the thorax. Certainly, so far as they go, these figures do not support the idea that tuberculous meningitis is mainly due to the reception of tuberculous infection into the alimentary tract—unless, indeed, as is possible, the bacilli obtained access through the alimentary canal but without necessarily giving rise to any local lesion either there or in the mesenteric glands.

I am, Sirs, yours faithfully,

Cavendish-place, W., Dec. 6th, 1898.

J. WALTER CARR.

THE ANTI-TUBERCLE CRUSADE.

To the Editors of THE LANCET.

SIRS,—In a book written by Gideon Harvey, M.D., about 1660, consumption is described as an endemic and epidemic disease and the following passage gives some idea of the then prevalent belief in its infective nature: "And considering with all its malignity and contagious nature, it may be numbered among the worst Epidemics or popular diseases, since next to the Plague, Pox, and Leprosie, it yields to none in point of contagion; for it's no rare observation here in England, to see a fresh coloured lusty young man yoke to a consumptive female, and him soon after attending her to the grave. Moreover nothing we find taints sound lungs sooner, than inspiring or drawing in the breath of putrid ulcered consumptive lungs; many having fallen into consumptions, only by smelling the breath or spittle of Consumptives, others by drinking after them; and what is more, by wearing the Cloaths of Consumptives, though two years after they were left off."

With the exception of the last sentence this opinion so nearly accords with the views of to-day that it is difficult to understand why it remained in abeyance for so many years. Of course it was not founded upon a scientific basis and, I suppose, as we became more exact we were unable to accept the clinical facts unless supported by experimental proof. Thanks to the discovery of Koch we are now emerging from the path of error into which we had temporarily strayed and in doing so I think we must admit that we should have been wiser, or at any rate conferred more benefit on mankind, if we had accepted the teachings of our predecessors who, if they had not the advantage of so much scientific knowledge to assist them, evidently possessed considerable clinical acumen and were able to make accurate deductions therefrom. There are, of course, errors in Gideon Harvey's book, but who can say that some of the statements are not in advance of even our boasted knowledge of to-day? As an instance we may take the reference to cancer as infective. Although we are still disinclined to accept it the disease affords us indications which support the view that it is to some extent communicable. The great factor which upsets all our calculations is the individual peculiarity which favours the development of a disease, and it is because we are unable to solve this problem that we must use every means in our power to prevent the products of infection being brought into contact with any member of the community.

A society has been established for this purpose the members of which intend to propagate information which will enable the laity in some measure to assist in the endeavour to control the disease. An eminent member of the profession has delivered a discourse on this subject wherein he chiefly lays stress on the danger of drinking milk and indicates the necessary means of avoiding this danger. He also recommends asses' milk as superior because less likely to be infected with tubercle. In this connexion it is interesting to note that Gideon Harvey had noticed this although he did not know the reason. Writing on the subject he says, "Asses' milk is universally preferred," and he goes on to give directions as to the diet of the ass—a matter which may or may not be of importance. In speaking of the treatment he is also very strong on the question of fresh air and change of air and also advocates change of food. "Neither it's only the change of air that proves so soveraign to Consumptives, but the change of Bread, Beer, Flesh, Company, and other circumstances do very much conduce thereunto." It is necessary to consider this question not only in the treatment, but also as a preventive, and although we are often met with the remark, "Oh! if I listen to you it is not safe to eat anything," it is nevertheless our duty to warn the public and teach them how to avoid disease. All

authorities seem to be agreed upon the importance of safeguarding our food supplies, but although most elaborate precautions are taken for this purpose one of the prime sources of danger, at any rate as regards tubercle, is ignored.

Take, for instance, the inspection of bakehouses which is carried out in a fairly thorough fashion. The drains, the structure, &c., and all the appliances must be kept in a sanitary condition—i.e., in such a condition that germs will not be likely to flourish about them—but no notice is taken of the attendants, one or more of whom may be and often is suffering from phthisis, his body full of dangerous germs which are constantly fouling the atmosphere; the expectoration finds a rapid drying-ground and a temperature favourable to the life of bacilli, while the crevices in the already baked bread and other foodstuffs form a ready nidus for their reception and propagation. In these days, when hardly any bread is made in the homes, it is a question whether there is not even more danger from bread than from milk, for it is well known that phthisis is a prevalent disease amongst bakers. True, I have not got the scientific proof of my assertion and I might examine many loaves before I found tubercle bacilli. Many samples of milk might be examined with a negative result, but given the presence of tubercle bacilli in a bakehouse—and I suppose few would deny their existence there if the baker was suffering from phthisis—I do not think it is necessary to resort to scientific experiment to prove the danger. When phthisical subjects are being solemnly enjoined to carry receptacles for their sputum in order to avoid the danger of infecting the atmosphere of our towns surely there is no difficulty in realising the far greater risks in a bakehouse. Again, if it is necessary to rigidly supervise the sanitary conditions in order to ensure an atmosphere where food may be produced without fear of its being infected, surely it is approaching well nigh the ridiculous to permit an infected individual to be there present, to prepare the food, to handle it when prepared, to foul it with his exhalations and to deposit the products of his disease in and about the building. In the flour mill too phthisical workmen will often be found, and though the process of baking will perhaps sterilise the flour it is used for many other culinary purposes which may not.

Although I give the first place to bread my remarks apply to all consumable stores. If it is necessary to inspect the slaughter-house and to examine the meat, why except the butcher? Cooking should kill tubercle bacilli, but so should it destroy the eggs of the tapeworm, and yet in spite of this we annually extract many yards of this disagreeable denizen from the intestines which no doubt have been introduced in the same way as much of the tuberculous mischief finds entrance to our bodies. If ham, cheese, and butter require examination, why allow them to be retailed by a phthisical shopman? In like manner I might pass in review all articles of diet. I might even enter the sacred precincts of the domestic household and question the bodily condition of the cook and those who carry the food to the ultimate consumers. The position of safeguarding the food-supply and ignoring the condition of those who handle it seems to me a very untenable one and demands the immediate attention of those who are constituted the guardians of the public health. Will it take us as long to insist on the remedy as it has taken us to accept the fact of the infectious nature of tuberculous disease? Without expressing any disbelief in the views of Sir Richard Thorne and yourselves as expressed in your leading article of Dec. 3rd I venture to assert that the question I now raise is a point in favour of including phthisis among the dangerous infectious diseases which are compulsorily notifiable to sanitary authorities. I do not say that it proves the necessity of such an inclusion, but it does make for the necessity of investing all sanitary authorities with the power of inspecting not only the premises and the food, but also the bodies of those persons who are occupied with the food. This inspection should be no superficial formality but a rigid and thorough examination carried out at regular intervals.

In the meantime at the expense of being called an alarmist I would commend to the serious consideration of all thoughtful men the question of their food-supply. Do not be satisfied with boiling your milk; try to secure servants free from tuberculous disease and be particularly careful about your bread.

I am, Sirs, yours faithfully,

Kidderminster, Dec. 5th, 1898.

J. LIONEL STRETTON.