AN ADDRESS ON REMEDIES NEW AND OLD;

ERRORS AND FALLACIES, WITH SUGGESTIONS FOR
THE IMPROVEMENT OF THERAPEUTIC
METHODS,

Delivered, by request, to the Ulster Medical Society, in Belfast.

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GENTLEMEN,—It would be unpardonable were I not to convey to you at the outset, in the most grateful language I can command, my sense at once of the great honour you have done me in inviting me to deliver this address, and of the still greater responsibility which the mere fact of its delivery under these circumstances imposes upon the speaker. I am here at your instance, not, it is true, in a foreign land, but still in a country that is not my own, and at the seat of a great medical school; and I am here to discuss matters of the gravest practical import; matters, no doubt more or less familiar to one who has been a medical teacher and a clinical teacher almost all his life; but still of a kind in regard to which he has not been accustomed to speak dogmatically, even within the circle of his own pupils; and which he has still more rarely had the opportunity of presenting, as now, to an audience in every way his compeers, and in many instances his superiors in respect of medical knowledge and experience. It will, however (if you will allow me to say so), somewhat lighten this oppressive sense of responsibility—oppressive not because of your exactions, but because of my own feeling of insecurity—if at the outset it comes to be understood that I conceive of myself as placed here not so much to originate new ideas, as to give further expression to some which have already been before you, and which, moreover, are so much in the air, so to speak, at present, that they may very well be supposed to be in the mind, and to have guided more or less the conduct, of every one here present. So viewed, my task will be divested, comparatively speaking, of an element of what might be called presumption; for it would be presumption to suppose that I can enunciate, *ex cathedra*, for the guidance of the Ulster Medical Society, final judgments on such difficult matters as those to which I refer. Opinions on therapeutical science can only have value at all, in so far as they proceed from those that have made a life-study, and a quite special study, of these extremely complex and difficult questions. Now, although I have ventured to select the subject of Remedies as the theme of this address, I am painfully conscious of having no manner of claim to appear in the character of a professed therapist. In regard to new remedies, in particular, my attitude throughout life has been one rather of caution and reserve than of extreme eagerness or forwardness in their use; and this not as a matter of temperament merely, as some might suppose, but as an attitude deliberately adopted and adhered to in general from a sense of duty—the duty which comes naturally home to a professor of medicine who, placed in a position to guide others, and necessarily to exercise influence over the young, would be sure to find his own hasty judgments, his own faults of undue partisanship or bias, reproduced in scores of careers where they would not be counterpoised by the more matured reflection and experience which are the natural correctives of the errors and fallacies, always tending to discredit, and often dangerous or disastrous, which so easily beset men of a too sanguine temperament. I have therefore supposed that at the present moment some good may be done if, without at all pretending to more knowledge or more experience than that of the average hospital physician, a brief glance all round could be made in this address, at some of the sources of the errors and fallacies here alluded to. And in applying this process of criticism to new remedies, it is by no means my intention to exclude from

consideration the lessons that we may reasonably derive from the history of those much older remedial agencies which have the advantage of hundreds of years of prescription, and in regard to which I fear some of our minds are still by no means completely and finally settled even now.

THERAPEUTIC REVOLUTIONS.

One has only to recall such instances as blood-letting, mercury, quinine, arsenic, opium, alcohol—all of them, I believe, valuable, some of them even invaluable, remedies; but can we honestly affirm that we all, or even a practical majority of us, are quite agreed about the therapeutic uses of any one out of this list? To take only the first as an illustration—because it was resuscitated and very ably discussed at one of the London societies only the other day—can we shut our eyes to the fact that in the case of venesection, once reputed the greatest of all remedies, advocated and practised with almost entire unanimity by whole nations of men, under the advice of the most cultured physicians for several thousand years since the times of Hippocrates and Galen, we have not been saved by all our medical experience in innumerable different times and places from what may well now be called a species of idolatry, that is, from a state of mind not resting upon stable fact, but upon extremely insecure and unstable prepossessions—a state of mind, therefore, not accessible to reason and experience in many respects, but on this very account prone to revolutions and counter-revolutions; the last of which, tending in the direction of the entire dethronement of the idol, has occurred within the memory of some of us? Or take the last of my illustrations given above—the use of alcohol or of alcoholic stimulants in disease—can it be for a moment forgotten by any of us here that this, and the due limits of it, or even the existence of a therapeutic use of alcohol at all, has been the subject of controversies, even in our own day, which appear to exhaust all the possibilities of the extreme differences in opinion, from the enormous, and as I think deplorable and even ruinous, excesses advocated by the late Dr. Todd to the almost absolute disfavour with which the administration medically of even the smallest amounts of alcoholic remedies is regarded in some quarters? No doubt, the question of the therapeutic use is here complicated by other questions, moral and social, some of them of the first importance; but can it be a matter of indifference to us, in considering the whole question of remedies in general, that our professional convictions in regard to this particular one have been swayed this way and that, under the impulse of great names and plausible theories not during the Dark Ages, not when (as we are accustomed to think) men were led chiefly or wholly by authority, but in this nineteenth century of ours, and even beyond the middle of the century? I apprehend that no one can even approach the subject of new remedies without some amount of misgiving based on these considerations; and if I have any claim at all to address you on that subject, it is because you have reason to expect that whatever I may now enunciate to you will present some sort of continuity with another address¹ which I was invited to deliver in Dublin four years ago, and in which I endeavoured to vindicate for our art a position of greater stability nowadays than could be assigned to it a hundred years ago. But while in this and in other instances I shall not fail to point the moral which arises from our now dethroned and now reinstated idols in the past, I hope, by including in this address a general reference to the newer—indeed, in some cases the newest—remedies, to escape in some degree the charge of merely repeating myself, and so wearying you. And yet it is but too plain to me that to speak in any detail, or in anything like an authoritative fashion, of new remedies in the presence of our friend Dr. Whitla, an ex-President of this Society, and now, as we shall all join in affirming, emphatically the right man in the right place in connection with the Belfast Medical School, is a perilous, even an audacious, venture. With all conviction I can declare that in everything which belongs to this region I ought to sit at his feet, and not he at mine. Nay, I will go further, and say that on no consideration could I be induced to place my own estimate of any one new remedy on a par with his. His admirable book, indeed, is ever at my elbow in the consulting room, and in

