these drugs, when discovered by the chemist, have had to be tried on animals, their actions ascertained, and their limits of safety determined, as they are all more or less poisonous. It is by such experiments that vegetable drugs have been standardized, for many of our older galenical preparations have been found to vary enormously in strength and even sometimes to be absolutely inert.

The valuable properties of adrenalin as an arterial constrictant were discovered as the result of Oliver and Schäfer's experiments with suprarenal capsules. Thyroid extract was brought into use for myxoedema and cretinism in the same way. Gulland and Ord had, it is true, noticed the coincidence of those conditions with thyroid disease; but it was not until Victor Horsley had made his experiments by the removal of that gland from animals that Murray was able to bring the theory of the treatment by the extract to successful practice.

Now, gentlemen, this is a very sketchy and far from exhaustive outline of the progress of medical science during the past fifty years, and of the part played in it by animal research; but it will, I hope, suffice for my purpose, which is to bring home to your minds what a great danger there is that the tide of scientific progress may be set back—in England at least—by the "antivivisection" craze which has taken such a firm hold of the more emotional section of the community. This craze is the outcome of that sentimentality of which Mr. Roosevelt said the other day that "of all broken reeds, it was the most broken reed for righteousness to lean on." Sentimentality is begotten of ignorance, and for ignorance the only remedy is education. It is no use to attempt to tackle it in any other way, certainly not by entering into acrimonious controversy with personal recriminations, as some of our doughty champions are inclined to do.

I once had a very gratifying experience of the efficacy of the more peaceful method. I was asked by a young friend to introduce a discussion on vivisection at a working men's club in which he was interested. He told me that I should have a hot time, as the club was a very hot-bed of antivivisection views. Well, I girded my loins and went into the fray; but, like David of old, conscious of the strength of my cause, armed only with a sling and a stone. I entered into no controversy; I simply taught my audience the truth, as I have to-day reminded you of it. I won the day, and had the satisfaction of carrying a resolution to the effect that "experiments on living animals were justifiable" by a unanimous vote. My hearers got up one after the other and said that they had never had the truth of the matter put before them like that before. They were converted to a man. Now, I venture to think that if Sir Victor Horsley—than whom no man living was more qualified to speak from the personal part he had taken in experimental research—had adopted a similar line in his famous duel with the late Bishop Barry at the Folkestone Church Congress, he would have had a signal and a bloodless victory. Instead of that, I am afraid that the discussion rather tended to advertize and popularize the heresy.

The recently formed Research Defence Society will no doubt do much to enlighten the public and I dare say that the great names that are associated with it will carry weight with a certain type of mind.

The most convincing line to take is, I think, to endeavour to make the public realize that the medical advisers, to whom they so readily have recourse when ill and in whose skill they for the most part place such implicit confidence, would be powerless to help them, were it not for knowledge which has been acquired from such experiments as those that they decry. They should be made to realize that in even such a simple and everyday operation as feeling a pulse, their doctor is availing himself of knowledge so gained; as again in the case of the clinical thermometer, of which they make such frequent use as a danger signal. It might even be unkindly suggested to them that they owe the immunity with which some of them dose themselves with fashionable tabloids and patent preparations, to the experiments on animals by which the safe doses of those often very poisonous drugs have been ascertained.

Now who so well qualified or has such frequent everyday opportunity to undertake this task of education of the public as the trusted family doctor?

It is with this feeling that I have brought the subject

before you, the members of this important Branch of our great Association. We can all do our part, and I hope that we shall not fail to take advantage of the opportunity which will soon present itself when the publication of the final report of the Royal Commission again brings the subject prominently before the public. If we do not avail ourselves of it, there is great danger that the agitators may succeed in forcing fresh legislation through Parliament and adding to the already sufficiently restrictive regulations.

WEST SOMERSET BRANCH.

AFTER TEN YEARS.

By W. H. MAIDLOW, M.D., F.R.C.S.,
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[ABSTRACT.]

I PROPOSE to address you on those changes, progressings, and decisions which I have marked, or have been reached by me, after some ten years of general practice.

