24. A medical officer, retiring after a full-pay service of twenty-five years and upwards, may, if recommended for the same by the head of his department, receive a step of honorary rank, but without any consequent increase of half pay.

25. Good service pensions shall be awarded to the most meritorious medical officers of our army under such regulations as shall be from time to time determined by us, with the advice of our Secretary of State for War.

26. Six of the most meritorious medical officers of the army shall be named My Honorary Physicians, and six, My Honorary Surgeons.

Given at our Court of St. James's, this first day of October, 1858, in the twenty-second year of our reign.

By her Majesty's command,

J. PEEL.

Correspondence.

"Audi alteram partem."

ON SUGAR-REFINING BY ACETATE OF LEAD.

[LETTER FROM DR. SCOFFERN.]

To the Editor of THE LANCET.

SIR,—Permit me, in behalf of science, to claim a small portion of your space for the exposition of a matter which, though associated with my name, I have now no direct interest in whatever.

Happening a few days ago to glance over one of the small books, the object of which was to popularize the facts relative to food adulterations, I felt not a little surprise to read the following abstract from a blue book, and to which my attention had not been called in the original.

"Dr. W. B. Carpenter says,—I was employed by the chairman of the Board of Inland Revenue a few years ago to make a report as to the ordinary process of sugar-refining. I mention the subject, because I believe that publicity did then answer the end. The question was, whether a process which involved the introduction of acetate of lead should be prevented, the result of chemical analysis showing that a minute quantity of sulphite of lead was found in the treacle. The question submitted to myself, along with the late Dr. Pereira and Dr. Alfred Taylor, was, whether we considered that that quantity of sulphite of lead was likely to be injurious to the consumers; the inventor of the process, Dr. Scoffern, maintaining that it was perfectly insoluble—that it was like so much chalk.

"We reported that there was the same likelihood of injury that there was from any other salt of lead. I may mention, in confirmation of our conclusion, that only last year a gentleman from Ceylon informed me that a detachment of soldiers in one of the up-country stations had shown characteristic symptoms of poisoning by lead. The medical officer made very careful inquiries, and could attribute the lead-poisoning to nothing but the sugar, and, carrying out these inquiries, he found that this sugar was made by Scoffern's process in Ceylon."

On these points let me offer the following remarks:—No person was ever authorized to use my process until he had come under a written engagement to pay £1 per ton on all sugar manufactured by it, and to accept a chemical superintendent of my nomination. No Cingalese manufacturer ever acceded to these terms, or, to the best of my knowledge, ever put himself in communication with me. This assurance, if accepted, is sufficient to dispose of Dr. Carpenter's very apocryphal accusation. Dr. Carpenter need not look far to discover lead, in soluble condition and poisonous quantity, mixed up with colonial sugar products. He need not associate my name with the discovery. I did not introduce sugar of lead as a purifying agent, but I introduced a plan for using it with safety.

As regards Dr. Carpenter's statement, quoted by me, I might well be surprised at the chemical ignorance displayed in it had Dr. Carpenter been known to the public as a chemist. "We reported that there was the same likelihood of injury as there was from any other salt of lead," says Dr. Carpenter; but if he refer to the published Report, he will find that his chemical associates saved him from the absurdity of proclaiming inferentially that *all* lead salts are equally poisonous—the sulphate and the acetate, for example.

The Report, Sir, perhaps you will remember, had hard judgments dealt out to it by more than one member of the daily

regimental guards as laid down in pages 29 and 30 of the Queen's Regulations for the Army.

press. Notwithstanding its palpable bias, which not all its ingenuity could cover, the Commissioners were obliged to admit that the chemistry of my process was irreproachable, and, if strictly carried out according to my published instructions, not a particle of lead, in any form, would remain.

I need not explain, Sir, to professional readers, that my operation, turning, as it does, on the conversion of *acetate* of lead into *sulphite* of lead, and involving separation of the latter by filtration, rendered it a matter of great consequence to determine whether the sulphite were poisonous, inasmuch as no one can aver, with confidence, that *every* insoluble particle, whatever its nature, shall be invariably filtered away from any solution.

On this question, the late Dr. Gregory, in connexion with myself and numerous other chemists, were enabled to pronounce, after repeated experiments, that it was even more insoluble than *sulphate* of lead, and, so far as we could perceive, innocuous.

To scientific men it will be evident that an unbiassed Report on the process should have been comparative. It should not only have been based upon comparative examinations between sugar and treacle made by my process, and sugar and treacle made by ordinary processes, but it should have taken cognizance *not* of lead in general terms, but of some particular combination of lead; at the very least it should have testified to the solubility or insolubility of the lead compound. *This was not done.* The Report, far from offering an opinion as to the combination of lead found occasionally, and I may say infinitesimally, in some of my specimens of treacle, simply dealt with it under the generalization of "*lead*." Had the Commissioners examined ordinary treacle, they would almost invariably have discovered more lead than in mine, and, what is more to the purpose, lead in a *soluble and recognisedly poisonous condition*.

Finally, Sir, I would beg to remark that chemical and toxicological propositions are more amenable to experiment than to disputation. I unhesitatingly affirm that *sulphite* of lead is no more poisonous than chalk is poisonous. Of course, your readers will see the necessity, in a case involving the use of the word "*poison*," to fix on some standard of comparison. I, therefore, fix on chalk. When Dr. Carpenter intimates that all salts of lead are equally poisonous, he either makes a great discovery or commits a great mistake. For politeness' sake, I will endeavour to assume the former.

I am, Sir, your obedient servant,

Barnard's Inn, Holborn, Oct. 1858.

JOHN SCOFFERN, M.B.

INTENSE THIRST A SYMPTOM OF DISPLACEMENT OF THE STOMACH IN DIAPHRAGMATIC HERNIA.

[LETTER FROM DR. WILKS.]

To the Editor of THE LANCET.

SIR,—In your number for the 16th inst., you publish an interesting case, from St. Mary's Hospital, under the care of Dr. Alderson, of a young man who had his stomach forced into his chest by a rupture of the diaphragm, and who, amongst other severe symptoms, had one which especially attracted my attention, and this was, *great thirst*. It was only incidentally mentioned in the report, but is one, I believe, of importance in diagnosis—at least I think its presence in three cases warrants such a conclusion.

CASE 1.—Henry S—, aged thirty-seven, was admitted into Guy's Hospital on July 7th, 1855. While working on the Crystal Palace Railway, about two tons of earth fell upon him, producing great injuries to his chest and pelvis. On admission, his breathing was so short that it was thought he would expire every moment; the left side of the chest was enlarged, tympanitic, and emphysematous, the ribs being also broken. He survived the accident twenty hours, and his most remarkable symptom was *intense thirst*. During the time he lived, he drank immense quantities of water, but he did not vomit. The post-mortem examination revealed several injuries, which I need not here detail, but the most remarkable appearance was the immensely-distended stomach, filling the whole left side of the chest. This, together with a portion of colon, had passed through a large rent in the diaphragm.

CASE 2.—In THE LANCET of Jan. 19th, 1856 (I quote from a note, not having the journal by me), Dr. Fraser, amongst a series of cases reported from the seat of war in the Crimea, relates the case of a man who received a wound of the diaphragm,