¹ Address in Medicine delivered before the British Medical Association, August 3rd, 1887.

his personal converse I have come more and more, within the last few years, to appreciate the highly trained and yet restrained instinct of just judgment which he applies habitually to one of the most difficult, if at the same time most attractive, of medical studies. I ask you, gentlemen, to consider these words as by no means those of empty compliment, but rather as the absolutely sincere expression of a feeling without some expression of which I dare not enter upon this address.

Fortunately for all of us, it is not much more than four years since Dr. Whitla, as President of this Society, was led to make known to you his views as then formed on the modern Domain of Therapeutics,² and since then he has been, as you all know, unceasingly active in pressing his suggestions, made in the first instance at the meeting of the British Medical Association in Dublin in 1887, upon the Therapeutic Committee of that great Association. It is of very good omen for therapeutical science when two such men as our friend here and Dr. Lauder Brunton, to say nothing of others, are endeavouring to combine their forces, and to urge upon us all the claims of the investigation of new remedies, in a spirit at once of hopefulness and of genuine scientific caution, with all the resources of the British Medical Association. You may be certain that if in this address I cannot do much to assist, I will certainly do nothing to hinder or disparage, an effort so clearly in harmony with the best traditions of our art.

INDIVIDUAL AND COLLECTIVE INVESTIGATIONS.

It is true that the very first President of the Therapeutical Section, at its origin here in 1884, devoted a considerable portion of his address to denouncing the statistical method, which may be held by implication to include the collective investigation of the effects of remedies; but although no one, perhaps, in this room has had more occasion than I have had to remark on the defects of that method, and although I fully appreciate the force of Dr. MacLagan's criticisms,³ I hold at the same time that Dr. Whitla is amply justified in calling upon the younger and more active race of practitioners to aid in obtaining collective observations regulated by a distinct plan, and carefully adjusted so as to avoid, as far as may be, the fallacies inherent in all merely personal investigations on the one hand, and all indiscriminating statistics on the other. The only possible choice, indeed, as regards the majority of new remedies, is between such ordered and carefully collected observations, on a scale greater or smaller according to circumstances, and the haphazard results of individual observation at the bedside, with the fallacies of which in the past most of us are only too familiar. And here, let it be remarked, I am not to be understood as opposing, in all respects, Dr. MacLagan's thesis, which he himself briefly states as follows, namely: "That individual observation" (as opposed to statistics) is "that, on which we have to rely; that, by means of which the most important advances have been made in the past; that, too, by which all methods of treatment must be tested, and on the results of which their adoption or rejection must depend."⁴ So far from disputing, I can fully accept, this statement as a part, possibly a large part, of the whole truth. And if all of us were thoroughly trained and disciplined observers like Dr. MacLagan, or like my other friends just referred to; if, moreover, we had each of us at disposal a field sufficiently large, and energies sufficiently gigantic adequately to work out the results, I should quite frankly concede that individual effort is greatly superior to collective effort in dealing with all questions of therapeutics. Perhaps, indeed, in the last resort, and for each one of us individually, personal observation alone will carry conviction as to whether a new remedy with plausible credentials is to be adopted or discarded. But then, consider for a moment the vast area over which such inquiries must extend, if they are ever to yield anything like properly verified results. How many of us are there—even those of us that have hospital wards or out-practice at disposal—who can possibly hope to obtain in one, or two, or even more years the means of testing thoroughly any one great therapeutic advance, not to say the comparative merits of the scores of new claimants

along certain well-understood lines of progress—for example, new antipyretics, new hypnotics or analgesics, new digestive ferments or solvents, new cardiac tonics, new gastric, or biliary, or pancreatic stimulants? I declare to you, gentlemen, that to be compelled to undertake personally a comparative investigation on any one of these lines would much more than exhaust the resources I have at disposal as a teacher and hospital physician in any reasonably limited period. To undertake the whole of them, or even two or three of them, at once would be simply to court defeat, and at the same time to incur with too great reason the reproach of treating my patients as merely the raw materials for crude and rash experiments. How, then, can the science of new remedies—as opposed to mere haphazard observation—be advanced at all without some kind or measure of co-operative work?

UNSCIENTIFIC CO-OPERATION.

