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President's Address

RETROSPECT ON FORTY YEARS OF PRACTICE

BY

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Some years ago I listened to the inaugural address of a young professor of great distinction, in the course of which he defined the modern specialist and researcher as a man who spends his time learning more and more about less and less, and the modern general practitioner as a man who spends his time learning less and less about more and more. To one who had practised sixteen years before 1914 and twenty-five after that date there was much of truth in this statement, and when I came to consider this address I could definitely place myself in the second category—a person, therefore, who should not attempt anything didactic, concentrated, or illuminating, but rather dilate on some of the topics which engaged my attention in the daily round during forty-one years. I was interested, however, in the researcher and his work, having in the first ten years of my period of practice been a part-time University Assistant in a research laboratory.

The Advance of Medical Research

In pre-war days the most striking results from research in medicine were produced by brilliant individuals working with scant assistance, little money, and very limited time, since nearly all had as their main jobs university teaching and/or honorary hospital appointments which were time-consuming. They invented their own apparatus and in many cases made it. Of this class in our own University of Aberdeen were Ogston (whose mantle as President of the Association, when it last met here in 1914, weighs heavily on my shoulders to-night), the discoverer, in the days of Lister, of the *Staphylococcus aureus*, which he used to describe in his quaint way as a "kindly little creature" compared with the virulent streptococcus—later he became a surgeon of international reputation; Macwilliam, the physiologist, whose classical work on cardiac muscle provided the foundation on which the brilliant clinical work of Mackenzie and Wenckebach was built; Hamilton, a great pioneer in pathology and bacteriology and a brilliant lecturer. All were enthusiastic and able teachers of my student days and stimulators of capable youth to follow in their steps. I shall mention only a few of those that readily occur to me: in surgery—Greig Smith, Scott Riddell, Marnoch, and Henry Gray; in physiology and biochemistry—Leslie Mackenzie, Macleod (the initiator and head of the team which so brilliantly solved the insulin problem), Hugh MacLean,

and Lawrence; in pathology and bacteriology—Bulloch, Dean, and Ledingham. The output was small in those days as compared with the present, but the quality was usually very high. Similar work was being done under such circumstances in many of the medical schools of the country. In the post-war period—through the energy and activity of the Press, shall we say?—both patient and practitioner are on many occasions simultaneously informed of the most recent discovery, which is a source of embarrassment to the latter if he does not recognize that the latest knowledge is not always the latest truth. In this period came a greater recognition by the State of the value of research, with a consequent outpouring of money on its behalf, and large sums were given by individuals to endow research and provide Fellowships of generous amount to support brilliant graduates while they pursued their high thinking for longer periods than was possible before. Research is no longer an individual affair as a rule; team-work now prevails, and elaborate equipment and suitable accommodation and skilled assistance are provided. The output has increased and there is earlier publication of results, which in accordance with the spirit of the age has been one of the factors in increasing the number of specialists who can sift the facts of research and assess their applicability to the practice of medicine, and advise and instruct the general practitioner who calls for their assistance in his difficulties. No doubt increased output and earlier publication have necessarily lowered the average of quality, but classical quality is still present—for example, insulin and probably the sulphonamide groups. One need not sigh for the good old days in this regard; for most individuals have more active recollection of the pleasant features of those days than of the bad, and a near knowledge of the disadvantages of the present.

Nutrition

Another subject of vital importance to health—namely, that of nutrition—has had extensive and important contributions made to it by the British Medical Association through its Nutrition Committee. Both by the reports of that committee and by their practical and informative suggestions as to diet and food values, much useful knowledge has been given to practitioners and to the public. The pre-war practitioner can recognize the great improve-

ment in the present-day variety of food, and there is no doubt that much interest has been stimulated by the fact that nutrition has been in the limelight in post-war years, with considerable benefit as a result. There is still lacking, however, in an important section of the population, a practical knowledge of food values and possibly a real knowledge of and interest in cooking. This leads to a diminution in nutritive and reparative value and conduces to the use of canned or bottled foods in increasing amount, even where fresh food is available at cheaper or at least more economic rates from the point of view of health and sustenance. There have recently appeared in our local press reports on the condition of the teeth of school children in country districts. One Education Committee stated that less than 10 per cent. of its school children had perfect teeth, and, extraordinary as it may seem, the only remedy suggested in the report was the appointment of additional dentists. In October, 1914, I took part in the examination of a county battalion of Territorials from the same area, under immediate orders for France. My colleagues and I noted that about 70 per cent. of the men had excellent teeth, a finding which reveals a sad deterioration, in a quarter of a century, in a most important factor in healthy nutrition. Yet there seems to be no need to despair, for I feel sure that the pre-war doctor, from his post-war experience, will agree that there has been great improvement in general health and that it is steadily progressive, with increasing momentum. This opinion is supported by the present Minister of Health, replying to a debate in the House last March, when he spoke as follows:

"A great deal of action has been taken on the newer knowledge of nutrition, and there is a marked improvement in the health of the nation. This country consumes a large quantity of dairy produce. If butter and cheese were counted as the equivalent of milk, the consumption of milk per head in this country has risen from 73 gallons in the five-year period 1925-9 to 89 gallons for the period 1930-4. This figure is higher than that in Italy, Germany, Belgium, France, and the U.S.A. Butter, however, cannot be counted as simply the equivalent of milk; it ranks higher as one of the protective foods. While poverty is a factor in the problem of nutrition it is also true to say that wages have risen and the cost of food has fallen."

He compared figures for 1927 and March, 1939, to show, he claimed, the improvements in the nutrition of the nation. In 1927 the infantile mortality rate was 70, maternal mortality 4.11, puerperal sepsis 1.57, and tuberculosis 79. To-day infantile mortality is 55, maternal mortality 3.26, puerperal sepsis 0.98, and tuberculosis 56.

Had he been speaking on the same subject to-day he would have been able to introduce rather telling support to the above argument from the reports of Medical Boards on the health and physique of the many thousands of militia in their twenty-first year who have recently been called up for training. One is ignorant, of course, whether and to what extent the standards previously applied to recruits for admission to the Regular Army have been modified, but, even so, the published reports so far point to a great improvement in health and physique. Speaking in a debate on malnutrition in the House of Lords, Lord Hankey—who for nearly a generation, as Sir Maurice Hankey, was secretary of the Committee of Imperial Defence—remarked that when he held that position he was profoundly shocked and humiliated by the fact that more than 50 per cent. of the men offering themselves as recruits for the Army were rejected for physical and medical reasons. He had been assured that the defects which caused the rejections were curable

by proper nutrition, but that it took fifteen years to translate research into action.

While public health had improved, much remained to be done. In the schools little was taught about nutrition, and what was taught was mostly out of date. With the weight of the Government behind it there should be a sustained campaign or propaganda on the subject. One must keep in mind that the range of choice of recruits is now the widest possible socially, whereas in the days Lord Hankey refers to, apart from the war years, that range was very narrow. Indeed, in a considerable number of cases the stimulus to join the Army was often *faute de mieux*. However, it would appear that, in spite of some degree of faulty nutrition still, Nature maintains her sway in changed and changing circumstances. After all, food is not the only factor, though the most important one. Improved housing (including workshops), better sanitation, and higher wages; shorter hours of work, giving more leisure, which is gradually being better spent; and greater opportunities for leading an open-air life—all are having their effect on the general health of the people.

A Changed Outlook

To all this must be added the completely changed daily outlook of the industrial population, a considerable part of which in pre-war days, when unemployed from any cause, soon reached a state of threatening semi-starvation. This change of outlook is due to workmen's compensation for accident, national health insurance, unemployment benefit, and other factors, all of which have had effects on our daily work as medical men. The decline of emigration from this country, in spite of the expression of sometimes loud discontent which the freedom of democracy allows, is not, I believe, entirely due to lack of opportunity to enter other countries; it results partly from a definite and widespread recognition of the opportunities offered here for a free and happy life despite the restrictions now being imposed by law and multiplied by the regulations, based on that law, which our bureaucracy determines. As supporting this opinion, one might point to the considerable number of men (and families) who returned to this country during the great slump of 1930 and following years, frankly recognizing that life would be more tolerable here than in the United States and in parts of our Empire over-seas under the prevailing conditions. Does the same view influence in some degree the gradually increasing number of distinguished over-sea medical graduates who come to this country seeking their life-work and often obtaining high appointments? That we welcome them is evidence of our friendliness and hospitality, a matter which we trust will continue to be fully reciprocated in all parts of the Empire. The Englishman—I omit the Scot on this occasion—has an astonishing sense of fair play, but to the observer he sometimes carries this to such a pitch, in economics and in sport as well as in other matters, that he ends by being unfair to himself, with somewhat disappointing results from the point of view of equity.

