

on this matter exists between us. The papers read at Carlisle were in sequence and showed conclusively the existence of the gravest abuses in the constitution and performance of the General Medical Council.—I am, Sirs, your faithfully,

A. G. WELSFORD.

Cambridge-terrace, Dover, Aug. 22nd, 1896.

"METACHROMATISM IN DIPHTHERIA BACILLI."

To the Editors of THE LANCET.

SIRS,—Dr. Kanthack in an article published in THE LANCET of Aug. 22nd criticises somewhat severely my paper on the Influence of Glycerine in Culture Media on the Diphtheria Bacillus. He concludes from my paper that I do not know that the diphtheria bacillus shows metachromatism when stained with methylene blue, after growth on media that do not contain glycerine as well as on those that do. Such a conclusion is not only not warranted by my paper, but is exactly contrary to what I state. All that was claimed for glycerine-containing media was that in twenty-one instances marked metachromatism was shown invariably by the bacilli. I have, of course, in several instances seen it quite as marked with bacilli from growths on media containing no glycerine, and I have generally, but by no means invariably, found that some of the diphtheria bacilli from growths on such media show metachromatism. A further conclusion is drawn from my paper by Dr. Kanthack that I consider the Klebs-Löffler bacillus the only one that shows metachromatism, and he draws this conclusion simply because I do not mention the metachromatism of other bacilli. That bacilli very like the diphtheria bacillus are found in the throat and elsewhere, and that these bacilli sometimes show metachromatism, is well known. Whether those occurring in the throat will show metachromatism more often or less often when grown on glycerine-containing media I have not yet had an opportunity of finding out. If the examination of swabs from the throats of cases of suspected diphtheria is to be of any clinical value the examination must be completed within a short time. Dr. Kanthack apparently considers the search for the diphtheria bacillus as ordinarily carried out to be valueless. While acknowledging that there are several sources of error, as Dr. Kanthack has very clearly shown in his paper, I yet think that the actual errors occur sufficiently rarely to enable us to obtain information of real clinical and scientific value from such rapid examinations. I believe, too, that most observers will agree with me. Now at present in making these rapid examinations we are dependent for the recognition of the Klebs-Löffler bacillus on the appearance of the growth on the culture medium, on the size and shape of the bacilli, and on the manner in which they take up stains. All these criteria are very variable, besides not being absolutely distinctive, and the making of one of them invariable will "render the recognition of the Klebs-Löffler bacillus more speedy and more certain." The staining reaction of the bacilli after growth on media containing sufficient glycerine (and possibly on media containing sugar or salt) seems to be invariable and will thus give assistance in recognising the bacillus.

Although Dr. Kanthack's criticism on my paper is, as I think, unfair, his warning as to the imperfections of our present means of recognising the Klebs-Löffler bacillus may be necessary. When I wrote my paper I thought, no doubt wrongly, that these imperfections were so universally admitted that no warning from me was required.

I am, Sirs, yours faithfully,

Upper Berkeley-street, W.

ALFRED M. GOSSAGE.

"ON THE DOSAGE OF SOME OF THE VASOMOTOR DILATORS."

To the Editors of THE LANCET.

SIRS,—I am sorry that Dr. John Ogle should have experienced any difficulty with regard to the dose in which nitro-glycerine should be administered. Of course no one regards the British Pharmacopœia as an authority on such subjects, for we are told in the preface to that compilation that the doses indicated are not authoritatively enjoined, and that "the practitioner must rely on his own judgement and act on his own responsibility in graduating the doses of any therapeutic agents which he may wish to

administer to his patients." In the case of nitro-glycerine and other vasomotor dilators we aim not so much at giving a certain dose as at producing a definite pharmacological action. There are two points to be taken into consideration: first, the idiosyncrasy or susceptibility of the patient, and, secondly, the rapidity with which tolerance can be established. Taking the two extremes, I have known the characteristic nitro-glycerine headache produced by $\frac{1}{100}$ th of a grain of the drug, whilst, on the other hand, I have given 4.8 grains a day without inconvenience. A patient of mine took 1767 grains of the pure drug in 102 weeks, and another patient practically lived on it for three years. Women are as a rule more susceptible to the action of the drug than are men. I made some observations on women not suffering from angina pectoris with the view of determining their dose. I found that 10 per cent. complained of the medicine when minimum doses of the 1 per cent. solution were given, that on increasing the dose to two minims 32 per cent. complained, and that more than half suffered from headache after taking three minims. My rule is to begin with $\frac{1}{100}$ th of a grain in the case of women and $\frac{1}{200}$ th of a grain in the case of men, and to run up the dose until the patient is taking a grain three or four times a day. In cases of angina pectoris I always give the 1 per cent. solution and order the dose to be made up to a drachm with tincture of capsicum, spirits of chloroform, and peppermint water. The patient, for emergency work, carries a small bottle of this in each waistcoat pocket, as it is found by experience that the drug is absorbed much more rapidly when it is kept warm. I do not believe in the lethal action of the members of this group. In the only fatal case on record of poisoning by nitro-glycerine the patient took an ounce of the pure drug and even then did not die for four hours. A short time since a patient of mine swallowed a mouthful of nitrite of amyl in mistake for a cough linctus and experienced no inconvenience. There seems to be no particular reason why children should not be given nitro-glycerine tabellæ supposing that the ordinary chocolate drops are not available. For some time past, acting on the suggestion of Dr. P. M. Mikhalkine of Nijni-Novgorod, I have used nitro-glycerine with success in the treatment of neuralgia, taking care, however, always to give big doses.