Moreover, if we fail thus to co-operate upon a carefully-regulated and scientifically-planned basis for observation as regards new remedies, we shall be sooner or later compelled to adopt, quite uncritically, the mere attestations which are always forthcoming in any amount and to any number in favour of each novelty that a great firm thinks it worth while, or commercially profitable, to introduce. Co-operation for commercial purposes will thus in time entirely displace scientific co-operation for purposes of unbiased and independent judgment. I am far from wishing to condemn unreservedly those who, possibly from no unworthy motive, are led into giving such testimonials as I read every day in advertisements, by no means always without a certain measure of justification. Few men were so shy of getting in an unauthorised way into the newspapers as my old teacher, Sir Robert Christison, yet he found himself for several years placarded in countless advertisements as the authoritative patron of a certain extract of meat, which he was thus supposed to defend against all rivals, in virtue of his having made some remarks in a lecture about it, which had got into print. And an old friend of mine in this country, though not in this city, has had his name recently appropriated, along with a crowd of distinguished and even royal personages, on behalf of a bit of sheer clap-trap and quackery, widely advertised as patronised or employed by the said personages—the fact being that this gentleman's wife had the curiosity to send for one of the little machines in question, and did so unfortunately in her own name instead of through a tradesman, and without even consulting her husband. Nothing is easier, therefore, when money is in it, than to get up a perfectly delusive appearance of a consensus of professional opinion. The only fair and just antidote to this, as it appears to me, would be a professional combination of another kind—not to praise or advertise, but to judge and obtain evidence. And hence I am led to look upon Dr. Whitla's move in connection with the British Medical Association as the possibly embryonic form of what may become one of the greatest advances in therapeutic method in the future.

"The advance of pharmacology," says Dr. Whitla, in that Dublin address of his to which I have already referred,⁵ "can only be accomplished by individual effort, whilst therapeutic advance demands combined and co-operative assistance." I have already explained to you in what sense I am disposed to concur with this proposition. But it is one which requires to be looked at all round, as it were, both with respect to its merits, and its difficulties and disadvantages, which latter are not small, and which Dr. Whitla himself is by no means, I am sure, disposed to overlook or to underestimate. The further consideration of this topic will bring us squarely abreast of the subject I have indicated as the theme of this address, and will, perhaps, show also some points of agreement with the remarks of Dr. MacLagan aforesaid, as to the unsatisfactory character of the statistical method as hitherto applied to therapeutics. And in discussing the errors and fallacies attaching to new remedies and their applications in disease, it will not appear to you surprising or incongruous if I attempt to point a moral in a few instances from the fate of some older ones.

MERCURY.

Let us look, for instance, at the chequered history in the past of such a remedy as mercury, in connection with the

² *Dublin Journal of Medical Science*, January, 1887.

³ *BRITISH MEDICAL JOURNAL*, 1884, vol. ii, p. 260, An Address, etc., on Methods of Therapeutic Research, by J. T. MacLagan, M.D.

⁴ *Loc. cit.*, p. 262.

⁵ *BRITISH MEDICAL JOURNAL*, 1887, vol. ii, p. 298.

important position attributed to it (I abstain even now from saying "finally secured for it") in the present day. It is surely an instructive, and even an ominous fact for us, that we can look back over more than five centuries during which "individual effort" has been diligently applied to this one subject, with the result that at the beginning of the present century an all but successful revolt took place, chiefly in military practice, against the use, under any circumstances whatever, of this remedy—a revolt not the result of fanaticism or theoretical bias, but rather led by well informed, watchful, and not undisciplined observers, who had thoroughly convinced themselves, and strove hard to convince others that mercury was not a remedy at all, but simply and absolutely a poison, and the source of almost all that was most virulent and disastrous in the diseases for the cure of which it was employed. Now, as I do not mean to linger long on this topic, and still less dogmatically to press my own views upon you in the course of this address, you will perhaps excuse my reminding you, very briefly and generally, of a few of the landmarks in that chequered history of which I have spoken. I believe it may be correctly affirmed that we owe the first introduction of mercury in medical practice to the Arabians, or at least to those ages called by us commonly the "Dark Ages," in which the Arabian physicians were almost the only lights that were not obscured to the point of extinction by scholasticism, necromancy, and false shows of science like alchemy and astrology.

The immense and probably much misapprehended group of formidable diseases which passed current as "leprosy," and drifted helplessly into the lazar houses or leper hospitals of Europe, appeared to have been in some instances successfully controlled by mercurial fumigations and inunctions, which accordingly had become, at the time of the great outbreak of syphilis in the end of the fifteenth century, the favourite resource of "surgeons and quacks," as testified by Sprengel⁶ in his well-known history. Mercury thus came to be the great specific in many hands, and by a sort of "individual effort" by no means of the most creditable or scientific sort, in disorders which, having well-marked external manifestations to which the mineral could be directly applied, were at the same time reported to arise from a constitutional cause, or, as we should now say, from a virus in the blood. When the great (and as some think the first) outbreak of syphilis occurred, therefore, it was inevitable that mercury should be used, and, in fact, large fortunes are said to have been made out of its use, thereby, of course, very much increasing the difficulty of arriving at the truth. So it continued during the sixteenth century, notwithstanding calamitous results to which Ulrich v. Hütten (perhaps the most picturesque and chivalrous figure among the early reformers) bore emphatic literary testimony in his own case; notwithstanding also the persistent opposition of Fernel, the most instructed and learned physician in France in those days. From this time onwards mercury, like antimony as proclaimed by Basil Valentine, may be said to have enjoyed a "currus triumphalis" that carried all before it, until the much later date of the sceptical and negative movement of which I have already spoken. All of you know, as well as I do, the disasters that followed in the wake of this triumphal car of Juggernaut: the doctrine, or dogma, that mercury, carried to profuse and extreme salivation, was the one and only cure for syphilis, and perhaps also, according to some, for certain forms and stages of inflammation in general. In the hydrargyric *orgie* (for it was nothing less) which characterised the seventeenth and was continued in the eighteenth century, John Hunter stands out, to my mind, as a moderator in respect of doctrine and of practice, though no one has asserted the claims of mercury more strenuously, or has more distinctly intimated his own belief that, in the disorder referred to, it cannot be dispensed with. "Mercury," he said, "is the great specific, and hardly anything else is to be depended on." I have no time, however, now to adduce evidence in detail as to Hunter's doctrinal position on this sub-

