supply the lips reach the facial nerve-trunk from their nucleus of origin their case threw no light; they suggested the posterior longitudinal bundle.

But the twelfth nucleus hypothesis was disproved for the case of man by the admirably studied and reasoned out case published by the late Dr. Alexander Bruce and Dr. J. H. Harvey Pirie (*Rev. Neurol. and Psychiat.*, vol. vi, 1908, p. 685):

A man, aged 65, had complete unilateral facial paralysis of peripheral type coming on with other symptoms. During life there was total absence of faradic response in all the facial muscles. Autopsy, four and a half months after onset of facial palsy, showed (1) degeneration of all the cells of homolateral facial nucleus, none of heterolateral; (2) not a single cell of either hypoglossal nucleus affected; (3) no change whatever in any of the cells of either third nucleus.

Bruce and Pirie naturally concluded that the hypoglossal nucleus of man does not innervate the lip-facial muscles (the oro-facial group of Tooth and Turner).

It passes my wit to understand why this very easy question has not long since been properly tested by experiment. All that need be done is to cut or avulse on one side—preferably in monkeys or carnivora—all those branches of the buccal and supramandibular branches of the seventh nerve which enter the orbicularis oris muscle-complex. Histological examination a few days later should reveal retrograde chromatolysis of some of the cells of either the seventh or the twelfth nucleus, probably only homolateral.

In conclusion, may I ask the adherents of the twelfth nucleus hypothesis this awkward question? Where do you suppose the muscle afferents of the orbicularis oris muscle have their ganglionic origin? You cannot consistently say in one breath that the motor fibres rise in cells of the twelfth nucleus and the muscle afferents in the geniculate and Gasserian ganglia. If you still adhere to the twelfth nucleus for the motor fibres you must think of the second cervical dorsal root ganglion for the muscle afferents, and would you seriously do that? It is to be hoped that any experimentalist who may take up the question of the motor innervation of the muscle will not forget to study histologically also the cells of the geniculate and Gasserian ganglia. We have already both experimental and clinical evidence that both these ganglia give origin to facial muscle afferents, but at present we lack evidence as to the ganglionic origin of the orbicularis oris muscle afferents.—I am, etc.,

London, N.W., April 19th.

LEONARD J. KIDD, M.D.

THE ANATOMY OF THE ABDOMEN.

SIR,—In the review of my work, *Principles of Anatomy: The Abdomen Proper*, which appeared in the JOURNAL of April 13th, p. 840, your reviewer says:

Of what assistance is the term "interfissural area of the liver" (quadrate lobe) to the student who has been taught the form of the generalized mammalian liver and is able to recognize the right lateral fissure in the human specimen when it is present?

Is it too much to ask that any one who has been taught the form of the generalized mammalian liver, and is able to recognize the right lateral fissure in the human specimen when it is present, should also be able to recognize the fact that in the *Principles of Anatomy* the term "interfissural area of the liver" is not applied to the quadrate lobe?

Your reviewer also says:

We cannot accept *in toto* the statement that "the small sac is not a diverticulum of the great sac," since that part of the small sac which lies behind the liver develops as a right-sided pocket from the great sac during the first month of development.

In the *Principles of Anatomy* the context plainly shows that the words, "the small sac is not a diverticulum of the great sac," mean, as they are intended to mean, that "the small sac is not a diverticulum of the great sac"—only that and nothing more. A surgeon, on reporting the condition of a patient after amputation of a finger, might be told: "We cannot accept *in toto* the statement that our friend is alive, since that part of him which has been amputated is already dead and will soon be buried," or, again, a physician, after prescribing specially coated pills, might be informed that "we cannot accept *in toto* the statement that the pills are not bitter since that part of

them which lies within the coating contains some bitter ingredient." In each case the reservation may be correct, but it is scarcely relevant.

But, except for that part of the small sac which lies behind the liver, your reviewer does accept the statement that "the small sac is not a diverticulum of the great sac." It would be interesting, then, to have his opinion of the following description, which is taken from one of the standard textbooks of the present day:

Whilst the main sac of the peritoneum lies in front of the various abdominal viscera . . . there is a special diverticulum derived from this "great sac," which turns in behind the stomach, and covers its posterior surface; this is known as the lesser or smaller sac.

According to this method, an hourglass might be described as a tube consisting of two equal compartments, each of which is a diverticulum derived from the other: according to the method of the *Principles*, it might be described as a tube so constricted as to form two equal compartments which intercommunicate by way of the constriction.