I am, Sirs, yours faithfully,

Welbeck-street, W., Aug. 25th, 1896.

WILLIAM MURELL.

To the Editors of THE LANCET.

SIRS,—In regard to Dr. Ogle's letter referring to the above subject in THE LANCET of Aug. 22nd, I am of opinion that the official maximum dose of both nitro-glycerine tablets and solution of nitro-glycerine is very much understated. I enclose you a copy of the letter from the medical practitioner to which Dr. Ogle refers. He states: "Enclosed is a box of five nitro-glycerine tablets of your making. I had ordered the tablets for a child six years old, one thrice daily. She had taken two dozen with no apparent effect of any kind. It appears that the other day she and a younger child about three years of age contrived to obtain the box and straightway consumed between them two dozen at one time. Supposing they each had a dozen they would have nearly one-eighth of a grain of nitro-glycerine. On neither of the children was any effect produced." The official dose of solution of nitro-glycerine is stated to be from "half to two minims." In the Extra Pharmacopœia I say "Gradually increase to ten minims, if necessary, every three or four hours in any aqueous vehicle," as I have known these doses administered. But to return to the tablets. In Dr. Kruger's "Handbook of Therapeutics" it is stated "one of my patients took a hundred of these tablets ($\frac{1}{100}$ th grain of nitro-glycerine in each) a day with great benefit." More recently a client of mine, a retired chemist, seventy years of age, writes that he had "used nitro-glycerine in various forms for the last twenty-five years," as he had been medically ordered to use it for pseudo-angina. He asked me to make him one pound of the tablets, containing a quarter of a grain of nitro-glycerine in each, as he said "I have to take so many before I can get relief. I am now taking tablets containing 10 per cent. ($\frac{1}{10}$ th grain in each) in addition to a solution of the same strength dissolved in spirit to make it soluble (Morson's 10 per cent. solution). So you will see I should always be taking some unless they were made strong; as I

said before I shall be very careful not to take too much." It appears, therefore, that as a therapeutic dose $\frac{1}{100}$ th grain of nitro-glycerine (or from $\frac{1}{2}$ to 1 milligramme) is sufficient to begin with, but it may be increased. The maximum dose is not known. The tablets have never been proved to be dangerous to life. There can be no question about their activity properly prepared. To any one unaccustomed to their use a tablet containing $\frac{1}{100}$ th grain will cause throbbing in the temples in less than two minutes.

I am, Sirs, yours obediently,

Aug. 24th, 1896.

WM. MARTINDALE.

"EDUCATION AND INFECTION."

To the Editors of THE LANCET.

SIRS,—I thank you for your courteous and valuable criticism in THE LANCET of Aug. 22nd, of what I certainly meant to be a leading idea in my articles on the "Prevention of Tuberculosis," published in recent numbers of the *Medical Magazine*. Having a strong belief in its truth I cannot but urge on those who will listen to me the view that very great good would come from making the older school children, all over the kingdom, familiar with the laws which we know control the spread of infective disease, so far as they could be taught in simple words. You ask: "But how are such right ideas to be imparted?" I venture to suggest, in outline, the following plan:—Many senior students of medicine could, and I think would willingly, give the necessary information to schoolmasters and to school children. Some of the younger and a few of the older medical men would, I feel sure, willingly give of their time to help on so good a work. All this could be done for a moderate amount of money. I am very far from suggesting that another public service should be added to the far too many already done for no pay by medical men. By-and-by the schoolmaster would, in this way, have learned enough to teach his pupils the rudiments of the laws which control the spread of infections; and when this could be done then would cease the extra expense incurred in the first instance to provide for the payment of the special medical teachers. One of the earliest outcomes of this special teaching would be the growth of a literature dealing with the subject of the communicability of diseases, and written in such language as would, in due time, bring home to average intellects a sound working knowledge of how the spread of disease can be prevented.