ject; it was sufficiently strong and unflinching on behalf of mercury to have demanded, or provoked the sceptical movement aforesaid, by way of a protest, in this country; and yet sufficiently elastic as regards the theory of the remedial action, to have adapted itself successfully to modifications by his pupil Ricord, leading in time to the much more attenuated use of the remedy which now holds the field in France, and, with certain further modifications in the same direction, also in this country. All of us who are old enough, and especially all of us who were in any way connected with the Edinburgh school, will remember the traditions associated with the names of John Thomson and Syme, and their unqualified denunciations of this remedy as everywhere evil and only evil, the real source of all the woes it was intended, and believed, to obviate—denunciations which, in my own case, were so far effective as to have restrained me for years from almost ever employing this drug, either in the cases alluded to, or in the ordinary acute inflammations; whereby, it is true (and also from the practical disuse of blood-letting about the same period), I was led into a course of observation and reasoning with respect to the natural course and progress of many acute diseases, which has had an abiding, and, I think, a favourable, influence on the whole of my practice ever since. But most of us would be inclined now, probably, to admit that, under the careful guidance and matured judgment of such teachers as Mr. Jonathan Hutchinson and others, mercury has once more asserted itself, and has come to be justly considered, not only as an indispensable remedy, but in judicious hands one of the safest of remedies in the cases in question.

All this, you will observe, gentlemen, applies not to a new, but to a very old, remedy; and yet it contains some important lessons in relation to the more immediate subject of this address. Mercury, if any drug, has attained its position and its reputation, not through co-operation, nor by statistics, nor yet by any overwhelming weight of dogmatic prepossessions, but by "individual effort;" and when distrusted and discarded for a time, has been so distrusted and discarded mainly by individuals acting upon convictions acquired in the course of personal experience. There is no question, moreover, or almost no question here of pharmacology, as having furnished chemical or physiological science with a guiding principle, or even a clear and consistent theory. "Our knowledge of the action of mercurials," says Dr. Wood, of Philadelphia,⁷ "is at present clinical rather than experimental, empirical rather than scientific, but it seems scarcely possible that it is not correct." I hope that Dr. Wood is not here too sanguine, but it must at least be admitted that in the endeavour by individuals to settle definitely the position of only one very largely employed and very active remedy, centuries have been consumed, not perhaps quite fruitlessly, but still very unsatisfactorily, in perpetrating frightful abuses, of which all of us are now with good reason ashamed, and which stand on record as among the worst opprobria of the healing art. In order to reach even a moderately safe, not to say efficient or stable, position in the therapeutic employment of this one powerful drug, we have been obliged to sacrifice on the altar of "individual effort" hecatombs of victims, and to stumble along painfully through centuries of delusion and mischievous blunders, not to say quackeries, in the search for only a few grains of solid truth.

ANTIMONY.

I have elsewhere⁸ told the story of antimony, and it is in its essence the same story, with the difference, perhaps, that even now there is not the same consensus of opinion as to the beneficial and not dangerous employment of the remedy. Proscribed and denounced utterly by the Faculty of Medicine in Paris in 1566 as a poison without any redeeming virtues; sternly interdicted "by the unanimous consent of all" in 1615, and legally prohibited, even as to its sale, under severe penalties, antimony nevertheless managed to assert itself in the hands of bold and possibly unscrupulous practitioners till, under the sunshine of Court favour and influence, it got itself formally admitted, by that same Faculty of Paris, into the list of regular and professional remedies in 1666, exactly

⁶ Sprengel, *History of Medicine* (French translation), vol. 3, p. 72. The reference is to Fracastor de Morb. Contag., l. 2, c. 12. The following lines may be quoted: "Very early (1497) the external employment of mercury was begun in reference to the venereal disease; for, on account of its resemblance to leprosy, it was thought that this metal might be of some beneficial use; but the surgeons and the quacks only dared to use it thus, and were punished whenever the fact came to be known."

⁷ *Treatise on Therapeutics*, 4th edition, p. 398.

⁸ *The Physician as Naturalist*: addresses and memoirs bearing on the history and practice of medicine, chiefly during the last hundred years. Glasgow: James Maclehose and Sons, 1889. See pp. 97, 378.

a century after its first proscription, and so it has remained ever since. Almost every one here, again, must be more or less aware of the "contra-stimulant" doctrine of Rasori, and of the cumulative (and no doubt often utterly poisonous) doses of this potent drug prescribed in accordance with that theory, even during the first quarter of the nineteenth century. At present, if I may judge from what I hear about me in Scotland, antimony, like blood-letting, is in the position of a mostly dethroned idol, having been merged in the general wave of scepticism as to the more heroic antiphlogistics; or perhaps replaced by other and newer fashions, to be revived again when these are in their turn exploded or disgraced.

