has described. When the time has come for the deliberations of professors and specialists to be leavened by the common-sense views of the general practitioner, the recently qualified, and even the unqualified student, the chances of reforms being both mooted and carried will be increased.

Let us take the attitude of the general practitioner who, after many years of practice, indulges in a retrospect of his training and tries to form an estimate of its value as judged by its influence on his career. He may perhaps find that in his practice about 50 per cent. of his patients suffered only from functional disturbances, that his success or failure in these cases depended on the degree of psychological skill he was blessed with, and that psychology was a subject totally ignored by his teachers throughout his career as a student. In many other matters his retrospect may leave him with a no more respectful opinion of professors than that with which Bismarck was credited. It is a thousand pities that the general practitioner, who knows better than any other class exactly where the shoe pinches, should be so voiceless in the task of bettering matters for the coming generations of medical students. It is well to remember that only a small fraction, say 5 per cent., of medical men become teachers and specialists. Yet this small minority has hitherto enjoyed a monopoly in the control of medical education, and has imposed its will on an unconsulted majority. This minority of nimble-witted examinees knows little of the struggles of the less gifted majority, who flounder through their examinations with much toil and many a reverse. Having passed their examinations with ease and distinction, it is almost inevitable that the prize-snatching minority should feel satisfied that all is well with the medical curriculum, and that they should be tempted to add to its complexity rather than to simplify it. Again, anyone who breathes the air of the students' quarter in hospitals knows how discontent seethes with regard to certain subjects in the medical curriculum. Why should not there be an outlet for this discontent, some of which may be justified? The question is surely pertinent.

The older generations do, no doubt, enjoy a judgment and perspective denied to callow youth; but the student possesses first-hand knowledge and is often more vitally interested in the matter than elderly teachers. Not only does the student often have a shrewd conception of the comparative value of the different subjects he is expected to master, but he also knows much better than his seniors which of his teachers are efficient and which are more or less incompetent. Yet he is allowed little or no choice, and many a misspent hour is the outcome of regulations enforcing attendance at the lectures of a dull and droning "teacher." Some years ago, at a Continental university, a professor of surgery became so notoriously incompetent as a teacher and unfair as an examiner that a deputation of medical students waited on the university authorities, insisting on his early retirement. This took place shortly afterwards. But for every such instance of vindication of the rights of the student, there must be dozens in which the forces of reaction and inertia have prevailed. It is so easy for these forces to invoke the privileges of age and experience.

Thoughts like these were, perhaps, passing through the mind of Prof. J. Madison Taylor when he sat down to compose his thesis[1] on "A New Conception of Medical Education and Medical Practice." With personal experience of general practice, he has brought to his present position as Professor of Physical Therapeutics and Dietetics in Philadelphia an outlook not exclusively academic. The principle of his scheme is the sorting out of medical students for different spheres of usefulness early in their career. He regards as wasteful the old system of passing every student through the same tests, irrespective of his individual abilities, and he visualises a future with three different grades of medical practitioner. The first and lowest grade he quaintly describes as the "drug store type." This "type" is meant to cope with walking cases, to deal practically with minor surgical and medical emergencies, to have experience in dispensary work, and to be qualified to practise after two years of "part-time studies." The second grade or "panel" type is to be qualified for more serious emergencies, to visit homes, to care for the average patient, and when "the problems exceed his training," to call in consultants. The period of training required for this grade of practitioner to become competent and "up to all ordinary practice," is to be three years. For the third and highest grade, a four years' course is suggested, part of the fourth year being devoted to such specialities as obstetrics and major operations. Although the humble-minded student, conscious of his inability to become a shining light in the medical profession, would be able to complete his studies in two years and then begin earning his living, opportunities to rise from one grade to the other would not be lacking, and he might ultimately reach the third or highest grade.

Another suggestion put forward by Prof. Madison Taylor is that there should be preliminary tests of the student's intelligence, gumption, or common-sense. "For the higher class medical adviser greater emphasis should be laid on the more abstract processes of intellectation." This paper conveys a bizarre impression. The conception of a cross between an orderly and a mediæval barber-surgeon—the product of two years' training—is somewhat startling; and, judged by European standards, the notion that a consultant surgeon or physician can be evolved in four years seems a whimsical fantasy. But these considerations should not blind us to the essence of Prof. Madison Taylor's scheme, and if we make due allowances for the very different conditions of medical practice obtaining in the U.S.A., and remember that what may seem startling and unconventional to us may be the acme of common-sense beyond the Atlantic, we may come to the conclusion that the principle for which Prof. Madison Taylor is fighting is sound. Until we are satisfied that our educational system is made sufficiently flexible to meet the needs and qualifications of the individual, and till it is modelled on the requirements of the student in his post-graduate career, it is our obvious duty to provide ventilation for grievances and to leave the door open to reforms.