Attraction of the Hospital

In pre-war days it was by no means easy in these parts for the practitioner to persuade patients to enter our hospitals, even from very mean homes, for observation and treatment. This was greatly changed immediately after the war, and the result has been that nearly all our hospitals have waiting lists of such size as to be a menace to rapid improvement in health and restoration to full fitness for the daily task of many who are on those lists.

To those who know the composition of such lists to the full this menace is perhaps more apparent than real, for many of those waiting suffer from disabilities which do not interfere to a great extent with capacity for work, nor are they progressive in character. What was this increased attraction of the hospital due to? There was undoubtedly a great outpouring of war-accumulated wealth on charitable purposes, and voluntary hospitals benefited early and greatly from this, and as a result improved in their equipment and administration. This, however, was a matter which took time to develop, whereas the snow-ball of influx to the wards of hospitals and to the out-patient department started almost immediately after the war, when beds were freed of men wounded or ill from troubles contracted on service. Being in general practice and also on the staff of the Royal Infirmary here, both before and after the war, gave me an opportunity of observing this change from a somewhat unusual point of view, at least in a teaching hospital. I came to the conclusion that one of the most important factors in the early and rapid rise in the number of applicants for hospital treatment was the fact that enormous numbers of men and women who under peace-time conditions would have been treated in their homes were during the war treated in hospital. A good many millions were removed from their homes on war service, both at home and abroad. Many were in the Army, Navy, and Air Force; many were in munition and other factories producing war materials in areas far from their homes. When wounded or ill, attendance and treatment was a matter of concern to the State and to employers, because their speedy restoration to health seemed of greater importance than ever before, and controlled treatment such as can best be provided in hospital became the rule.

No country could have done more for those in its service at home and abroad than this country did during the war, and this not least in the direction of providing for the treatment of the sick and wounded. In addition to using voluntary hospital accommodation to some extent, an enormous number of improvised hospitals in halls and schools were created, as well as hutted and tented hospitals all over the country. Removal to hospital therefore was the rule, and the provision of good nursing, good food, and skilled attendance was not only appreciated but enjoyed. On return to civil life these benefits were not forgotten, and it was apparent that the treatment that could be provided in their homes for certain maladies was unfavourable compared with what they had received during the war for similar types of illness; so that not only was there a much readier acceptance of hospital treatment when recommended by the practitioner in attendance but it was very often asked for when there was no real need. I feel confident that this was one of the earliest factors to remove from the minds of many the curious idea that the hospital was a place in which to die rather than to recover.

The Aberdeen Joint Hospital Scheme

The result of all this led to a clamant need for the extension of hospital accommodation. In this town it was recognized early after the war; but many difficulties had to be overcome before our hospitals reached the capacity they now have, and which I hope many of you will take the opportunity of seeing during your stay here. The idea of our Joint Hospital Scheme originated in the brain of the late Professor Matthew Hay, Medical Officer of Health for the city, and was first declared in our Medico-Chirurgical Society (which, I may mention, this year celebrates the hundred and fiftieth anniversary of its

foundation) in the year (1920) of the presidentship of the late Sir Ashley Mackintosh, an ardent supporter of the scheme from beginning to end. A committee was formed to pursue this object, with the Medical Officer of Health as an active and inspiring member. The first check came when Professor Hay's successor as M.O.H. declined the committee's invitation to join them. It was decided that to ensure success in the raising of the money it was essential that the leading citizen, the Lord Provost, should take a prime interest in the scheme. In the face of lukewarmness, to say the least of it, on the part of the Public Health Committee of the Town Council, and owing to the fact that Provosts reign for at least three years, it was not until 1927 that Mr. Andrew Lewis (now Sir Andrew), the Lord Provost, in the second year of his office, agreed to undertake the raising of the necessary funds, provided he was satisfied that the scheme had the hearty support of the medical profession. Sir Andrew no doubt acted on his knowledge of the Corporation's intention to take over the Poor Law hospital and convert it into a large municipal general hospital.