I venture to think few generations of medical men have lived amidst greater developmental changes than have we who, qualified in the Nineties, have seen the developments of those oft-told stories of antiseptics, anaesthetics, and bacteriology.

I must confess to having made no proper study of the new Poor Law suggestions, but the various tendencies which have brought matters to a head have come to a climax during this period, and it seems to me many of us will live to see the parish medical officer a self-respecting, efficient, and properly paid man merged into some sort of district medical officer, working with the medical officer of health, and a specialist for school clinics; partly State paid, and partly by a contribution per head at a properly graduated figure. It is possible we may be more heckled and have more reports to write, but very much will depend on our own assertiveness and efficiency. We are bound to justify our existence now more than ever, and face the keen scrutiny which is increasingly brought to bear on our work, like that, indeed, on other workers.

"The new nurse" is at present depriving us of a good deal of work, and of some remuneration, too. She is doing most of the ordinary midwifery; she dresses many cases, even does a little minor surgery, and thinks she should decide whether a doctor is necessary. She is, in fact, a new order of practitioner. Those of us who like to do our own work rather resent the intrusion of what we consider an insufficiently trained rival, who has had no such expensive education as ourselves, and naturally feel aggrieved. Yet if she can do the work and we are not necessary (and it seems to me her mistakes and disasters are by no means numerous), we shall have to bow to the inevitable and adapt ourselves. The committees consider she is a new order of doctor, and if she refuse to attend without a doctor the subscribers of poorer classes will not pay. If as now existing we are not wanted we shall disappear, and the output of medical men must in some way be made to meet the demand. She, like other things we once considered evil, but now recognize as wholesome fixtures, has come to stay, whether we like it or not. We older ones are rather apt to take the *laissez-faire* attitude, knowing how night work and rough-and-ready work knocks us up, and we enjoy the increased leisure, which, if we cannot afford now, we never shall.

As regards clubs there is no great alteration to mention. The club member is apt to feel himself slighted and he in return is apt to slight us. He has never considered himself under the least obligation; and, to my mind, rather reasonably says, "If you do not mean to do your best why did you take on the contract?" The condition is entirely our own fault; we have only to stick together, insist on having a voice in such matters as the position which entitles applicants to admission to clubs, draw up a code detailing what are to be "extras," and insist on some proper fees worked out by some good accountant. Things at present are managed in a slipshod way, and we muddle along apparently fearing to come to close quarters. I think it probable that if eventually the district medical officer is paid partly by State and partly by capitation contributions, the friendly societies will become some sort of sick insurance arrangement.

No one can fail to observe the increasing importance attached by the State to medical science. The general practitioner may be regarded with less confidence than he was ten years ago—unjustly, I think—but the school inspection work, medical officer of health, the Territorial surgeon, the advisers to the Local Government Board, form a class whose influence, although unseen, is everywhere felt, and that influence seems destined to increase. Not so long ago the prime mover and arbiter of things seemed the parson; now religious dogmas, in spite of their political importance, are becoming replaced by the religion of health. I fully realize the value of psychic treatment, but I cannot fail to see how far more often we succeed by tackling the mind through the body. How much is made of the few successes of Christian Science, faith healing, and so forth! If we were less diffident and cared to take the trouble, we should have no need for co-operation of spiritual healers. But we know so much and are so afraid of being humbugs.

Another example of our power behind the scenes is exemplified in the new movement of the British Red Cross Society, for without us the movement would be impossible. We need not hesitate to accept a proper remuneration, for not only are we already heavy ratepayers, but, like those we teach, we also are ready to act in cases of emergency, and many of us, if fit, are already Territorials. What we are now asked to give is our special knowledge at personal expense of time, no more to be given gratuitously than the services of the bootmaker, officer, carpenter, or clothier.

Ten years have brought home to me some definite rules for conduct:

1. Life must be saved under all conditions, even the criminal's.
2. Life must be prolonged, even if it be with cancer of the tongue.
3. Pain must be eased without killing.
4. The ways of Providence—its apparent injustice—have nothing to do with us in our everyday life, however we may reflect in private, and the less we talk about such things the better advisers we are.

