boards in their own district, and if they find the notice there to communicate with their Members of Parliament on the subject.

I am, Sir, yours faithfully,
Upper Norwood, Jan. 28th, 1909. S. W. CARRUTHERS.

* * It is an old hallucination that scientific men, either in person or by deputy, prowl about seeking to bribe anyone who takes possession of a stray dog to part with the stolen property for a good price. Does anyone really believe this, and, if so, is he sane? On the other hand, is he honest who says it without believing it?—ED. L.

EPSOM COLLEGE.

To the Editor of THE LANCET.

SIR,—In reference to the letter from "J. P." which appears in THE LANCET of Jan. 30th, p. 350, will you allow me to mention that a statement of accounts, showing in detail the income and expenditure of the College, is forwarded annually to all governors and contributors. I therefore conclude that your correspondent is not himself a governor or he would have received one. Any person interested in our work can obtain a copy of the council's annual report containing "the statement," on application to the office, 37, Soho-square, London, W.

It will interest your correspondent to know that not only upon the finance and works committees but upon the council generally there are, and have, I think, always been laymen, each of whom takes an active interest in the work of the College; and from their knowledge of business and of affairs generally they render the executive most valuable assistance and advice.

I am, Sir, yours faithfully,

HENRY MORRIS,
Soho-square, W., Jan. 30th, 1909. Honorary Treasurer.

To the Editor of THE LANCET.

SIR,—While crediting your correspondent "J. P.," whose letter appears on Jan. 30th, with the best intentions, may I, as a non-medical member of the public and an old College boy, challenge his inference that the accounts of the College are not published? To print and send round voluminous details with every appeal sent out would involve a heavy outlay, and I think be of little service to the majority of the public; but a very full report of all income and expenditure, most carefully audited by chartered accountants, is printed annually and sent to all subscribers, and anyone else desiring a copy will, I am sure, be supplied on application to the secretary, whom I have always found most courteous and ready to afford every information.

As regards the council, it is by no means entirely composed of medical men, but includes business men of the highest integrity and experience, who take a most active part in all that concerns the College.

May I suggest to your correspondent that he forthwith appends his signature to a cheque and sends it to the secretary and he will promptly receive, as I have done, a voluminous report and balance sheet of some 16 pages.

I am, Sir, yours faithfully,

PERCIVAL TURNER.

Adam-street, Adelphi, London, W.C., Feb. 2nd, 1909.

DISUSED INSTRUMENTS FOR MEDICAL MISSIONS.

To the Editor of THE LANCET.

SIR,—I am hoping that you will allow me to appeal through your columns for an object which will, I feel sure, commend itself to many of your readers. The particular appeal comes this time from a gentleman who is devoting himself to medical mission work in India under conditions which call out the heroic qualities which happily he possesses. This mission doctor writes from Bengal:—

We have lately opened an out-station hospital in charge of an assistant surgeon, but it is almost totally unsupplied with instruments and I have to borrow from another hospital where the supply is already very limited. There are many doctors at home who discard useful instruments in favour of newer patterns. If we had some that they will never use again we could turn them to good account. I once had to do Manson's operation for abscess of the liver with a trocar made for the occasion by a blacksmith in the bazaar, and made the device for insertion of the drainage-tube out of the dust cap of my bicycle. The

patient (a European) did very well indeed, but it is not an experience I should care to have to repeat.

If any of your readers are willing to help this very real need and so back up a splendid piece of self-sacrificing work I shall be glad to receive and acknowledge the gifts if sent to the S.P.G. House, Tufton-street, Westminster.

I am, Sir, yours faithfully,

W. P. DOTT,

Secretary, Medical Missions Department, Society for the Propagation of the Gospel in Foreign Parts.

Jan. 27th, 1909.

PS.—This new department of the Society for the Propagation of the Gospel is greatly in need of immediate financial support. Donations should be marked "Medical Missions" and cheques should be made payable to the "Treasurers of the Society for the Propagation of the Gospel."

THE CAUSE AND PREVENTION OF DENTAL CARIES.

To the Editor of THE LANCET.

SIR,—The remarks which have been recently made in THE LANCET by different correspondents are suggestive and I devoted several pages to the cause and prevention of the decay of the teeth in my book, "The National Physique." In it I attributed the main predisposing and constitutional cause of its prevalence to the malnutrition induced by anæmia. Although inefficient food may be a contributory cause I do not think the dietary of the people of this or of other countries among whom caries is frequent can be so deficient in the necessary constituents as to account for its widespread occurrence. While retaining my views it is not necessary wholly to dissent from some of those which have been put forward with regard to diet as it has long been recognised that a defective food-supply is one of the many causes of anæmia. The question of bread seems to me one of the most important points which have been considered with respect to foods, and a number of medical observers have formed the opinion that the consumption of wholemeal bread, containing as it does a higher percentage of proteids and salts than white bread, would be more effective in maintaining the normal nutrition of the teeth and of other structures of the body.