Lastly, when your reviewer speaks of the "relationships of organs," presumably he is referring to their "relations."—I am, etc.,

WM. CUTHBERT MORTON, M.A., M.D. Edin.,
Honorary Demonstrator of Anatomy in the
University of Leeds.

Leeds, April 22nd.

BACILLUS DIPHTHERIAE.

SIR,—May I ask a small portion of your space in the BRITISH MEDICAL JOURNAL to discuss a subject of much public importance? Of late years people as "carriers" or "contacts" in cases of diphtheria have taken a very different position to formerly on account of the bacillus occurring in their throats, and in certain instances they have to incur not only isolation but much pecuniary loss. Has the science of medicine progressed so far that it can be said with any degree of certainty that these cases are all of an infectious nature? We have these cases of positive laboratory results with perfect health mixing with other members of their family with no serious effect resulting, and we also see adults debarred from their work with much pecuniary loss. I yield to no one in admiration for scientific medicine, but I think something more is necessary to be done in these cases before continued isolation is demanded. We find in a cottage one or two children with positive results mixing with the other members of the family; they have their meals together, sleep together, use the same plates, cups, knives, forks, etc., and with no evil resulting. However much you may try to instil the necessity for care, it is practically beyond the powers of a cottage mother to carry it out to any useful extent. At one cottage I made inquiries the mother told me nothing whatever was done during the whole nine weeks the child was at home; she slept, ate and drank, etc., with all the rest of the family with no precautions whatever. At a superior home the mother informed me some Condy's fluid was used in the washing-up water, nothing else; and at a third, while the children had their own utensils, which was their rule in that cottage, they were all washed up together with no disinfectant. During the whole time all were apparently in perfect health.

There can be no finality in scientific investigation. Scientists themselves, I believe, agree that there may be germs of identical appearance as observed under the microscope, but vastly different in their nature—some benign, while others are virulent. If such is the case—and the practice of medicine would go to confirm this view—would it not seem desirable that before knocking people off work and stopping their livelihood on account of the bacillus being found in their throats, further tests should be made, as by animal inoculation or such other methods as experts may consider satisfactory? I may be told that these benign bacilli have all the elements of the virulent, and only require some stimulus, as association with other kinds of bacilli, etc., to rouse them into a dangerous state; and I shall probably further be told that even if such is not the case, until it can be proved not to be so the minority must suffer on behalf of the majority. In the interests of medicine itself it is to be hoped it will soon be put on a sound footing; for if isolation of adults, with all the accompanying inconveniences, is carried out

to any great extent it may do harm to science by causing much irritation, for it will be difficult to persuade the public of the necessity for such stringent measures if they find not only that while they are themselves in good health, neither the members of their families nor the public with whom they may come in contact suffer in any way from infection, and they will become sceptical as to the truth of the verdict that has condemned them to this disability.

I used the word isolation more as referring to removal from work with their fellows than in the true sense of the word. To get perfect results clinical and laboratory work must go hand in hand, and those in practice may help a little towards this by careful observation and recording the results.—I am, etc.,

Fulbourn, April 21st.

F. L. NICHOLLS.

THE FUTURE OF GENERAL PRACTICE.

SIR,—I wonder if many of your readers have pictured to themselves the general practice of the future, the practice of ten years or so hence, what time a grandmotherly State shall have tucked under her wings all the classes which make up private practice of to-day and undertaken the responsibility and the supervision of their medical needs. When all the workers with their wives, and children over school age shall have come in under the National Insurance Act and be doctored by sweated club doctors; when confinements will all be attended by midwives under the control of the Public Health Authority, to whose assistance in time of danger a specialist will be sent by the same authority; when the babies will be tended by the same authority's health visitors, and attended by that authority's official doctors; when the tuberculars will all be attended by the public health officials; and finally when the children attending public elementary schools, for all their diseases and ailments shall have come under the school medical officer, who is himself either the medical officer of health or his subordinate.

A dream? A nightmare? Well, perhaps. But this dream has foundations only too realistic.

With regard to the struggle over the National Insurance Act, however well it goes for us, we shall certainly be club doctors under the heel of a lay committee, and as certainly be sweated. Married women will be coming in under the Act in five years, and it may safely be assumed that before long children will come under the Act immediately they obtain employment.