It would seem from these instances among the older remedies (and many others might be given did time admit) that to establish fairly the position of even any one drug having a powerful action on the human frame by the way of individual effort, or, as it is called, practical use and experiment, is by no means a very easy or a very safe process; that it may, or perhaps must, lead to violent extremes and alternations of opinion extending, in some cases, over many years, or even centuries; and may thus involve all but unavoidably, to judge from past experience, the most deplorable excesses and fanaticisms as a part of the necessary search after truth. And yet, according to Dr. MacLagan, statistics will not help us here, or, at least, have not helped us hitherto. "Individual observation is that on which we have to rely, by means of which the most important advances have been made in the past, etc."

NEW REMEDIES: PHARMACOLOGY.

I propose now to inquire whether, and to what extent, we may claim to be advancing in respect of our newer remedies on safer or better lines than these. It will, of course, occur to every one of you that up to this point I have made little account of pharmacology, or the scientific and exact investigation of the properties and physiological action of remedies which, as we all know, is a science comparatively of yesterday, and yet one having the closest possible relation to therapeutical inquiries. It is difficult to read such an address as that of Dr. Lauder Brunton in 1886⁹ on the "Connection between the Chemical Constitution and Physiological Action of Remedies" without feeling that we have here entered into quite a new era. I am not one of those who would seek to limit the aspirations, or in any way restrict the progress, of pharmacology, but I cannot help noting that in respect of the increasing crowd of new remedies which it is bringing to light from the abounding wealth of new chemical combinations, it is in the meantime rather adding to than diminishing our difficulties. And in this I may claim once more the assistance and practical concurrence of our friend, Dr. Whitla, who says: "The indication at present is not for more new remedies, but for better and more precise knowledge of those already in our hands. It seems as if one of our very greatest barriers to progress is to be found in the ever increasing number of new drugs which pours in upon us at a rate which prevents that thorough testing of their qualities and actions so necessary before the range of the new weapons can be accurately determined." This witness is true. I appeal to you, gentlemen, as men actively engaged in practice when I say that we cannot possibly overtake this flow of new remedies, or subject even a fractional proportion of them to what we should consider a fair therapeutical trial. Some consideration is due to our patients, and if we should ever attempt to make them the subjects of hasty and ill-advised experiments, we should condemn ourselves, and in the end, I believe, do far more harm than good. Some time ago, in using for the first time a brand-new antipyretic drug then just brought into notice by a most elaborate and thoroughgoing laboratory investigation, I was horrified and distressed at finding that the very first tangible effect brought about by it was hæmaturia, or rather hæmatinuria. The oversight was mine. The disintegrating effect upon the blood corpuscles was, indeed, mentioned in the memoir I refer to, but was so mentioned as to lead me to view it as a merely occasional and avoidable accident, quite of secondary importance as compared with the marvellous, and very real, power of controlling temperature of the drug in question. I need scarcely say to you that I did not give that drug a second trial, on the principle, which is ever present to

my mind in the experimentation upon new remedies, that if anybody is to be killed by them, I had rather it should not be in any way on my advising.

On the other hand, if in the case of what we really believe to be an innocuous remedy we adopt the bold course of giving it all round, or the more scientific plan of giving it to one half of our patients (omitting the other half for the purposes of a control experiment), we shall be open to the kind of remark implied in a story which "went the round" in Edinburgh many years ago, but of which I can only say for myself in reporting it, *Se non e vero, e ben trovato*. It did not materially detract from the world-wide fame of the learned professor in question, nor did I ever hear that it had emptied, to any extent, his overflowing waiting room. The story was that a lady, finding in her prescription something unwonted and as she thought "uncanny" (being possibly an old bird in therapeutical experiments), turned back to get a further explanation from the professor, who was by this time fully occupied with someone else. But the man at the door was equal to the occasion. Taking the prescription into his hand he ran it over with a practised eye, even inured to Latin formulæ by long and faithful service in a medical man's house. He returned the paper to the lady and showed her to the door again, with the remark, "Ou aye, mem, it's a' richt; *they're a' gettin' that, the now.*" The professor had been experimenting all round, more or less, with some of the more unwonted metallic salts, salts of titanium, cadmium, tellurium, palladium, etc., most of which, I believe, turned out to be "tonics," with the exception of one, which had the awkward peculiarity of causing the patient to shed abroad such a peculiar and disagreeable perfume or stink (if you will pardon the word) that it had to be forthwith abandoned on this account.

KOCH'S TREATMENT OF PHTHISIS.

But we have all had within the last six months a much more serious object-lesson in reference to the claims of pharmacological research as a guide to treatment than any of those just alluded to; and, although it is a sad and rather a depressing subject to speak about, it is not possible to escape some allusion to it in a discourse bearing at all upon new remedies at present. Whatever judgment may be ultimately arrived at in regard to Professor Koch's treatment of phthisis pulmonalis, few of us will be disposed to deny that we are now in the very trough of a wave of "reaction," or rather of discouragement, from the hopes and expectations entertained in November last. Now, gentlemen, there are not wanting among us—at least in Scotland—some very superior persons who, without knowing any more than their neighbours, find the present a suitable occasion for pluming themselves upon their consummate sagacity in consistently deriding Koch and all his works—past, present, and to come. Gentlemen, I am not one of those very superior persons; for on November 17th, 1890, I find I am reported as having used words like these to my own class, at the very next ordinary meeting after the celebrated article in the *Berliner klinische Wochenschrift*, translated in the *BRITISH MEDICAL JOURNAL* of November 15th; and I am by no means ashamed of these words now.