In all countries, however varied the diet may be, there is a staple article of food of a vegetable nature, and an investigation into the prevalence of caries in India, China, and Japan, where rice is the principal food, and parts of Africa where mealies are, as well as in other countries where the darker kinds of breads are used, might help to decide the question, which as it concerns vital interests to the maintenance of the health of the body as a whole seems to be well worthy of a special inquiry. There is also another point in connexion with food which might repay investigation, that is its preservation. Antiseptics as boric acid, carbolic acid, and salicylic acid are used in the preservation of meat, milk, fish, and other foods. Acids are considered to be an exciting cause of caries owing to their effect on the enamel. Is it not then possible that their presence in food may have some effect in the causation of caries? Putrefactive changes commence at once in dead animal or vegetable matter, but it is only when of a certain degree that they become harmful on ingestion into the human body. It is a question whether the protection of articles of diet from air, dust, and midsummer's heat would not be preferable in most cases—both from the point of view of the teeth and of the general health—to the use of an antiseptic substance. Another possible exciting cause is that from antiseptics—as boric and carbolic acid—contained in various tooth powders. In connexion with the cleansing of the teeth the removal of particles of food from between them and the use of a harmless powder would be likely to be efficacious without attempting to destroy the inevitable bacteria, at any rate, with substances which tend to injure the enamel.

I am, Sir, yours faithfully,

Oxford, Jan. 18th, 1909.

A. STAYT DUTTON.

To the Editor of THE LANCET.

SIR,—Dr. O. Clayton Jones points out that very little evidence has been produced in support of the view that "the essential cause of dental caries is a faulty system of feeding." May I therefore be permitted to say that my own belief is

that the cause lies principally in three articles of diet—namely, sugar, tea, and meat—and to bring forward some evidence in support of it?

In the first place, as regards sugar, Dr. Francis Hare, in his "Food Factor in Disease," has written as follows: "Sugar is perhaps the worst article of diet. On the subject of 'sugar gluttony' Professor Ogston expresses himself with no uncertain voice. He (Professor Ogston) had had many years of experience among children. There were some children in whom the gluttony of sugar had become so strong that their infatuation for it resembled the craving of the drunkard for the dram. Such saccharo-maniacs showed early disappearance of the teeth from decay. He would not be surprised if future observers were to place the evils of sugar-gluttony on a pedestal as conspicuous as the drink question in causing deterioration of individuals and races." Secondly, with regard to tea. This is now drunk universally among even the poorest classes and has displaced the drinking of milk. In tea we have a drink in which there is no nourishment, but which is simply stimulating and contains tannic acid and purin, whereas in milk, besides albumin and fat, there are a number of valuable food-salts. Can we doubt but that this change in diet is decidedly for the worse? And, lastly, meat has a direct action upon the teeth by effecting a change in the saliva which leads to deposits of tartar.

In the days when teeth were good there was neither sugar nor tea and very little meat partaken of by the country population. As a specimen of what the dietary was some 40 years ago I obtained recently the following particulars from a man who in his youth was employed as an agricultural labourer. I give the details exactly as he gave them to me, thus: "No sugar. Fresh meat was considered a luxury and was eaten only on Sundays. On other days salt pork for dinner. There was always plenty of vegetables, such as cabbage, parsnip, turnip, &c.—at any rate, three or four times a week. The usual breakfast was a basin of hot milk and bread, followed by fried bacon and potatoes; the same for supper at 6.30 P.M. At 10.30 A.M. a lunch of bread and cheese. Bread chiefly consisted of barley flour, but there was also wheat-flour with the bran left in it, which when made up was coarse." The fine white bread of the present day may also be a contributory cause in effecting decay of the teeth. The Chinese do not eat meat; the tea as usually drunk by them is extremely weak; and sweet-meats are, I believe, consumed only by the wealthy. Considering that the decay of the teeth of our population has been contemporaneous with the consumption on a large scale of sugar, tea, and meat, and that the teeth of the Chinese still continue, so far as I know, as good as they ever were, I think I am justified for the present in looking to sugar, tea, and to meat as the chief cause of dental caries.