Aberdeen Royal Infirmary

Two meetings of the Medico-Chirurgical Society were held, at both of which I was accidentally in the chair. The first took place in a somewhat electric atmosphere, in which much prolonged and contentious argument ensued, revealing more opposition to the scheme than had been expected. The debate lasted almost to midnight, when the meeting was adjourned for a fortnight and then resumed in a calmer atmosphere. Tempers had by then cooled, and the vote in favour of the Scheme was such that Sir Andrew at once took it up. With uncommon wizardry, in the space of two years he collected over £400,000, a very large proportion being provided from the area which the hospital serves and which has a population of about 300,000—a fine achievement.

It is interesting to note that two future kings were associated with this undertaking: King Edward VIII, when Prince of Wales, laid the foundation stone in 1928, and our present King, as Duke of York, along with the Duchess, opened the hospital in 1936. As the hospital neared completion it was found that £100,000 more would be required to free the building fund from debt, and again it was fortunate that the stern occasion produced the man. Lord Provost Watt undertook what was recognized as a very difficult task after the way in which the area had already been drained. Such was his energy and enthusiasm that in one short year he found the money, and his is one of the names which also should be placed high in the Infirmary's roll of service.

Progress of the B.M.A.

This year the British Medical Association holds its 107th Annual Meeting. The number alone indicates persistent continuity in time, and those who know its history recognize a continuity in purpose and in progressive achievement—a tribute to the vision of those provincial men in the town of Worcester who in 1832 founded this Association, and founded better than they knew. This Western Association went east and invaded London; it established itself there as the British Medical Association, changing its name from the Provincial Medical Association to accord with its widening aims. It has since experienced the usual ups and downs of such organizations, in democracies at least; but the up-strokes on the chart of progress have steadily transcended the down, and it

is now holding its Annual Meeting for the second time in this historic city, at its highest peak not only in membership but in influence with the community and the State, its area Empire-wide and its public spirit second to that of no other similar body. In 1914, when the meeting was last held here, its membership was in the region of 22,000; now it is 38,000, showing a remarkable and steady increase in post-war years, a tribute to the sterling character of its work. In these same years, while the membership has increased in numbers, it is also much more representative of all branches of the profession—professorial, consultant, public health, the Services, and general practice. A considerable part of my leisure during forty-one years of practice has been occupied in the work of the Association, and it has been a great privilege and an honour to serve it in various capacities during that time. It is true that the quality of that service has varied owing to the restrictions which irregular demands on his time impose on the general practitioner, particularly if in charge of medical wards and engaged in clinical teaching; but the service has always been interested, making the advancement of the Association its chief aim.

Health and the State

In this country the State was very late in taking a real interest in the promotion of the health of the community. One might say that for long it was more concerned with the protection of property than with the promotion of health, as up till the passing of the Public Health Acts about the beginning of the last quarter of the nineteenth century its interests were mainly confined to the protection of the population against epidemics such as plague, small-pox, typhus fever, and the like; and in their initiation these Public Health Acts dealt more with sanitation and limiting the spread of infectious disease than with measures which promoted health. Thus those who practised medicine at the beginning of this century had few evidences of State control such as exists now. Death, lunacy, and vaccination certificates were a State matter, and, later, notification of certain infectious diseases, for which nominal fees were paid, was a municipal matter; but these were the main contacts of the practitioner with the State and the municipality at that time, so that the professional life of the practitioner was then comparatively untrammelled. No striking change came until that stormy petrel of politics Mr. Lloyd George, then Chancellor of the Exchequer, appeared on the medical horizon with his national health insurance proposals. These were revolutionary in character, and it is not surprising that the profession in the first instance saw itself threatened with a form of control entirely foreign to all its traditions, and on conditions dictated by the State with what was believed by practitioners to be an incomplete understanding of the work involved. It seemed likely, too, that the financial terms for the service which the Insurance Bill was to demand were to be based on the fees accepted by practitioners at that time for attendance on the members of the many Friendly Societies scattered up and down the country to encourage thrift and independence and to provide medical and funeral benefits. The capitation fee paid by these societies was in general very small, but candidates for the post of medical officer were seldom, if ever, lacking, for the cause was considered a good one and worthy of support. Moreover, in the days before the National Health Insurance Act the usual method of starting practice in Aberdeen was to put up a plate and wait for patients to appear—often a long wait. To the young practitioner election as medical officer of a society was a boon; it gave him work on which to build up

a reputation and enlarge his experience. The disadvantages, however, were many, among them undignified competition for such posts and no security of tenure. The proposed Act removed many of these disadvantages but promised others of unknown effect.