I am, Sir, yours faithfully,

Dec. 10th, 1921. C. L.

[1] American Medicine, August, 1921.

SELF-DISINFECTION.

To the Editor of THE LANCET.

SIR,—May I be allowed a word of comment on the annotation in your issue of Dec. 10th dealing with the articles contributed by Sir Archdall Reid and myself to the *International Journal of Public Health*? On receiving the invitation to write the article in question, I suggested to the editor that the controversy on "self-disinfection" was essentially a "domestic" one, and that it was undesirable to parade it in an international journal circulating in other countries in which this question is rightly regarded as of minor importance in the campaign against venereal disease. I added that, if the subject was to be broached at all, it would be better to have a single article, written by someone not specially identified with either side, and free from polemics. I received the reply, however, that Sir Archdall Reid had already accepted the invitation to contribute a paper, and that the *Journal* was thereby committed to its publication. Rather than to allow judgment by default, I agreed, though against my inclination, to write the short article to which you have alluded.

The National Council fully realises the harm done to the anti-venereal campaign by public controversy on "self-disinfection," and has always refrained from initiating such controversy either in the medical or the lay press. The most that can be urged against it is that occasionally it has ventured to defend itself

when attacked, lest a wrong impression should arise that arguments left unanswered are unanswerable.

I am, Sir, yours faithfully,

London, W., Dec. 10th, 1921. OTTO MAY.

ZINC IONISATION IN OTITIS MEDIA.

To the Editor of THE LANCET.

SIR,—In an annotation on Chronic Aural Suppuration in THE LANCET of Nov. 19th you remark, "It is generally agreed that the large majority of cases of suppurative otitis recover completely if treated from the onset." It has been my experience that a large proportion of these cases recovers completely when the surgeon carries out the treatment himself, or when the cases are taken into hospital and treated there as in-patients; that a smaller proportion recovers when the cases are seen as out-patients, say, once or twice a week, treatment being meantime carried out at home; and that, of course, a still smaller proportion recovers when untreated.

Now, the large majority of acute ear cases falls into the category of those seen occasionally by the surgeon and treated at home with, on the whole, not very satisfactory results. Any method which will substantially improve the results in this class is much to be desired, and such a method I believe that we possess in zinc ionisation. The apparatus required is simple, consisting of a galvanoset or some such source of current in which the ampèreage can be absolutely steadily increased and decreased, a short pencil of zinc as the positive electrode, a basin of water in which the patient's hand can be dipped as the negative electrode, and some weak sulphate of zinc to pour into the ear. Some otologists pass the zinc electrode into the ear through a vulcanite speculum with a special clip to prevent the electrode from slipping out. I find this, however, quite unnecessary; all one has to do is to wrap the zinc pencil in cotton-wool so as to prevent the metal from touching the skin.

The technique is simple: the ear must be cleansed and dried; the patient then lies down with the affected ear uppermost; the ear is filled with warm sulphate of zinc, 2 gr. to the oz.; the zinc electrode, wrapped in cotton-wool, is introduced into it; one hand is put into the basin of water with the negative electrode, and the current very slowly and steadily turned on, from zero up to one, two, or three M.A.'s, according to the tolerance of the patient, and still more slowly turned off after 10 to 15 minutes. The zinc sulphate lotion is then gently mopped out of the ear and a small pledget of cotton-wool put into the meatus.

In a recent case, with a perforation in the tympanic membrane large enough to admit of free access of the lotion to the inflamed area, one ionising is sometimes all that is required. For example:—

CASE 1.—Nurse E. had acute double otitis media following a severe cold, and was under treatment for five weeks. The right ear dried up but the left continued discharging pus. I ionised the left ear with zinc 3 M.A.'s for 10 minutes. Two days later the ear was quite comfortable, almost dry, quite dry after another two days, and since then has given no further trouble.