After a rapid glance at the social havoc wrought by tuberculous diseases in their ordinary and most fatal forms, the report proceeds: "It was not surprising that an announcement bearing on the treatment of so enormous an evil as tuberculous disease should excite the most intense and widespread interest, and give rise to expectations which might easily be doomed to disappointment. Looking to Dr. Robert Koch's previous record, and to his researches on this very subject in the discovery of the bacillus tuberculosis, Dr. Gairdner said that everything Koch had hitherto promulgated in connection with the pathology of tubercle had been characterised by a quite admirable patience, accuracy, and inventive genius. Dr. Koch's whole career had been that of a man resolved not only to penetrate Nature's secrets, but to speak the truth as regards them. No one, therefore, was better qualified to lead in the direction to which the new research pointed. But it was easy to misapprehend that direction and therefore to miscalculate, perhaps altogether to misconceive, the results foreshadowed in Dr. Koch's manifesto." Here followed an exposition in detail of the principal positive statements in Koch's communication of the above date, and an attempt to estimate the theory of them so far as then revealed; but it is

⁹ BRITISH MEDICAL JOURNAL, 1886, vol. ii, p. 326.

¹⁰ Address in Dublin, *loc. cit.*, p. 297.

needless in the present address to trouble you with this, as it has been superseded by later communications. The report then proceeds: "There was in all this at least a presumption of truth, inasmuch as these surprising results were in no sense crudely empirical or haphazard, but had been attained by a course of elaborate and conscientious research by a most competent and tried experimentalist. It was nothing less than a duty to go carefully and hopefully over this new ground, and arrangements had already been made for doing so in the Western Infirmary, where some at least of the results, whether entirely favourable or otherwise, would soon be within their ken, and perhaps the vision of all of them. But it would be well to select, in the first instance, cases which, on Koch's principles, afforded some reasonable hope of a strikingly good result, and not to make an indiscriminate rush upon the remedy as if it were a panacea."¹¹

Such was the temper in which most of us, I believe, entered on this inquiry into a very new remedy only a few months ago; hopeful, if only for the sake of our common humanity turning its strained and anxious gaze to Berlin, as the children of Israel may be supposed to have looked to the brazen serpent in the wilderness, for a cure that was little short of miraculous; hopeful also in respect of the very sincere admiration and regard we entertained (and which I, for one, still entertain) for the quiet, modest, self-centered man of science, working out the pharmacology of tuberculin in the recesses of his laboratory by patient and continuous research; while at the same time we were quite fully alive to the risk of disappointment, and determined in any case to let no mere blind enthusiasm on the one hand, or ungracious disparagement on the other, interfere with the impartiality of our personal and strictly therapeutic estimate of results.

How do we stand now? Ever since the startling and ominous announcement by Virchow of the facts observed by him in fatal cases under Koch's treatment it has been, in the opinion of many of us, fairly open to question whether the risks are not so serious as to outweigh the expectation of benefit from that treatment in consumptive cases, or even in tuberculous diseases generally (excluding lupus). On the other hand, even the alleged benefits are, more or less, open to question also. Confining our attention to cases reported as pulmonary tubercle (and so reported from Berlin) we find that 932 of these are tabulated in the supplement to the *Klinisches Jahrbuch*: a supplement devoted specially to the official analysis of the statistical and other results of the Koch treatment in a great variety of hands. Of these 932 cases there are 48 in which the result is not stated, 10 reported as having ended in recovery, 147 in decided improvement, 158 in improvement, 533 in no improvement, and 36 in death.

There is no reason to doubt the entire good faith of these results, and they must be accepted in the meantime (subject to any further explanations or corrections) as probably the best that can be shown on a scale so considerable as to remove them in some degree from the unconscious bias of individual observers in selecting (and rightly selecting) only favourable cases for treatment. So viewing them, and admitting most fully that statistics cannot be allowed to have the last word in this question, it seems only too plain that there is but little encouragement to be drawn from these figures, which, as any one may see by turning to Dr. Walshe's book,¹² are less favourable than those obtained twenty years ago in the Consumption Hospital at Brompton. For in the Brompton cases, admitted "in all stages of the disease, and in every variety of general condition"—even including the cases moribund on admission—we are told that "the number improved or unadvanced (on leaving the hospital) was more than double that leaving it in a worse state, or dying within its walls (the exact ratio is 67.84 : 32.16)"; while in the Berlin cases treated by Koch's method, 315 are claimed in all as on the side of improvement, and 569 (including the fatal cases) must be held to be at least probably tending to get worse; although it is equally probable that some of these might have been included at Brompton in the percentage of stationary cases. And in the matter of apparent recoveries, the comparison is still more unfavourable to Koch; inasmuch as Dr. Walshe claims in 4.26 per cent. of the Brompton cases "complete restoration

to health, not only as regards apparent disturbance of the functions generally, but as regards local evidence of active pulmonary disease." The Berlin estimate of recoveries, as we have seen, is only 10 in the whole 932 cases, or not much in excess of 1 per cent. Possibly, however, the distinguished physicians who supplied the materials of this calculation may have imposed a more exacting test of "recovery" than is above indicated by Dr. Walshe; and, moreover, the lapse of time has been too brief as yet to permit of fully established recovery in a considerable proportion of cases.

