. G. P.

We have received a number of other letters on this subject, but owing to pressure on space are only able to publish the following extracts:

GENERAL PRACTITIONER writes: There are three points I wish to bring before the notice of "Locum Z." and his fellow sufferers, which deal with the other side of the question—I mean, the side of the general practitioner. First, a practical point—namely, that the law of supply and demand influences the fee of the *locum* and of the general practitioner. Secondly, a point of equity—namely, that the average income of medical men throughout Great Britain has been shown—I believe by the late Mr. Lawson Tait—to be about £200 per annum. Thirdly, a point of fact—namely, that the *locum tenens*, considering that he has sunk less capital, is as well or better paid than the bulk of practitioners. My first point is a recognized law; my second point is based on statistics, and is sufficiently accurate; and my third can be thus demonstrated. I recently employed a *locum tenens* in a practice of about £1,200 per annum, at 4 guineas a week. He was unmarried. For simplicity I give the minimum weekly cost to me: *Locum*, £4 4s.; *locum's* keep, house accommodation. and two female servants to attend on *locum*, £5; working expenses of practice, £5 10s.; total, £14 14s. My *locum* earned for me £6 a week; therefore my out-of-pocket expenses were £8 14s. per week, not to mention the cost of maintaining myself and family elsewhere. Without exaggeration, therefore, the *locum tenens* was kept at my expense at the rate of nearly £300 per annum, and was paid a salary at the rate of £218 per annum—that is, he was an article fetching nearly £10 per week, or nearly double the amount he earned for his employer. Yet, sir, the *locum tenentes* want to bleed the capitalist (their brother medical man) more profusely. As to the impossibility of keeping a wife and family on £200 a year, I would remind "Locum Z" that this is not an argument, it is an individual plaint. The practical point is this. Is there a demand in the medical profession for a married *locum* with a wife and family? I should say, No. If the fee of the general practitioner were bettered then the *locum tenens's* fee would be bettered proportionately, and it would not be necessary to rob Peter to pay Paul.

DR. DOBSON POOLE (Wolverhampton) makes the following observations: When glaring faults are shown by *locum tenentes* It would be interesting to learn more particularly the source of their introduction to principals, and whether such deputies were really registered practitioners or not. Then the whole subject might assume a different complexion. But one of the greatest inconveniences the *locum tenens* labours under is his being misunderstood. A general practitioner settled in prac-