

A vote of thanks to the Council of the Medical Society of London for the gratuitous use of their theatre, &c., closed the proceedings; after which, subscriptions were received by the Treasurer and Hon. Secretary.

Correspondence.

"Audialteram partem."

THE TESTS FOR ARSENIC WITH CHLORATE OF POTASH.

[LETTER FROM DR. LETHEBY.]

To the Editor of THE LANCET.

SIR,—I demonstrated, in my last communication, that arsenic could be readily discovered in a solution of chlorate of potash by means of all the usual tests; and that, of these, Reinsch's test was singularly unfit for the purpose, because of the solvent action of the chlorine and chloric oxide on the copper employed for the precipitation of the arsenic. I now complete the inquiry by showing that Marsh's test may, with a little care, be made as applicable to the investigation as any other.

There are two methods of proceeding: one is, to evaporate the arsenical solution to dryness, after having added a little carbonate of soda; then igniting in a porcelain crucible, and using the residue with dilute sulphuric acid and zinc, in the usual manner, for the production of arseniuretted hydrogen. The other method is to treat the solution at once with sulphuric acid, adding the acid drop by drop until about a tenth part, by volume, of concentrated oil of vitriol has been used. When the mixture has cooled, it may be poured upon the granulated zinc, and arseniuretted hydrogen will be at once formed and disengaged. The gas may be recognised and tested in the usual way. It burns with the characteristic flame, and deposits a sublimate of metallic arsenic on a piece of white porcelain held in the flame. It blackens a solution of nitrate of silver, and furnishes an arsenical liquid, from which, after the separation of the silver, the arsenic may be obtained. It gives a brilliant sublimate of metallic arsenic when the glass tube is heated through which the arseniuretted hydrogen is passing. All these reactions are as certain as when the test is applied to a solution of arsenic in distilled water; and they are so delicate that an unskilled operator may easily discover the presence of the sixteenth part of a grain of arsenious acid in an ounce of a saturated solution of chlorate of potash.

Looking at all these facts—namely, the facility with which the common tests for arsenic may be applied to a chlorate solution, the delicacy of the reactions, and the certainty of the results—looking also at the fact that every test succeeds but Reinsch's, and that it is open to the double objection of losing the arsenic on the one hand, and introducing it on the other, the following evidence lately given on this subject is remarkable:

"I then applied the tests for arsenic (to the chlorate solution), and every test I tried was destroyed, and failed to show the existence of arsenic, owing, as I supposed, to there being something in it; and my tests convinced me that there was something very peculiar about it that I had never met before. I tried Reinsch's process, but I found that it dissolved the copper gauze as soon as I put it into the liquid. I then determined to exhaust this noxious agent, and continued to put in copper gauze until it no longer possessed the power to dissolve it. I then put in a piece of copper, which at once received the arsenic. I was able to decide by these tests that the mixture was chlorate of potash. I found there was of chlorate of potash seven grains to the ounce, and there was a grain of arsenic."*

Now, a grain of arsenic in a fluid ounce of any liquid is a strong solution, for cold distilled water will only take up about seven grains to the ounce to become saturated; and seven grains of chlorate of potash in the ounce is only a fourth part of the quantity necessary to saturate it. Why, therefore, with such a solution "every test was destroyed, and failed to show the existence of arsenic," is a matter that requires explanation, for it is opposed to the very principles of chemistry, and to the experience of the rudest manipulator. Again, it is a question of some little importance how it was determined by Reinsch's test that the chlorate solution contained exactly one grain of

arsenic to the ounce, for Reinsch's test is not suited for such a quantitative determination.

Lastly, there is another question connected with the inquiry which deserves consideration. It is, whether the admixture of chlorate of potash with arsenic will prevent the latter from being retained in the animal system, so as to be discoverable in the body after death? My own experience is, that in every case of poisoning by arsenic the mineral is to be found in the tissues of the liver by the appropriate tests, and this I hope to demonstrate in a future communication.

I remain, Sir, yours, &c.,

H. LETHEBY, M.B., Ph.D., &c.

London Hospital Laboratory, May, 1859.

USE OF THE MEDICAL COUNCIL.

To the Editor of THE LANCET.

SIR,—Will you allow me a little space in your columns to call the attention of the profession and the Medical Council to a matter of moment? I wish to ask, What is the use of the Medical Council, if matters of the first importance affecting the profession are to be settled without the Council being even consulted? I refer chiefly to the hearing of certain forthcoming regulations as to the "qualifications" required for the Army medical service, and also to those now understood to be preparing by the Poor-law Board. It is more than rumoured that the Army Regulations will decide that certain qualifications mentioned in the Medical Act as entitling to registration shall be alone sufficient, while others shall be only half qualifications; that, in short, certain diplomas shall be received as whole diplomas, while certain others shall be only half diplomas. Now, Sir, I object to important matters of this kind being settled by a side-wind, and in a way which goes in the face of justice. I do not dispute the legal right of any board to make what rules it chooses; but the Army and Poor-law Boards are public boards, whose rules ought to be framed for the public good and on the principles of justice, and be publicly discussed before being promulgated as law. By all means, let us have the proposed new regulations printed and discussed in the pages of THE LANCET too; but one would think that the very least thing the Army and Poor-law Boards could do would be to send their proposed regulations to the Medical Council, and ask their advice and opinion thereon. Indeed, considering that the Council represents the various universities and colleges, and the Crown too, it seems to be something more than a slight not to do so. There cannot be such desperate hurry for the appearance of the new Army Regulations that they cannot wait till after the meeting of the Council in August; but if there is, surely the Council would at once assemble for such good cause. At any rate, why has it not had the opportunity offered?

This question does not interfere with the Army or Navy Boards setting forth such curriculum, and holding such examinations as they see fit, nor is it to interfere with their laudable endeavour to raise the education and status of their medical men. They are even at liberty to require no diploma at all, trusting to their own examination, if they choose. It is merely that they be not permitted as public boards to determine, indirectly but no less certainly, and it may be with great injustice, questions affecting the profession at large; for the decision of these public boards will virtually settle the matter for the profession at large.

The Medical Act (clause 31) leaves, perhaps intentionally, in profound mystery whether a qualification in medicine or surgery is constituted (a) by one diploma, for which there was an examination in medicine as well as in surgery, thereby putting it in the power of every individual, university, or college, to give a complete diploma if it choose; or (b) by two diplomas, one from a body entitled by its charter to grant a licence in medicine, the other from a body entitled to grant a licence in surgery, thus throwing every college back on its charter, while, however, its chartered privilege was, by the Act, extended to the whole of her Majesty's dominions. Which of these interpretations is the correct one can be settled only by a supplementary Bill, or by a decision in the courts of law, or practically by the regulations of such boards as the Army, Navy, or Poor-law. But let it in justice be settled according to one or other of these interpretations; not, in the face of justice, by such boards declaring that they will receive certain diplomas as both medical and surgical, and certain others for only one or other, but not as both.

If rumour is wrong, and no injustice about to be done, there can be no harm in submitting the proposed regulations to the Medical Council—the right course, indeed, under any circum-

* Vide *The Times*, Saturday, May 21st, 1859.