My own personal experience is too small to be of any consequence, for, owing to difficulties in procuring the lymph, we were late in beginning the use of it at the Western Infirmary, and my trials of the remedy soon came to an end, owing to distrust inspired by Professor Virchow's statements. But, in the excellent and moderately-worded paper of Dr. Nixon, recently published in Dublin, we have an example of a sympathetic, if not an enthusiastic, follower of Koch, converted by sheer experience to an apparently antagonistic position; and, in the last number of the *Asclepiad*, Dr. B. W. Richardson declares himself uncompromisingly opposed to the entire theoretical basis of the new treatment. I need scarcely say that no word coming from Dr. Richardson can be set aside as unimportant, even if not confirmed by personal experience of the alleged remedy. On the whole it will be desirable to await Koch's further statements, now, it is said, about to be made public after a long silence, before saying anything more definite on this subject; but we seem to have already passed—whether as regards the public expectations or the attitude of the profession at large—through as great a range of extremes during these few months as was developed in relation to the mercurial treatment of syphilis in four or five hundred years. From the wild rush at Christmas and for some time thereafter, in search of immediate salvation at Berlin, to the contemplative, profoundly sceptical, and even pitiful state of discouragement in which we find ourselves in April is a long stride in the way of "reaction," and we can only hope that something of more or less permanent value may survive the discomfiture.¹³

THE DUTY OF THE PROFESSION.

But the lesson which—whatever the ultimate fate of the Koch remedy—we have got to learn, and must needs learn, from this newest of new therapeutical agitations, is that pharmacology—or, let us say, the experimental investigation of new remedial agents in the laboratory—though indispensable, both as a stimulus and as a help to therapeutics proper, can never have the last word of control or be permitted in any way to supplant that purely clinical work, which it is the object of this address, as of Dr. Whitla's, to assist in organising, by the suggestion that, with a certain measure of co-operation, it can be, in many cases, more satisfactorily performed than by individual observers unattached. In the instance we have now been considering the co-operation has been, so to speak, instinctive and spontaneous, and has included the whole civilised world, with the results that we have just seen. Dr. Koch is, I believe, far too genuine and too noble a man to have wished it otherwise, although he may possibly regret now that his hand was forced by a Minister of State, and that what he set forth tentatively, and with an almost trembling solicitude for the truth, should have been at first surrounded with mystery and then converted into a sensational romance. But therapeutical investigations of the more commonplace kind are not, in the first instance at least, encompassed with such a halo of premature fame, and if, as too often happens, the apparent well-spring in the desert proves to be a mirage, the cause of the illusion is to be found rather in a morbid craving for notoriety on the part of the investigator than in a premature impulse on the part of the outside world to wring from him his secret. The principle of the nostrum is now, happily, so condemned and discredited in the medical profession (though still too much favoured by the public) that we may consider it as being definitely abandoned by all honourable men. But the evils of what may be called, in the most general and euphemistic expression, a morbid individuality do not end with the suppres-

¹¹ *Glasgow Medical Journal*, December, 1890.

¹² *Diseases of the Lungs*, 4th edit., 1871, p. 181.

¹³ I notice that even Professor von Bergmann, speaking on April 1st, 1891, at the Surgical Congress (*Berliner klin. Wochenschrift*, No. 15), makes some rather damaging admissions, the full bearing of which, however, will not appear till after the delivery of this address.

sion of the nostrum. It is still possible to do a good deal that is objectionable in the way of self-advertisement without becoming the proprietor of a secret remedy.

Now it is against this tendency, deeply rooted in our frail human nature, and stirred into activity by trade enterprise and the enormous facilities that exist in the present day for converting into what they call in New York a "boom" (and this again at once into hard cash), what may be in the end discovered to be a worthless product, that we have ever to be on our guard in the case of new remedies. I am glad to declare and to know that in the more conspicuous instances of the therapeutical research within the profession in our day, the conduct has usually been unblemished, and the motives, so far as they can be discovered, have been in accordance with the highest traditions. But in the adoption, so far as practicable or expedient, of the principle of scientific co-operation advocated by Dr. Whitla, there might be found, I think, not only a new source of strength, but a permanent barrier of defence against too much of individuality and too aggressive a self-consciousness in the matter of new remedies. Suppose that we had, not only a Therapeutic Committee sitting in London, but a multitude of therapeutic committees dispersed all over the country; one, at least, in every great medical centre and medical school; it might then (I abstain from saying that it would in all cases) become much more obviously than it is at present the duty of individual inquirers to throw the results of their early researches into a common stock so as to secure impartial and unbiassed investigation on a broader basis than individual experience of disease can supply. This, while acting as a wholesome curb on the impetuosity, or the *amor lucri*, of ignoble or unscrupulous enthusiasts, would not in reality impede any legitimate course of individual research; while the raising of questions and the organising of schemes for combined investigation and action would be an education in itself for the persons concerned in it, which could not fail sooner or later to leaven the entire profession with a new kind of fellow-feeling, and also with a sense of responsibility for the fate of new remedies which is at present greatly lacking with many of us.