You say, Sirs, "it is safe to conclude that a large number instructed in the theory and facts of infection will receive very wrong ideas indeed." This is most true; but will you point out any new and important teaching, especially any new medical teaching, from which have not sprung heavy crops of wrong ideas? These wrong ideas I have long regarded as among the great helps to the gradual diffusion of right ideas. Sensible people learn much from their own errors, and from the errors of others. In the long run it is the views of the sensible people which, in matters like this, lead public opinion. There can be no doubt that without the support and active help of public opinion no teaching of the kind I ask for will ever be given in our schools. In no slight degree it is what is being taught to-day in our schools which will profoundly influence the opinions and, consequently, the actions of the next generation of our fellow countrymen. If this is true—and who doubts it?—surely it is plainly our duty to do our very best, in public as well as in private life, to see that the art of keeping infective diseases out of our homes is well taught to our children.

I am, Sirs, yours faithfully,

London, Aug. 22nd, 1896.

G. A. HERON.

HIGH TEMPERATURE AFTER CHILDBIRTH.

To the Editors of THE LANCET.

SIRS,—In the very practical and valuable paper on Puerperal Fever by Dr. Byers, published in THE LANCET of Aug. 22nd, the writer, after enumerating certain complications of the puerperal state, doubts whether constipation is ever a cause of fever, and concludes that it is on the whole rare to have fever and quick pulse from any other cause than infection. My midwifery experience is small, but I have met with one case of fever from constipation and with more than one case of fever not due to either infection or obvious complication. When encamped in the desert on the borders of the Nile I had to

attend an officer's wife in her first confinement. She was a healthy, vigorous woman and had an easy, normal labour; a small perineal tear was treated with one stitch. The temperature was 102° F. the evening of the day of delivery, 103° the second night, and 105° the third. The patient felt well all the time and had no other unfavourable symptoms. The bowels acted slightly on the third day after taking pills, but in the night following she passed a copious, foul-smelling motion, and next morning and evening the temperature was 102°, and then gradually returned to normal, and the patient had a speedy convalescence. Another case of non-septic high temperature was in a near relation. I was so much alarmed that I called in Dr. Matthews Duncan, who comforted me by making light of a rise of temperature when, as in this case, there were no other unfavourable symptoms. The rise on this occasion, I have no doubt, was simply due to nervous excitement; this patient was also a primipara. I believe that in many adults, as in children, the temperature is liable to rise from very slight causes. I am glad Dr. Byers points out the danger of antiseptic douches, and does not advise their routine employment in normal cases. Several of the cases of puerperal septicæmia I have had to do with (not in my own practice) have occurred in the course of very careful antiseptic treatment, including bichloride douches.

I am, Sirs, yours faithfully,

SIDNEY DAVIES, M.A., M.D. Oxon.

Plumstead, Aug. 24th, 1896.

"MOTOR CARS."

To the Editors of THE LANCET.

SIRS,—Now that the Motor Car Act has had the Royal assent and become law it would be a great boon to the medical profession generally if you would depute a representative to examine into and report upon the best form of cars for town and country. There is no doubt that they will be most extensively used, and especially by medical men, to whom travelling expenses are an important item. Having visited patients in pretty well every possible way, it occurs to me to make the suggestion that the smaller cars should be of the safety bicycle and country rotary tricycle types; the latter might have a detachable extra seat, arranged so that two can sit back to back; this latter form of tricycle I have always found so perfect and thoroughly safe in the steering and sufficiently narrow to go through any doorway for temporary housing in case one should be detained for some hours at a case.

I am, Sirs, yours faithfully,

Bournemouth East, Aug. 24th, 1896.

F. W. CORY.

* * * We may point out to our readers that we have already touched upon the subject in our columns. In THE LANCET of Jan. 4th, 1896, page 63, will be found an account of the Exposition Internationale de Vélocipédie et de Locomotion Auto-mobile held in Paris in December, 1895, and at page 647 of the same volume there is an article giving the essential features which should characterise auto-cars for medical men. Other references to this subject will be found at pages 881 and 1261 of the same volume.—ED. L.

"WHY IS THE LEFT HEART STRONGER THAN THE RIGHT?"

To the Editors of THE LANCET.

SIRS,—Unless I greatly misunderstand him Dr. H. Campbell in his recent article with the above title and in his reply to Dr. Morison¹ is leaving out of consideration one of the most important factors in the physics of the circulation—viz., gravity. Surely it is gravity that makes the great difference between the work required of the left heart and that of the right? The left heart has to drive blood to the top of the skull some thirteen to fourteen inches above the aortic valves, while the right heart has merely to drive it to the top of the lungs, some three to four inches above the pulmonary valves; and the engineer of any water company will tell you the difference in pressure and power required to deliver water on the fourth storey of a house as compared with ten feet above the pavement.

¹ THE LANCET, Aug. 15th, 1896, p. 493.