The B.M.A. and the National Health Insurance Act

It was well for the profession that the British Medical Association existed in 1911, and though its membership probably did not include more than a bare majority of the profession, it was the only organized medical body which could make influential contact with the Government and with knowledge and experience present satisfactorily the views of the profession in regard to the proposed Act. It became the rallying-point of the whole body of general practitioners, and served members and non-members alike during the stormy time that ensued before a satisfactory compromise was effected. It was fortunate that we had good leaders in the Association at that time, able to obtain reasonable conditions of service, as well as reasonable remuneration for the work involved, without penalizing the State. There is no doubt that the success of the Association in its first great contest with the State has been an important factor in leading up to the position it holds at the present day. At the same time one must acknowledge that the prevision of Mr. Lloyd George has been proved and justified by the success of the National Health Insurance Act, and also by the recognition generally that against sickness risks, as against life risks, insurance is a wise policy. Had it not been for the action of the Association on that occasion, however, a seriously underpaid service would have been imposed on the profession, to remedy which would have been very difficult, and such underpayment might have led, in some quarters, to a lack of hearty co-operation, and perhaps to some degree of inefficiency, as bad for the State as for the individual.

On the conditions obtained by the efforts of the British Medical Association a service is being provided which, while still capable of improvement, is favourably comparable with that given in any other country with State insurance. While it is called national health insurance, this is to some extent a misnomer, for democracies seldom, if ever, attain the "national" at one stroke of the pen. Insured members in the various Approved Societies all pay equal contributions, but the benefits given to the sick still vary too much, and this applies also to what are known as additional benefits. In some societies they are all provided, and throughout the whole year; in others they are fewer in number, and often on account of lack of funds are limited to a portion of the year only. This seems as wrong as it is inequitable. Equal benefits should follow equal premiums, and in time the conditions of national health insurance must be altered to this end. But in this country there are two great bugbears against rapid change in this respect: they are voting power and vested interest. One hopes, however, that in this important regard a change in the Regulations will not be too long delayed. From the point of view of the medical attendant, and more so from that of the patient, it is already much overdue. Another point in the administration of the Act which is not "national" is the distribution of the Drug Fund. In England and Wales an expenditure of 3s. per head (not per sick person) of those on the doctor's list is allowed for drugs, while in Scotland the amount is only 2s. "Why this difference?" is a question which is often asked; I cannot say I have ever heard a satisfactory answer given.

Policy of the B.M.A.

The Association has sometimes been, not without sinister suggestion, labelled the most powerful trade union in this country. Not infrequently, in my experience, this arises from its being confused with the General Medical Council—which is a State body—especially at times when the Press records disciplinary action taken by the G.M.C. The British Medical Association, however, differs in its constitution from the accepted definition of trade union in several important respects. Perhaps the most important of these is that in its policy and in its action it never forgets—indeed, one might say it puts in the forefront of its policy—the interests of the community which it is the duty and privilege of its members to serve day and night. It has never advised its members to strike in the trade union sense—that is, to down tools and give no attendance to the sick and injured, an impossible thought which can never materialize. It does, however, advise refusal of service under the conditions and terms offered—a right which is an important plank in the democratic platform, and prevails in all walks of life in this country. It may advise, and often does advise, members not to apply for what it believes to be underpaid posts, mainly because that underpayment will lead to a lack of applicants of the highest qualifications and therefore gives a limited choice. This especially applies to public health appointments, not least, sad to relate, in Scotland, and we had an example of it in a neighbouring county the other day. The attitude of the Ministry of Health in England towards the British Medical Association salary scale compares most favourably with that of the Board of Health in Scotland. These appointments are of prime importance, and it is essential that the best men available should be attracted to them. Again, the Association does nothing to prevent non-members getting appointments, nor does it bring pressure to bear on non-members to become members. After the Insurance Act struggle had passed and the strain and fire of the contest had died down, it was more fully realized how important the action of the Association had been at that time. It rapidly assumed an outstanding position in the guiding of medical affairs in this country and over-seas. This was largely due to wise administration by good leaders, whose devotion to their voluntary duties entailed great sacrifices of time and money, as practically all were engaged in busy practices and had to undertake many journeys to London from all parts of Great Britain and Northern Ireland—sacrifices which their constituents did not always fully realize.