An enormous number of women are now attended by midwives, who employed the family doctor ten years ago. How many will be left to him in ten years' time? The extern service of some of our hospitals has proved to the public that a woman in labour may be safely attended by an unqualified woman, provided that a qualified practitioner is at her beck and call, and that such attendance has the approval of hospital staffs. It would probably not be difficult to organize a maternity service for the whole country on such lines as these, utilizing midwives and specialists alone, the whole service being under the control of the Public Health Authority.

An extension of the present system of visiting and advising mothers as to the care of their babies would soon bring all the little ones under school age under the health visitors and staff of official doctors.

There are already the beginnings of a tuberculous service in the country, employing inspectors and "specialists," which may soon be expected to grow, under the stimulus of the Insurance Act, into a formidable competitor with the private practitioner.

The Education (Administrative Provisions) Act, 1907, was the official foundation of a medical service, under public health administration, designed to give medical treatment to all the children of school age in the kingdom.

It is true that up to the present the policy of the Board of Education has been to let down the private practitioner quite gently, but in the 1910 Report of the Chief Medical Officer and in the Memorandum on grants published in your issue of April 27th there are many indications that there is no room for the independent private practitioner in the comprehensive scheme of treatment which has up to the present been merely adumbrated, but that if, and

when, private practitioners are to be employed, they must be under the authority of the School Medical Officer.

"The Treatment Clinic arises naturally out of . . . the Inspection Clinic; its roots should always be found there" (Rep., par. 197). In the Memorandum these roots get their top-dressing, a grant given, not for medical inspection, but for treatment. Treatment is the pet child of the Report and the last word of the Memorandum. The local education authorities which have gone farthest in treatment get the greatest approval, while the laggards are tuned up. And, be it remembered, that which is approved by the Board to-day will be insisted on to-morrow. In my opinion, the ideal of the Board of Education—kept quietly for the present, but constantly and consistently before them—is a system of treatment of all elementary school children by official doctors under the control and supervision of the Public Health Authority. This ideal system, at first confined to such ailments as malnutrition, diseases of the eye, teeth, ears, nose, throat, and skin, will gradually enlarge its borders to embrace almost every conceivable disease that children suffer from, and the medical charities will be requisitioned to deal with such cases as the official staff cannot grapple with. Then we shall have in being Sir George Newman's ideal, "a simplified and unified State medical service" (Rep., par. 7). In this service the independent private doctor will have no place. Even at the present time he is only tolerated by the Board on certain conditions, one of which is that his work must be "carried out under the supervision of the school medical officer" (Rep., par. 200, cf. par. 4).

At the same time that the Board are engineering this frontal attack on general practice they are also laying mines. Local authorities are urged to take the fullest possible advantage of existing voluntary hospitals, thus adding enormously to the sum total of that hospital abuse which has already played so prominent a part in damaging general practice (Rep., pars. 168 et seq.).

So then it would appear that in a very few years the whole of the working-class population will have their medical needs attended to by a number of special medical services. Moreover, our knowledge of the working of the Education Act does not encourage us to hope that better-off folk will keep aloof. What will be easier and, indeed, more logical than for the State to intervene at the right moment and "simplify and unify" these services into one State medical service—a service in which the private doctor has no place, and which leaves him none but the idle rich?

It is not my wish to argue the point as to whether a public medical service will be good or bad for the profession and therefore for the community. My object has been to put before your readers what I consider to be the inevitable. If we consider a State service to be in the best interests of the community we should acclaim and encourage the march of official work. If not, then surely we should not merely protest but take strong action to combat the sure effects of this work. We should not merely seek to palliate the Insurance Act but refuse to touch it save as private practitioners. We should refuse to countenance school clinics unless worked by all of the local profession who so wish. We should refuse hospital treatment, except for urgent conditions and operations, to elementary school children. We should deny the right of the medical officer of health and the school medical officer to supervise the work of his, probably, more experienced colleague, the general practitioner. We should condemn the unqualified maternity work of midwives and nurses, even when covered by specialists. We should welcome the proper work of health visitors, nurses, inspectors, *et hoc genus omne*, as useful and important auxiliaries in the never-ending struggle with disease, but discountenance any interference with the at least equally important work of the independent private practitioner. And we should do all this, not primarily nor even principally, because our vested interests are being interfered with, but because it is our honest opinion that the greatest and best and most efficient general medical practice in this country has for generations and still is being carried on by the independent private practitioner.—I am, etc.,

Bristol, April 30th.

H. F. DEVIS.