CASE 2.—Miss T. had acute earache lasting a few hours, relieved by bursting of drum with blood-stained serous discharge. Two days later I began dressing with ribbon gauze moistened with carbol-glycerine: five days later muco-purulent discharge continued. I then ionised the ear with zinc 1 M.A. five minutes. Next day the ear was dry, quite comfortable, and has given no further trouble.

In these cases the perforation was rather large, the discharge was not very profuse, and I had no reason to suppose that there was any involvement of bone.

On the other hand, ionisation cannot be expected to cure cases in which there is a very small perforation, or in which there is a very profuse, persistent discharge, indicating inflammation of the antrum and possibly mastoid cells, e.g.:—

CASE 3.—Mr. B,. during convalescence from an attack of pneumonia, developed acute otitis media sinistra. I found a very profuse discharge, a rather small perforation in the membrane, slight mastoid tenderness. Operation was refused. Other treatments had little effect. I ionised the ear three times, but with no result whatever.

CASE 4.—Mr. J., during a cold had some pain in the left ear, which was relieved when a blood-stained serous discharge appeared. In his case the discharge was never profuse, but the perforation was very small; ionisation had no appreciable effect.

When suppurative otitis has become chronic, or when the bone cavity left by a mastoid operation has either refused to heal, or after healing has broken down again, ionisation will often effect a cure.

CASE 5.—Miss B. had a radical mastoid operation performed about 12 years ago. This healed and remained well till she was sent to France on war work. Then the mastoid broke down, and, in spite of treatment very thoroughly and carefully carried on, continued discharging for four years. She then came to me for ionisation. The cavity was healed after six sittings, and has remained dry and given no trouble since.

CASE 6.—Miss L., with a history similar to the last, required 12 sittings before the mastoid was finally dry. When I began treating her ear I ionised twice a week, which is probably too frequently, once a week being enough.

Some chronic cases do not yield to this treatment. Small perforations, the presence of granulation tissue, too profuse discharge are obvious difficulties that need hardly be mentioned: but a few cases that I thought ought to do well have not responded; I do not know why. I cannot claim to speak from a large experience, but my results in suitable cases have been so good that I feel justified in urging more otologists to adopt the treatment.

I am, Sir, yours faithfully,

Brighton, Dec. 8th, 1921. ARTHUR J. HUTCHISON.

The Services.

ROYAL NAVAL MEDICAL SERVICE.

Surgn. Lieuts. to be Surgn. Lieut.-Cmdrs.: R. P. Ninnis and J. D. Murphy.

ROYAL ARMY MEDICAL CORPS.

Capt. C. Helm retires, receiving a gratuity, and is granted the rank of Lt.-Col.

Capt. A. W. P. Todd retires, receiving a gratuity.

Capt. W. H. A. D. Sutton is restd. to the estabt.

Temp. Capt. R. O'Connor relinquishes his commn. and retains the rank of Capt.

TERRITORIAL ARMY.

Lt.-Col. D. L. Fisher resigns his commn. and retains the rank of Lt.-Col.

Capts. J. L. Brownridge, J. D. Wells, and R. M. Wilson to be Majs.

Capts. T. Rhind, J. O. Cuthbertson, P. B. Spurgin, and J. F. Molyneux, having attained the age limit, are retired and retain the rank of Capt.

TERRITORIAL ARMY RESERVE.

Capt. W. G. McKenzie, from R.A.M.C., General List, to be Capt.

ROYAL AIR FORCE.

Flight Lt. R. J. Monahan relinquishes his temporary commission on ceasing to be employed.

THE CALCUTTA CENSUS.—The municipal authorities have from the first doubted the accuracy of the results of the census taken in Calcutta. The increased demand for water, the extraordinary scarcity of housing accommodation and other broad facts all pointed to a large increase of population, and hence, when it was found that growing districts were reported to have lost in population, it seemed clear that someone had blundered. The chairman of the corporation, at the instance of the general committee, asked the census authorities for help in checking the census results in certain wards, and the proposed check has just been accomplished. Its outcome is to show that, as was suspected, the official enumeration was singularly defective. Immediately the census was over, dozens of persons reported that they had not been counted. It is now found that on the figures tested the omissions were between 12 and 15 per cent. Such a departure from the facts must falsify death-rates, birth-rates, and all municipal statistics. It seems inevitable that another census must be taken next March if municipal returns are to be useful as records. The low general death-rate of 31 recorded for the week ending Nov. 12th, the latest of which we have any record, is far below the five-year mean of 39·5, but the apparent diminution may be due in part to just such censal inaccuracy as has been shown.