good work; and by encouraging to the utmost individual enterprise it largely tends to promote and foster the well-being of the community.

I am, Sir, yours faithfully,

MAJOR GREENWOOD,

Hon. Sec. Poor-law Medical Officers' Association of
England and Wales.

Copthall-avenue, E.C., Feb. 26th, 1910.

UNIVERSAL SERVICE PETITION.

To the Editor of THE LANCET.

SIR,—Members of our profession being closely in touch with the aspirations of the individual, as contrasted with the wishes expressed by the crowd, will have realised that a wave of national self-consciousness is passing over the country. To-day men are realising more fully than they have done for a generation their duty towards the nation and the Empire. They have become somewhat tired and ashamed of estimating security by the quota of *Dreadnoughts*, and they desire to take upon their own shoulders a proper share of the Imperial burden. This sentiment has during the past eight weeks taken corporate form. A body of citizens, several members of which belong to our profession, have organised a petition for presentation to His Majesty the King, the wording of which purports to bring official discussion of efficient national defence at once upon the *tapis* of practical politics.

The purpose of this petition may be summarised in the following sentences: Recent events make it evident that defence of these islands must be organised now. It is not advisable tacitly to await the time when Parliament shall consider itself free to devote itself solely to the discussion of defence. Time will be saved if a decided answer is given by the people to the simple question, "Do you desire universal service for home defence?" This answer, if it is to be in any degree unanimous, must be dissociated from all party questions, and can therefore be obtained only if the means of giving it is arranged by citizens unassociated with party politics. No misunderstanding will arise if a petition is organised by the citizens for themselves, and if it is presented by the citizens to the head of the State. Opinions differ widely as to the amount of training and length of service which will be of value in a military sense and possible without dislocation of trade. Unanimity on these points cannot be arrived at, and they must be settled by Parliament in consultation with military and commercial experts before universal service becomes law. The matter will never be discussed by Parliament until the people have signified their readiness to serve.

The "Universal Service Petition" has been organised by private citizens, uninfluenced by party politics or by any school of military thought, in order to give the individual an opportunity of answering the plain question, "Do you desire that every man should be trained to bear arms and that he should be rendered liable to serve in defence of his country?" The words "service" and "defence" are used here as they are understood by the man in the street, and do not necessarily connote service in time of peace or outside the country. For the military experts the words "service" and "defence" may have a special meaning, but the man who signs the "Universal Service Petition" merely signifies his wish that every man should be armed for his country's defence and be taught to use his arms effectively. He will see to it that his representative in Parliament knows his exact wish before a Universal Service Bill becomes law. Without doubt, the majority of the people are ready to bear arms; the minority should reflect that our shores are no longer invulnerable and have to be guarded by an immense fleet, which is therefore unable to act on the high seas to protect the trade routes and the outlying parts of the Empire. Universal service, in which men of every class take their share, will restore national cohesion. A soldier thinks first of the welfare of the nation and the Empire; the interests of his class and of his person take a second place. Universal service improves the physique and morale of a nation, and by checking "Jingo" outbursts makes for peace. If the headquarters of the Empire are weak the whole structure may readily crumble. The colonies are adopting manhood armed service. We can scarcely do less. In the face of an actual armed menace we should all be clamouring for arms. An armed mob is worse than useless, and, opposed to trained

troops, a nation hastily armed is a nation committing suicide. Let us, therefore, demand arms now and learn to use them effectively. This demand is the meaning and purpose of the "Universal Service Petition."

The circulation of the petition papers requires organisation, but the "Universal Service Petition" is in no sense a permanent body, and it is hoped that the work will be accomplished by voluntary effort in a period to be estimated in weeks. The work is supported by numerous members of the existing patriotic organisations, and it has to-day received the official blessing of the National Service League, of which Lord Roberts is the president. In each parish and village the doctor is the man who is in touch with every individual. He is therefore the man to initiate a movement springing from a popular desire, and it is hoped that a very large number of medical men will communicate with the secretary of the Universal Service Petition, 109, Victoria-street, London, S.W., who will furnish information and a scheme for the circulation of the petition papers.

I am, Sir, yours faithfully,

Victoria-street, S.W., Feb. 19th, 1910.

ERNEST WAGGETT.

THE CONTROL OF SCARLET FEVER.

To the Editor of THE LANCET.

SIR,—A leading article with this title in THE LANCET of Feb. 19th last, based on the paper on the Control of Scarlet Fever, read by Dr. F. G. Crookshank before the Epidemiological Section of the Royal Society of Medicine on Jan. 28th, and published in THE LANCET of Feb. 19th, rightly lays stress on the importance of the control of infectious diseases in isolation hospitals and invites the observations and views of other medical superintendents of fever hospitals.