A Time of Stress

In 1931 another event occurred in which the altruism of the profession in regard to State and community was again to be demonstrated, and on this occasion it did not fail to impress the Government of the day. This was the attitude of panel practitioners to the proposed salary cuts at the time of the great slump. To the extent of their panel fees panel practitioners were to be considered Government servants. These fees were not salary in the ordinary sense, but capitation fees which included all out-of-pocket expenses incurred in attending panel patients. Headquarters were assured by the then Minister of Health that the Cabinet had decided that a 10 per cent. cut on all salaries paid by the State was to be made, and that this cut would be imposed centrally. The British Medical Association through its Insurance Acts Committee held a conference in London of panel practitioners, members and non-members alike, representative of all parts of the

country, and after a prolonged debate it was decided, with few dissentients, to accept the proposed course on the assurance given.

Parliament, however, did not accept the Cabinet's recommendation. The amount of the cut was not fixed at 10 per cent. all round, nor was it to be imposed centrally in all cases. In many it was left to local authorities to decide the amount of the cut, and in this town some escaped altogether, others had 2½, 5, and 7½ per cent. deducted; on a few only was the 10 per cent. imposed. All panel doctors, however, bore a deduction of 10 per cent. from their fees for attendance on insured patients, and it was imposed centrally. Though there was much argument and much conferring with the Ministry of Health, it was ultimately accepted as a contribution to the National Exchequer in a time of emergency.

Apparently it was not realized, either by the Government or by the public, what this cut really amounted to. As stated above, it was not deducted from a net salary, but from fees which included out-of-pocket expenses, and really represented a cut of about 17 per cent. Little, too, did the public realize that this imposed, through prolongation of the slump, almost intolerable hardship on many practitioners who had large panels and whose practice otherwise was largely composed of the dependants of insured persons. It was a time of unique unemployment, and many practitioners lost heavily in remuneration for their attendance on the dependants of unemployed. So far as I know, no compensation was ever given for such grave losses.

An Effective Force in Promotion of Health

From its foundation in 1832 the Association has been chiefly concerned with: (1) the maintenance of the professional standard of education and conduct (both pre- and post-graduate); (2) promotion of scientific research; (3) promotion of a national public health policy which will allow the profession to make its maximum contribution to the well-being of the country; (4) improvement of efficiency in all branches of medical practice at home and abroad. How successful it had been in carrying out the above aims is shown by the following statement from a leading article which appeared in the *Times* of July 10, 1925:

"The supreme service which the British Medical Association has rendered to the British nation is its organization of the medical profession as an effective force, able to present its views to Parliament and people. In doing so it has been instrumental in no small measure in directing the health policy of this country."

Its work and attainment since 1925 shows it to be an increasingly effective force in the promotion of the common health, not only in this country but over-seas as well.

The first Medical Act of 1858 was based upon a Bill drafted by the Association, and therefore the Association can claim to have been largely instrumental in establishing the General Medical Council; the direct representatives, too (usually members of the Association), have played their part in moulding and carrying on the work of the G.M.C. Promotion of scientific research was instituted in 1900 at a time when there was great need of assistance in this regard on account of lack of funds for medical research both in universities and in hospitals. For many years the Association has spent annually a thousand pounds in scholarships and grants in addition to the special prizes which have been presented to-night. Numberless committees have submitted valuable reports

on matters connected with the promotion of health, and many of these have been taken up by the Government—usually, however, after years of delay—and incorporated in Acts of Parliament. Of such was the Medical Inspection of School Children Act. Years before the State began to take any great interest in the promotion of health the Council of the Association appointed a committee to collect reports from a large number of medical practitioners on the health of young children. Many thousands were examined voluntarily, and a large number were found to be suffering from the effects of illnesses for which they had never been medically attended, as the parents had not considered these bad enough to require medical attendance. Obviously, however, they were sufficient to lay the foundation of future ill-health, if not serious disability.