There are three or four great tendencies which seem to affect us more or less directly:

1. The realization on the part of the masses that the classes may be moneyed and may have pleasure, but that they need not necessarily rule.
2. There is a levelling up and a demand for more adequate contributions from the rich, which they on their part strenuously seem to resist.
3. A desire to meet true socialism half way.
4. A tendency to the better sort of imperialism.
5. With general increased knowledge, including that of us and our methods, more criticism and a lessened will to give us a free hand, more care and knowledge is expected of us.

I suppose most will agree that the *vaccine* treatment of disease is the most notable new treatment. In some cases the results seem little short of marvellous; nor have I seen any harm apart from what the opsonic index says! This reminds me how painful are some of the things a modern patient has to suffer at the hands of a modern physician whilst his case is obscure. It is perfectly conceivable the same patient may have to undergo lumbar puncture, one or two blood counts, a Widal test, a few tuberculin tests, an x-ray examination, and an examination of some sort under an anaesthetic.

As to the *organic extracts*, the estimate of the value of thyroid seems to have increased, that of others distinctly to have decreased. *Adrenalin* is the greatest, I should say, of the drug discoveries during the ten years, and calcium chloride appears to be increasing in importance. *Sour milk*, when the present boom is over, will take its place amongst useful methods of treatment; it seems very decidedly useful in some cases of depression traceable to gastro-intestinal disturbances and conditions due to arterio-sclerosis. As regards neurasthenia, I have learnt to expect vicious circles of two sorts: (1) Something physical, inducing a mental result, which keeps up and aggravates the physical disorder; or (2) something mental which leads to something physically wrong, which keeps up the disordered mentality.

The great thing is to tackle one of the links, and here work with the Church, or some sort of psychothera-

peutists, might be expected to be more valuable than in point of fact it is.

Of clinical instruments used in general practice I have come to rely greatly on the Riva-Rocci sphygmomanometer, which affords a just principle for treatment in that group of cases labelled "arterio-sclerosis." Its stages are rationally treated under (1) toxins, (2) high blood pressure, (3) high blood pressure leading to arterio-sclerosis with its sequence of evils. We can treat all these stages with some benefit.

It is becoming more and more obvious that surgical operations, apart from those of emergency, can have but a small part in the work of the general practitioner who is not fresh from the schools. With no branch is it harder to keep abreast, and the modern aseptic plans have much increased the initial expense, and are difficult to carry out logically. Amongst the most remarkable events, from the general practitioner's point of view, of the last ten years I would group the following:

1. Indiarubber gloves, which I myself use rather for the preliminary details than during the operations, when I discard them.
2. Bier's method of passive congestion.
3. The surgery of the prostate, which was hardly dreamt of as possible in such subjects twenty years ago; and the surgery of the pancreas, on which so much light has been shed by Robson and Cammidge. There is no doubt in my mind that in a few years we shall hear much more of operations on the pancreas for a certain number of cases of diabetes due to pancreatitis.

4. Then the immediate treatment of *fracture* by open methods has been placed on an absolutely firm basis.

There is no hesitation in operating on appendicitis as early as possible, and in fact there is a tendency for patients to ask for and expect operative treatment even earlier than we are prepared to advise it, and the realm of medicine is becoming more and more limited.

Ten years ago the rules were: Gas for minor operations in adults, chloroform for the extremes of life, ether in all cases except under certain contraindications. But now with the introduction of oxygen and the open method of giving ether the subject is much more complex. A few years ago it looked as if gas was to be superseded by ethyl chloride for minor surgery. This seems now relegated to the position of a preliminary to one of the others, while both it and gas have been very extensively superseded by local anaesthetics. I have given novocain as a spinal analgesic in eight cases, with success as far as the injection was concerned in all but one. I do not quite see where its chief use lies; there is probably not much less risk than in chloroform, and it certainly needs watching. Its chief sphere of utility is in operations done single-handed on people who would die if left alone, and for those who like to know (and they are rare) what is going on.

