who "are in the habit of employing" them (*vide* Midwives Registration Bill).
I am, Sirs, yours faithfully,
March 26th, 1898. J. T.

THE DRAINAGE OF BOMBAY.

To the Editors of THE LANCET.

SIRS,—I am much obliged for the publicity you have given in THE LANCET of Feb. 19th to my report on the sanitation of Bandora, as it will help to make known to your English readers how very different are the fundamental conditions which distinguish sanitary work here from that in England. I regret, however, that my proposals do not commend themselves to your reviewer, who seems to have had no Indian experience. He writes as I would have written in good faith twelve years ago on arriving in the tropics, before I learned to know India, its climate, people, and financial resources for sanitary work. Nothing is more easy than with the aid of a text-book or two to prepare an ideal scheme of sanitation for an ideal people with unlimited money to spend, but to deal with municipalities whose majorities are obstinately averse to change and resolved to protect "property" is quite another business.

A successful sanitary project in India must be a safe and very carefully measured step in the right direction. If the step is too long it fails. The Shone system, for example, would be an ideal means of sewage removal in Bandora and if properly used would be of enormous benefit to the people. But nine-tenths of them are not fit to be entrusted with water-closets in their houses. The other tenth is so widely dispersed that the cost of pipes would be prohibitive. In other words, money would not be raised because the members of the municipal body are not sufficiently educated and earnest enough to be relied on. For such people and such communities projects "far from perfection," but most carefully studied, have the only chance of success.

I am, Sirs, yours faithfully,
Bombay, March 12th, 1898. JOHN WALLACE, C.E.

"THE LATE MR. R. R. CHEYNE AND THE PRESERVATION OF VACCINE LYMPH."

To the Editors of THE LANCET.

SIRS,—I am glad to learn from Mr. R. Cheyne's letter in THE LANCET of March 26th that it is to a fellow countryman, rather than to Müller, that we owe the method of preserving vaccine lymph with glycerine, and I will take care to note the fact in any future reference to the subject. Mr. Cheyne, however, does not appear to be aware that the procedure to which Mr. Chaplin referred in introducing his Vaccination Bill consists in something more than the mere admixture of glycerine with vaccine lymph, which, of course, would constitute no new device. It is now known that vaccine lymph, and more particularly that obtained from the calf, is liable to contain large numbers of what I have termed "extraneous" microbes. These ordinarily tend to increase and multiply in lymph when stored in capillary tubes. About seven years ago in searching for a means of rendering vaccine lymph free from these microbes, none of which are essential to its proper action and some of which are liable to be harmful, I discovered that a sterilised 50 per cent. solution of chemically pure glycerine in distilled water was capable of exerting a remarkable germicidal action on these extraneous micro-organisms, and that when the resulting emulsion was kept at a low temperature and away from the light these were all killed out after an interval of about four weeks—a fact which can be proved by making plate cultivations with the lymph-and-glycerine emulsion from week to week. It is glycerinated calf lymph which has in this way been proved bacteriologically to be entirely free from extraneous microbes of all kinds, whether pathogenic or otherwise, while at the same time perfectly active as vaccine, which it is the intention of the Government to supply in any quantity that may be required. Of special importance also is the fact that if virulent cultures of pathogenic micro-organisms, such as those of erysipelas and tubercle, be experimentally added in considerable quantity to lymph glycerinated in this manner it is found that they are killed out *even more readily* than the non-pathogenic forms usually present, it being impossible to recover living cultures of these microbes after about three weeks' exposure to the action of glycerine.

It was not until the year 1868 that the classical researches of Chauveau and Burdon Sanderson proved that the virus of vaccinia was particulate, and it was subsequent to this date that any scientific study was made of the micro-organisms which occur in vaccine lymph. It is therefore obvious that, whatever may have been the reasons for the use of glycerine nearly fifty years ago, there could then have been no appreciation of its value as a germicide towards any extraneous microbes which might chance to be present in the lymph, although in the late Mr. R. R. Cheyne's mention of glycerine as an antiseptic there would seem to have been an element of prophecy. Moreover, as I pointed out in my evidence before the Royal Commission on Vaccination, glycerine fifty years ago was by no means the pure chemical product which it is to-day, and indeed it has been suggested that its use as an addition to vaccine lymph has in former days been occasionally productive of mischief. This may possibly account for the late Mr. Cheyne's suggestion not having been generally accepted at the time.

In conclusion the method which Mr. Chaplin is proposing to adopt, if of comparatively recent date, is at any rate not of foreign origin, although the German and other Governments have already done me the honour of adopting it.

I am, Sirs, yours faithfully,
March 28th, 1898. S. MONCKTON COPEMAN.

"THE EXPERT WITNESSES IN THE LAPORTE CASE."

MESSIEURS LES RÉDACTEURS EN CHEF,—

Je lis dans votre estimable journal du 19me. Mars, 1898, sous le titre "The Expert Witnesses in the Laporte Case," une note sur la séance de la Société de Médecine Légale de Paris du 14me. courant. Votre correspondant vous a induit en erreur, ainsi que vous pourrez vous en convaincre en lisant ma réponse publiée dans le *Bulletin Médical* et la *Gazette Hebdomadaire* du Dimanche 20me. Mars.

Je compte, Messieurs les Rédacteurs en chef, sur votre impartialité bien connue pour remettre les choses au point.

Veuillez agréer, Messieurs les Rédacteurs en chef, l'assurance de mes sentiments très distingués.

Paris, 22me. Mars, 1898.

Dr. L. VARNIER.

Je vous adresse par ce même courrier les deux journaux en question.

* * Dr. Varnier points out in the columns of the *Bulletin Médical* of March 20th and the *Gazette Hebdomadaire de Médecine et de Chirurgie* of the same date that there were only three discrepancies between the official documents and the copy.

Copy.	Official Document.
Paroi.	Partie.
1500 grammes.	1550 grammes.
Le cercelet et le bulbe sont sains.	Le cercelet et le bulbe sont intacts.

The exact text of the resolution as published in the two journals above mentioned is as follows: "La Société de Médecine Légale avant pris connaissance, à propos d'une expertise récente, des documents officiels et les avoir rapprochés des documents publiés à l'appui des attaques dirigées par certains journaux scientifiques contre M. le Dr. Socquet, constate que ces derniers documents ont été incomplètement et inexactement rapportés, ce qui était de nature à égarer l'opinion publique."—ED. L.

"BLACK-WATER" FEVER.

To the Editors of THE LANCET.

SIRS,—Mr. Kellett Smith's very interesting note on the above subject¹ raises several questions on which I should like to be allowed to say a few words. I have for years been pointing out the interesting relationships between this disease and paroxysmal hæmoglobinuria, splenic leucocythæmia chlorosis, and anæmia, and the connexion, most probably causative, between the whole of these diseases and an excess of uric acid in the blood. I have also mentioned the fact that quinine occasionally produces hæmoglobinuria

¹ THE LANCET, March 19th, 1898, p. 780.