You will observe, gentlemen, that I am improving, or at least enlarging, upon Dr. Whitla's programme in respect that I do not see how any one committee, sitting in London only, could possibly dispose of more than a mere fraction of the work to be done. But with twenty, thirty, forty, or more committees dispersed over the country, having a certain autonomy and independence, and yet affiliated to a central one in London, a good beginning might be made. And no body of professional men exists so well fitted as the British Medical Association, with its numerous branches, for organising and directing co-operative work of this kind.

Another incidental advantage of a multiplicity of committees thus acting independently, and yet with a mutual understanding, would be that grave issues affecting individual remedies might be thus removed from one committee to another, or even investigated by several independent juries, so to speak, at the same time. You know too well in Ireland, unhappily, the significance, and even the sheer necessity at times, of a change of venue. Cases would undoubtedly occur where a possibly biased judgment in one place would require to be corrected in another, or where the personal questions in regard to the composition of one particular committee might quite obviously suggest its being left out, or, on the other hand, specially engaged in, a particular investigation; and it might be one of the special functions of the London, or central, committee to advise in such cases.

THE NEW POLYPHARMACY.

I assume, of course, that the investigations of such committees would be almost confined to (perhaps absolutely and by rule confined to) the simplest forms of remedial agents obtainable; and this principle, if adopted, would tend to obviate an evil which is, I fear, a growing one, and which I will venture to designate as the new polypharmacy. I agree with Dr. Whitla in regarding this as "decidedly calculated to retard the progress of the healing art—the practice of huge American and English drug houses who are flooding this country with ready-made remedies and cut-and-dry formulae for every ache and symptom to which flesh is heir.¹⁴ Here,

¹⁴ *Dublin Journal*, loc. cit.

again, I am content to echo my friend's wholesome words; but I do so from the point of view of one who has been preaching simplicity of prescription all his life, and who finds himself involved, unwillingly, in the toils of these very complex mixtures which, no, doubt, many of us almost daily prescribe as a mere matter of convenience, but from which it may be safely affirmed that, whether the patient is benefited or not, no inquiring mind can ever learn anything as to the real action of any remedy whatever. It would seem as if the days of the "mithridates" and the *theriaca* were likely to come back upon us, simply in order to provide a fruitful field for the commercial rivalry of these "huge American and English drug houses."

Much more might be said upon this subject, and the cause of combined action might no doubt be placed before you in a more interesting and amusing way, and with even stronger language, and more convincing arguments than I have cared to employ in this address. But I fear I have already detained you more than long enough, and must draw to a conclusion. When one surveys the immense and ever increasing list of new remedial agents, one is overwhelmed, not alone with the sense of a science advancing by leaps and bounds, but with an equally profound and overmastering sense of individual helplessness, in the midst of this *embarras de richesses*. For the average man, anxious only to do his duty by his individual patient, or by his dispensary, or hospital, the dilemma as regards many of these new remedies (of which he often knows, and can know nothing save by vague and possibly misleading reports) is a serious one. Shall he (as I must confess I too often do) shut his ears to the voice of the charmer (in the very human shape, occasionally, of the commercial agent) and leave the new remedy severely alone, till (perhaps) it blows over in a few months, or years, as the case may be? Or shall he, on the other hand, strive to extract the greatest possible amount of benefit, or of credit, or of guineas, out of every new remedy in its turn, by using it *pendant qu'il guérit*, as the shrewd old Montpelier doctor said; that is, as long as the fashion lasts, and as long as some personal credit can be got for, or from, the individual drug? Either way (or perhaps both by turns) is not uncommon among us; but we must confess that either way is somewhat ignoble, to say the least of it. Can we, somewhat upon the lines of this address, do anything towards initiating or devising a better way? That is the question which I desire to leave with you, gentlemen, and through you with the profession at large, in this country. It is a question which will have to be solved, one way or another, by the rising generation. Perhaps it will be considered enough, so far as I am concerned, to have associated myself with one of yourselves in thus suggesting it to you.

ASTON MANOR (Population, 71,124).—*Influenza: School-closing and Measles: Mortuary and Steam Disinfectant Needed.*—Mr. Henry May regrets to have to report, with regard to the health of this district, that, after three consecutive years of a very favourable character, the year 1890 was distinctly unfavourable to health. The winter of 1889-90 will be long remembered on account of the prevalence of the severe epidemic of influenza, and Aston Manor suffered to a great extent from an increased sickness and mortality resulting from it. There was also a continued epidemic prevalence of scarlet fever; measles was present during a great part of the year; a much larger number of cases of diphtheria were reported; and there was as usual a high diarrhoeal mortality amongst infants. The general death-rate for the year was 17 per 1,000. This was 1.9 higher than that of the previous year, and 1.3 above the average death-rate of the last nine years. School-closing in order to prevent the spread of disease is strongly advocated by Mr. May, especially in the case of measles. The sanitary state of the district is energetically attended to. The middens are being rapidly superseded by water closets, but still nearly 17,000 cartloads of night soil had to be removed from the old filth receptacles during last year. The supply of water is from the mains of Birmingham, but there seem to be a few doubtfully wholesome wells still in use. A destructor for the house refuse is being built, and public-baths are about to be provided. The town, however, still needs a public mortuary and a steam disinfecting apparatus.