The chief events in the obstetric world which seem to me worthy of mention are:

1. Removal from our hands of much of what I call lower-class midwifery by the "new nurse," a point already discussed.

2. The birth-rate, if we may judge by statistics, seems to be decidedly falling, and I feel pretty certain this is not due to sterility or late marriages, but rather to methods of prevention and abortions.

3. With the advent of the "new nurse" there has been a diminution, and we may expect a still further decrease, of methods designed to kill the child and an increase of those to save its life for the State; and I can conceive a time when the doctor's chief work will be to do Caesarean section when the nurse has failed with forceps or version, with or without our help, and even then with proper examination and improved methods of rearing premature children this might be avoided.

4. A wordy fight has been often waged between those who wait and watch, giving no chloroform till the very end, and with reluctance apply forceps, and those who, rather than wait, give chloroform, dilate the cervix if it is dilatable, and very readily deliver the child and make a good job of the inevitably torn perineum. Women in the upper circles fall in very readily with the last plan, of which I am a disciple, but I have a disquieting suspicion that the argument from saving time and distress is not rather biased, and that those attended by the expectant school have rather lower *post-partum* morbidity.

5. Scopolamine-morphine injection seems distinctly useful when chloroform is contraindicated and in the earlier stages. It relieves the pain and does not stop labour, is a useful substitute for opium or chloral in relieving spasm and inducing sleep, although for this condition I think a sterilized preparation of eucaïne applied to the cervix is best.

In *electro-therapeutics* we are surrounded by all sorts of quacks and institutions anxious to have our patients. It behoves us to see that this form of treatment is put into proper hands, and it would be well if these "proper hands" could see their way to adapt their fees to the means of those who are not of the hospital class.

Massage is another branch of treatment which is increasing in popularity, and we have learnt much from the bonesetters as regards early movement in sprains, etc., and that more disability may arise from early and prolonged rest than we were taught. Despite the undoubted harm some of these men do, I am rather inclined to think that, on the whole, the occasional harm done by their methods, and even their disasters, are probably not much greater than the harm we have done by more orthodox methods, although, of course, our methods of caution never spell the disaster which happens to the bonesetter who disturbs diseased structures.

Are we justified in handing cases over to Christian Science with its absurd philosophy, even granting that it can show good results? Or shall we encourage the clergy to act with us in treating the mind, which so often is an important link in the chain of nervous disorders? Can the clergy do anything by their present methods for those who have not the Faith? and is not lack of faith the great reason why so many people have resorted to Christian Science? Is not some method pertaining more to humbug and magic rather than that of orthodox Christianity the great cause of cure for those nervous disorders which we know so well? It seems impossible for us, brought up as we are on physical lines and only exerting our mental influence subconsciously, to be of much use in these cases, and it seems to me we are bound to put many of them in the hands of some clean and wholesome influence which can only be obtained from honest and enthusiastic clergy, rather than let them drift into the hands of the quacks of philosophy, whose influence appears to me to tend only to mysticism and decadence. Hypnotism, of course, has its value, but what I know of it seems to have a tendency to damage will power and to make its subjects dependent on an influence they cannot always get. In any case, our sphere is the physical, and it behoves us to realize the something more, which, if we cannot tackle ourselves, we must see is tackled by those who can. I daresay we can realize that our medicines are no good to a girl in love, and treat her accordingly, but what can we do for a man whose digestion is deranged because he has begun to lose his faith, or has embezzled, or has committed some other folly which confession and help from a good churchman will do much to remove, and so help us? We, on our part, are apt to assume that most mental disorders can be put right by attention to some bodily cause—for example, a toxæmia, shock, dyspepsia—and to overlook the points of the opposite school, which, on the other hand, errs in not realizing to how large an extent mental deviation is influenced by bodily ills. The latter will not recognize that, after all, the body (Brother Ass of St. Francis of Assisi) has much to answer for. What is wanted is the broad, tolerant view which sees that both are at fault in most cases, or that there exists some such vicious circle as body, mind; mind, body—for instance, indigestion, depression; depression, indigestion.