Between the years 1901 and 1908 the writer was the medical superintendent of a fever hospital which had to serve the needs of a resident population which increased from 29,000 to 55,000 during that period. It may well be realised that during that interval, before enlargement of the hospital to meet its growing needs could be secured, times of anxiety were experienced when it was impossible to rigorously reserve separate pavilions and wards for separate diseases. The results of administration experienced under these conditions are briefly crystallised in the following quotations from a paper on Scarlet Fever and Diphtheria from the Public Health Point of View, published in the special number of the *Practitioner* on Scarlet Fever and Diphtheria (January, 1909:—

A very important point in the administration of a fever hospital, if it is going to prove a really preventive measure instead of a possible danger, is the strict limitation of the numbers admitted. (The Local Government Board standard of 2000 cubic feet for each patient should be upheld as a minimum.)

Should the cubic space be reduced complications are sure to arise. In a common ward, each patient is, to a certain extent, a source of possible detriment to the others. .... Other points of internal administration are also of importance in determining whether a fever hospital is of real use or the reverse; particularly in regard to the supervision and instruction of the nurses with reference to their duties.

A point to be constantly urged, until the nurses almost automatically act on the idea, is that each patient should be looked upon as possibly harbouring some form of infection which might be transferred to another. This applies to all cases on admission until proved bacteriologically free of diphtheria organisms, and streptococci or other infective bacteria; and especially to all cases with aural or nasal discharge.

This idea involves not only separate articles of linen, food, crockery, and plate, but also which is more important still, that the nurse should carefully soak her hands in a suitable disinfectant solution, after attending to each patient before proceeding with the next, even in a ward labelled for only one recognised zymotic disease, say scarlet fever.

When properly administered, a fever hospital can only work for good, but under bad management, or insufficient control, it might easily be a source of evil. There is much to be said for glass partitions between beds, but I am satisfied that the main point is to have each patient dealt with, as if he or she might infect or receive infection from another, even in a common ward. (*Practitioner*, vol. lxxii., No. 1, January, 1909, p. 164.)

By the practice of such principles it is possible to completely eradicate that bugbear known as post-scarlatinal diphtheria, which by systematic swabbing of every scarlet fever patient on admission was found really to be accounted for by the presence of Klebs-Löffler bacilli in the throats of 2 to 4 per cent. of the scarlet fever cases on admission. For want of other accommodation these cases had to be admitted to the scarlet fever wards, but the precautions mentioned above invariably prevented any spread or the occurrence of so-called post-scarlatinal diphtheria among the other patients. Before the régime introduced at the end of 1901 similar cases were,

as a matter of course, always admitted to the scarlet fever block, since the question of the presence of diphtheria bacilli in the throats of cases of scarlet fever on admission prior to 1901 was never even thought of in connexion with the administration of most hospitals, much less systematically sought for by bacteriological examination of throat swabbings. Prior to the inauguration of this scientific control of the new admissions post-scarlatinal diphtheria frequently occurred, as it did also during the interim which elapsed before laboratory details were complete under the new régime.

There can be no doubt that too much money has been spent in many places on very elaborate fever hospital buildings where the money would have been better spent in securing the full-time services of an expert fever hospital medical superintendent with bacteriological knowledge, experience, and equipment, who would so have instructed his nurses as to secure enviable results in a hospital of a more modest design than many municipal hospitals in existence. I advocated the use of glass partitions in wards in a paper on "Fever Nursing" in *The Hospital* in 1901, but ripper opinion is outlined in the last sentence quoted above from the later paper in 1909.

I am, Sir, yours faithfully,

Norwich, Feb. 19th, 1910.

J. T. C. NASH.

TUMOURS OF BILATERAL ORIGIN.

To the Editor of THE LANCET.

SIR,—In reply to your annotation on my writing *re* bilateral tumours in THE LANCET of Feb. 19th, p. 515, I would like to offer a few comments.

In the first place, let me remark that truth unsearched for seldom comes to light, and that facts often appear incredible only because we are ill informed. Even in the learned professions most people nowadays think very little and very seldom; yet all have strong beliefs, opinions, &c., which are determined for them mainly by the bias of the moment, which is often hardly distinguishable from the folly of the moment. The sense of organic continuity which would often suffice to correct these divagations is only too often lacking. Medicine, which is neither an exact science nor a perfect art, has for this reason always been specially prone to this kind of infirmity. Hence Celsus long ago remarked: "It is a good thing to be free from the bias of an education exclusively professional."