I am, Sir, yours faithfully,

Savernake, Torquay, Jan. 29th, 1909.

F. R. CAVE.

To the Editor of THE LANCET.

SIR,—In a well known monograph on the Relation of Dental Caries to Food, &c., among Aboriginal Races the late Mr. J. R. Mummery gives some precise statements with regard to the teeth of the Chinese. Of the 19 races examined by him the Chinese have the most carious teeth, over 37 per cent. being affected. He notes also that the teeth are "often very extensively carious." We may fairly infer that the soft nature of the food has perhaps something to do with the amount of caries. But it may be said that the teeth of the English are much more carious than the teeth of the Chinese. This is so, and is equally explicable because, over and above the fact that the Chinese cook their rice in a less pappy, sticky, or sugary way than is usually done in this country, almost all the other foods commonly consumed—"pork, poultry, fish, salted cabbage, and vegetables"—are not of a "short," lodgeable, or sticky nature, but rather of the fibrous character which tends to clean the teeth and keep them free from caries. Moreover, it is in early life that irreparable injury is often done to the dental organs and in China the soaking of food in milk and the giving of milk to children after they have a complete set of temporary teeth is practically unknown. The food prepared from millet is not spread with marmalade or jam, and instead of being given with coffee or biscuits to keep them quiet the Chinese children are frequently given sugar cane to chew. It seems difficult to

conceive of a dietary which would hinder the natural self-cleansing processes of the mouth more effectually than that which restricts children to bread soaked in milk, porridge and milk, milk pudding, potatoes and gravy, bread and jam, and biscuits and milk. If the Chinese have outdistanced this "system" of pap-feeding, which is carried out fairly thoroughly in England, it is difficult—notwithstanding Mr. F. R. Cave's remarks—to see how they manage it with the foods at their disposal.

I am, Sir, yours faithfully,

Wimpole-street, W., Jan. 30th, 1909.

J. SIM WALLACE.

* * This correspondence which we bring to a close with the present issue has brought out many interesting and debateable points in connexion with this all-important question of caries of the teeth. A perusal of the various letters indicates clearly that there is a marked divergence of opinion on the question of etiology, and we cannot help thinking that this is in some measure due to the absence of real scientific data bearing on the problem.—ED. L.

A PRELIMINARY NOTE ON COLLOID MERCURY.

To the Editor of THE LANCET.

SIR,—Colloid mercury is prepared by passing an electric current through water in which is placed some mercury. The result of the passage of a current, suitable both as regards quality and quantity, is the breaking up of the mercury into extremely fine particles, so fine as to be too small to be seen through a powerful microscope except by the ultra-microscopic method, and even then, to use an Irishism, are not seen but only the reflection of the light from the particle as it sways to and fro, which is taken as evidence of the presence of the particle. These very fine particles are so light that they are suspended in the water to which they give a brown or muddy tinge. If this liquid is filtered it all passes through the filter paper in a way resembling a simple solution. When it is attempted to pass the liquid through an animal membrane, only the water goes through and the mercury remains behind.

Very little work has been done in this country with mercury in this form, but in France Professor Robin has published a book on the subject under the title "Les Ferments Métalliques." He seems to have treated all sorts of conditions by hypodermic injections of these colloid solutions, and with results worthy of a universal panacea. Such an absurd success ought not, however, to deter the medical man from looking into the matter for himself, and with that object I decided to try its effect. The fluid was made for me by Merck of Darmstadt, and I decided to use it in those diseases where mercury had been proved beneficial to see if it was superior in any way to the other forms of mercury.

The first subject was a man who when a soldier in India had contracted syphilis, and who a few years later seemed to have contracted the disease a second time, or at least had a severe recrudescence of the original attack. When I saw him he had ulcers about an inch in diameter on his forehead, chin, nose, and other places all of which refused to react in any way to either mercury or iodide. At my suggestion he was given some of the solution I had recently received from Germany and at the end of a week there was a very marked improvement, and at the end of a fortnight the ulcers were nearly all covered over. The dose given was ten minims of a 1 per cent. solution, so that he only took one-tenth of a grain of mercury for a dose. The effect was excellent, but when one considers that it was produced with such a small dose one cannot help being struck with the contrast between such a small dose and the much larger ones that are usually given. The advantages are many, for the mercury can be given in a liquid form, which always seems to me much superior to the dry form as pill or tablet. The liquid is tasteless and needs no flavouring or other agents to interfere with it. Other syphilitic cases have reacted in an equally remarkable manner, but as this is only a preliminary note, having as its sole object the drawing of attention to the value