So much, then, for the present and immediate past—what of the future? May we not dimly forecast for our patients a perfection of vaccines, massage, and electricity; still greater perfection of public health, including eugenics, segregation of the infected and mentally deficient, sanatoriums for any one who will go to them, nurses and health teachers, and mental therapeutics brought to such a state in this new Utopia that the ordinary practitioner in medicine, as now known, will have but small scope? It seems to me he will be a properly paid district medical officer, whose supply will be adapted to a properly investigated demand, and whose character will be chosen for the character of the place he has to occupy, not as now, where a well-qualified cultured man has to moulder in a colliery district or a back slum of a big provincial town.

In conclusion, gentlemen, sometimes so hopeless do we feel when we behold the suffering and injustice around us, so much distasteful work from which we may not shrink, so intensely do we realize how little we know and how futile are our efforts, that we are inclined to bend our heads too low, and join in that chorus of pessimism which we hear when several of us are gathered together. Yet may we not, and do we not, in our private hearts sound the note of hope? Let us remember we are units in the great work of evolution started by some Great Force. Our very existence is a sign of our utility; in this present state of unrest and transition there is really nothing more stable and more necessary than our art to the public, and for ourselves no better means of avoiding boredom, nor better opiate nor antidote to sorrow than is our work. Is not the rudeness or ingratitude or misunderstanding of one patient completely counteracted by the bright smile at the next place we visit? Consolation comes if we think more of the nice people and our undoubted successes.

No one who studies the progress of medicine, even as exemplified by my experience in the past ten years, can fail to be impressed by the steady gleam of her lamps, by the tramp of her measured footsteps in the world of events, with the banners of sanity and thoughtfulness floating above.

SHROPSHIRE AND MID-WALES BRANCH.

THE COUNTRY PRACTITIONER OF TO-DAY.

By S. HALE PUCKLE, B.A.CAMB., M.B., C.M.EDIN.

IAN MACLAREN, in his book *Beside the Bonny Brier Bush*, has described in a charming collection of short stories, life in an agricultural district somewhere in the Scottish Lowlands. All the stories are good, but in none are humour and pathos so exquisitely blended as in "A Doctor of the Old School." If there is any one who can peruse the simple story of William Maclure without experiencing what is popularly known as a lump in the throat, or can read it aloud without a tremor in his voice, all I can say is I never met that man. The picture of the rugged, quaintly dressed figure enclosing the tenderness of hearts; the days and nights of unceasing toil in all weathers, on the back of his old grey pony, kept up for forty years without a day's cessation, gives us an idea of what a country practice might be, and often was, fifty years ago.

There is no doubt that as regards physical wear and tear we are better off than our predecessors in Maclure's day. Better roads and means of transport, and also the fact that our proportion in relation to population is greater, tend to lighten the physical strain. We do not feel, as our friend must have done, that it was either he or no one to stand between the patient and death. Nowadays, when areas then deemed barely able to support one medical man often maintain, in presumable affluence, three or four, it is impossible that any one should perish for want of medical attendance. In common with the rest of the community we have a clearer knowledge of the limitations of the human frame, and therefore are not so likely to commit the errors in eating, drinking, and living into which our forerunners so often fell. The limitations of the healing art in those days must also be taken into consideration. Diseases which we now attack with the assurance of success were then deemed hopeless; thus would be increased that mental strain and worry which every true physician must feel. To pronounce the grim verdict, "No hope," must have been a far more common experience then than now. So much for country practice in its broader sense.

What shall we say of the professional life in our own day? I think the advantages lie with us in this way. Owing to the fact that improved methods of science have given us a much better mental equipment in every department, we have, and know that we have, a better chance in the struggle against disease than ever before. A fight in which the odds are not overwhelmingly on the other side is infinitely more interesting than one in which we have no chance from the first. We do not lose heart. Again, we are able nowadays to keep more in touch with what goes on in the medical world, and have more opportunities of exchanging ideas with each other