The present unsatisfactory condition of medical knowledge is mainly due to impediments of this kind, for faulty bias prevents pathologists and practitioners from assimilating the enormous array of new facts, data, and general conclusions which are now available for progress but unutilised. Owing to the frequency of such lapses the history of medicine teems with might-have-beens. If the best results are to be attained the profession must coöperate and sympathise with its pioneers; for the greatest discoveries fail to develop and fructify when the spirit of the age is apathetic, ignorant, bigoted, "opaque of nature and of soul," money-grubbing, or otherwise out of joint. Moreover, it cannot be too strongly insisted that the science which investigates the facts and laws of disease is something quite different from the arts applied to cure the same, and from the fads and fancies of the latter it must be completely emancipated.

It is to the crosslights derived from the neighbouring sciences, especially from the biological sciences, that we must look for the advancement of medical science rather than to clinical experience. Above all, it is to the biological sciences that we must look for true methods of research rather than to clinical experience, which of itself inevitably tends to empiricism, stagnation, and retrogression. For instance, biologists having shown that life is the continual adjustment of internal arrangements to external arrangements, it follows that disease, which is but an unusual manifestation of life, must be similarly conditioned. Strange to relate, this cardinal law of pathology, which is of universal application, finds hardly any recognition in the writings of modern pathologists. Hence the whole of pathogenesis needs to be rewritten from this standpoint; for the conditions of existence constitute the chief factor in the causation of disease, whatever may be the nature of the spark which precipitates the explosion. The first attempt to apply this method to the investigation of disease is embodied

in my recently published book on the Natural History of Cancer, which has thus introduced a new note into pathology.

Now, in the matter of tumour pathogenesis, professional bias has taken the form of a blind, unreasonable, and invincible prejudice in favour of the microbic origin of tumours, which will not tolerate a single suggestion in the contrary sense. The violence and fury of this fanaticism has lately been brought home to me by the stream of abuse which its votaries have poured on my book, because I have declined to believe in their fetish; and this although in my book I have given far more attention to their theories, facts, and experiments than they intrinsically merit, out of deference to their being in what may be called the order of the day.

I fancy some dim echo of this miserable bias must quite unconsciously have affected your correspondent, who has so politely criticised my recent writing and belauded it with manifold dubitations. With regard to the bilateral origin of malignant tumours he says: "There is always a possible objection that the growth on one side appearing first has given rise to the growth which appeared later on the opposite side." Just so; but, as far as I could determine, all cases of this kind have been rigorously excluded from my list. For instance, in Cohnheim's case of bilateral rhabdomyosarcoma of each kidney, the appearances were such that it seems to me unreasonable to doubt the independent origin of each tumour; and this is typical of the cases comprised in my list. But, even supposing that error has occasionally crept in, the number, variety, and authenticity of the instances of the bilateral outbreak of malignant disease there cited is too considerable to be thus explained away, even in the absence of collateral evidence pointing in the same direction, of which, however, there is an abundant store on hand, although, for considerations of brevity, I have not drawn upon it.

Then, concerning the bilaterality of fibromas of nerves, your correspondent says: "We fail to see much force in this example." But surely this multiplicity—when dissemination can be excluded, as it can in these cases—is a remarkable and very striking peculiarity, considering the solitariness of most tumours; and it is just such occurrences that prove tumour formation to be "something more than a solitary local aberration." Moreover, in this affection it has been repeatedly shown that the multiple tumour formation takes place in certain spots where the development of the neurilemma is imperfect, owing to antenatal developmental disturbance; and it is just in these localities that malignant disease is apt to supervene. I submit that such indications, which are by no means rare, are not without a certain significance for the pathogenesis of tumours; and, in nearly all cancers, the impress of the prenatal stamp can be found when it is thoroughly looked for.

I am, Sir, yours faithfully,

Feb. 19th, 1910.

W. ROGER WILLIAMS.

THE STANDARDISATION OF AXIAL NOTATIONS.

To the Editor of THE LANCET.

SIR,—Dr. W. Ettles in his friendly criticism of my method of the axial notation of cylindrical lenses in THE LANCET of Feb. 26th, p. 602, has overlooked the main point. The question involved is not that of deciding upon or endorsing a "best" method, but of establishing a standard which is known to ophthalmic surgeons and opticians throughout the world. The fact that the Optical Society has adopted the protractor as the basis of its method does not explain why the horizontal has always been made the basal line from which the axes of cylindrical lenses have been delineated. But as between the compass and the protractor, which is the better, more universally known instrument? The answer must be—the compass. The compass, therefore, is undeniably the best instrument upon which to base a standard. The so-called "standard" of the axial notation of cylindrical lenses in this country is not a "standard" recognised by foreign ophthalmic surgeons and opticians. Let us suppose, for example, that a prescription for cylindrical lenses has to be cabled to America. It would be of little purpose sending a message such as the following: R.E. + 3 cyl. axis 30°, L.E.