On the information supplied a report was drawn up which presented a very strong case—incontrovertible, indeed—for the institution of school medical inspection. This report was presented to the Government of the day, but it was over ten years before the School Medical Inspection Act was passed. It is freely acknowledged that the Act has been of profound benefit from the earlier recognition of ill-health or disability in children, thus allowing earlier treatment to be instituted. There is still lacking in some quarters any proper liaison between the family doctor and the local health authority which administers the Act. Neither State nor municipality yet recognizes or uses to its full value the service which the general practitioner can give and is giving in the way of instruction to his patients on the prevention of disease and the promotion of health. A similar report was issued in 1909 regarding ophthalmia neonatorum, and compulsory notification was strongly urged in that report. This was adopted by the Government in 1914. A long list of similar events could readily be given, but I will mention only one, which was possibly unique because the Association on that occasion was asked by the Government to present a report on physical education.

Our great Association, with its Empire-wide connexions and influence, has in the past played a notable part in the promotion of health, and one feels confident that so long as it continues to attract to its Council men of knowledge, public spirit, wisdom, and vision, its accomplishment in that direction in the future will transcend all its past achievement.

At the last quarterly court of the directors of the Society for Relief of Widows and Orphans of Medical Men one new member was elected, and it was reported as an interesting fact that the candidate was, on his father's side, the great-great-grandson of the first president of the society, Sir George Baker, President of the Royal College of Physicians of London, 1785–90; 1792–3; and 1795, who was elected president of the society in 1788, and on his mother's side he had a similar relationship to Dr. Ware, who was elected second president of the society in 1810. A sum of £2,425 was voted for the payment of the half-yearly grants to the sixty-two widows and four orphans in receipt of relief, which is granted only to the widows and orphans of deceased members. Membership is open to any registered medical man who at the time of his election is resident within a twenty-mile radius of Charing Cross. Many applications for relief from widows of medical men have to be refused because their husbands had not been members of the society, and the directors cannot too strongly impress on newly qualified or newly married medical men the advantages that may be obtained by joining the society. Full particulars may be obtained from the secretary at the offices, 11, Chandos Street, Cavendish Square, W.1.

THE PHARMACOLOGICAL ACTIONS AND THERAPEUTIC USES OF SOME COMPOUNDS RELATED TO ADRENALINE*

BY

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LECTURE II: THERAPEUTIC USES

The synthesis and pharmacological investigation of compounds related to adrenaline have been carried out partly with the utilitarian object of finding improved substitutes for adrenaline in its various therapeutic uses. It is convenient, therefore, to examine briefly the established therapeutic uses of adrenaline and to consider to what extent new compounds have replaced or supplemented adrenaline itself or have provided new and independent therapeutic uses.

Actions on the Circulation

Under most conditions adrenaline, intravenously injected, produces a steep and sudden rise of pressure, lasting only a few minutes. It produces a less pronounced rise when given intramuscularly, and usually little or no pressor effect but possibly cardiac acceleration when injected subcutaneously. It is inactive given by mouth. The rise of pressure is due, in the normal animal, mainly to vasoconstriction. The arterioles of the skin, mucous membranes, and splanchnic viscera (except those of the intestine) are constricted. The vessels of the muscles and heart are actively, and those of the lungs and brain passively, dilated. While these statements can be taken as generally true, there seem to be considerable variations in different species of animals in the distribution of vasoconstrictor and vasodilator fibres to different tissues. It is important to remember that adrenaline does not raise blood pressure by general vasoconstriction. It causes, rather, a redistribution of the blood in the direction of increasing the amount in the heart, lungs, muscles, and central nervous system at the expense of the skin and abdominal viscera. The heart rate may be reduced, mainly owing to stimulation of the vagus centre by the rise of blood pressure. When the heart is feeble and the blood pressure abnormally low, cardiac stimulation may play a more important part in the pressor action.

There are some advantages in considering the vascular and cardiac actions of adrenaline separately, though it will be realized that both vascular and cardiac failure may coexist clinically and, even if one alone is primarily at fault, the other will be secondarily involved.

Pressor Actions

The first point for consideration is what value, if any, do adrenaline and related compounds possess in conditions of vascular failure, especially in so-called shock. It is not altogether fortunate that the word "shock" came to be used in its present connotation. The word implies a sudden and violent effect, whereas many cases of shock may be of gradual onset, and further suggests an emotional element which may be absent. In various kinds of bacterial intoxication, or as the result of injuries, burns, operative procedures, etc., circulatory failure is common. In many, probably most, of these conditions the circulatory failure is not primarily cardiac but is due to

* The Oliver-Sharpey Lectures delivered before the Royal College of Physicians of London on March 21 and 23, 1939.