The Harveian Lecture

ON

SOME NEW THERAPEUTIC METHODS IN DERMATOLOGY.

Delivered before the Harveian Society of London.

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[AFTER thanking the Society for the honour of being invited to give the lecture, Mr. Morris proceeded as follows:]

Probably in no province of medical practice has greater progress been made recently than in dermatology. Measured by years, it is little more than a century since John Hunter classified skin diseases into those that mercury could cure, those that sulphur could cure, and those that the devil himself could not cure, and only about half as long since Erasmus Wilson treated them according to the general formula: arsenic inside and zinc ointment outside. The dermatologist of the present day looks upon these primitive methods with something of the pity which moved that scientific warrior, Major Dugald Dalgetty, when he found himself among men who fought with bows and arrows. But the very abundance and complexity of our therapeutic armaments tend to make the effective use of them in particular cases a matter of some difficulty. My purpose on this occasion is not to describe these modern methods in detail or to discuss fully the theories as to their mode of action which have been advanced. It will, I think, be more profitable to pass in rapid review the most important of them, and, while briefly indicating the special advantages and limitations of each, to endeavour to reduce the seeming diversity of their effects to an underlying unity of principle which, while enabling us to understand their mode of action, may help us to apply them accurately and to the best possible advantage in the treatment of the individual case.

As the field is too vast for even the most cursory review in the short space of time at my disposal, I will confine myself to the effects of some of the new therapeutic methods in chronic and obstinate forms of skin disease. Certain of these have hitherto been the despair of the dermatologist, and one of the most satisfactory features in the therapeutic revolution now in progress is that the results already achieved in dealing with several conditions which not long ago were most refractory to treatment gives good ground for hope that "chronic" will no longer be a euphemism for "incurable."

THE PRINCIPLE OF REACTION.

From the observation of a large number of chronic affections of the skin—among which special mention may be made of psoriasis, eczema, sycosis, lupus, lupus erythematosus, ringworm of the scalp, scars and keloid, rodent ulcer, cutaneous epithelioma, and leprosy—I have been led to the conclusion that the general principle of treatment may be expressed in the single word, reaction. As a rule, without reaction there is no cure; unfortunately it does not follow that, given reaction, cure is certain. Reaction is a force which can work wonders if properly directed and controlled. In the present state of our knowledge we are but imperfectly able to control its operation. Reaction, which is simply response to stimulus, varies not only in degree, but in kind. The response varies according to the tissue or organ stimulated, and also according to the nature of the exciting agency and the strength and frequency with which it is applied. The mechanism of reaction is virtually that of inflammation, passing according to circumstances through the various stages of hyperaemia, infiltration, leucocytosis, exfoliation of epidermic structure, going on, if pyogenic micro-organisms invade the affected part, to suppuration, and ending, if unchecked, in necrosis of the deeper tissues. The milder form of reaction is exemplified by the transient form of erythema which follows the application of gentle heat. More active forms are produced by various blistering agents, and light rays properly applied; while severer forms are produced by croton oil, which has been employed in the treatment of ringworm of the scalp, and by the incautious use of x rays. Limited to hyperaemia and multiplication of white corpuscles, reaction may be regarded as a mode of quickening the tissues into healthy action with increase of phagocytosis.

"ALTERNATIVE" ACTION.

Certain agents may have the power of producing—in addition to the phenomena of inflammation—a chemical or bactericidal or other specific action whose nature is still unknown. It is easy enough to understand how the induction of a bactericidal action can cure a process caused by bacteria, and how phagocytes may remove harmful substances as policemen rid society of malefactors. I am inclined to think, however, that in some affections the action of the remedy is what used to be called "alternative" in character. It either, as Dr. Creighton suggests, breaks a depraved habit in the tissues or kindles a slumbering process into a fiercer flame which in burning itself out destroys the disease. We must not, of course, allow ourselves to be misled by figurative language. All that we know about so-called alternatives is that they bring about a change of some kind which often ends in a cure. In whatever way the change is caused, it manifests itself in increased cell activity in the affected parts—in other words, by local reaction. Hence in many cases the first result of treatment is an exacerbation of the morbid process.

AGENTS (CAUSING REACTION).

Reaction may be caused by the external application of various drugs, or by the use of physical agents, such as heat, light, the x rays and radium, by drugs administered internally, by toxic substances generated within the body as the result of processes set up in the natural course of the disease, or by the artificial production of like conditions by the injection of serums or the administration of organic extracts; or by the combined use of external and internal remedies.

EXTERNAL MEDICAMENTS.

Of external medicaments causing reaction I need only mention here soft soap, sulphur, tar, salicylic acid, pyrogallol, and especially chrysarobin. Vigorous rubbing with soft soap, which contains strong alkalis, was at one time the chief—indeed, almost the only—remedy in use for chronic skin affections in the great days of Hebra. By this simple means the "miracle of cure" was undoubtedly wrought in a large number of cases. The reaction was intense enough to cause great pain, lasting a considerable time; then the inflammation gradually subsided, and with it the disease often faded away. Superfatted soaps, which soothe and cleanse but do not irritate the skin, have no curative effect; they are only mechanical adjuvants. The beneficial effects of sulphur in acne, and in superficial forms of sycosis, eczema, and other affections are due to the reaction which it causes. Every practitioner knows that sulphur baths at first often aggravate a chronic skin disease; not infrequently indeed it is made so much worse that not only the patient but the doctor becomes alarmed, and the treatment is discontinued just when it is beginning to produce its effect. The good done by tar, sulphur, and mercurial applications in psoriasis, eczema, sycosis, etc., is proportionate to the reaction which follows their use. The most striking effect of an external medicament on a skin affection, however, is the way in which chrysarobin cures chronic psoriasis. Used in the form of ointment, either alone or combined according to circumstances with tar or salicylic acid, it sets up inflammatory reaction, not in the affected parts, but in the healthy skin around. The pain thus caused makes the patient very uncomfortable and restless, and it is well to warn him that he has a bad time before him which will probably last two or three days. Sometimes the reaction is so violent that a general dermatitis is produced, the temperature goes up, it may be to 102° or 103° , with delirium and other symptoms of high fever. The condition is in fact one of systemic poisoning by an overdose of the drug. When the dermatitis has passed away it will be found that the patches of disease have disappeared. The recital of cases would be tedious, but I may just refer to one or two examples of the effect of the reaction caused by chrysarobin, which made a deep impression on my mind. Some years ago a young lady, who was about to be married, came to me almost covered with psoriasis. In her eagerness to get rid of it she bettered my instructions as to rubbing in chrysarobin to such a degree that acute toxæmia was produced. The whole cutaneous surface was in a blaze of inflammation, the temperature was 103.2° , the patient was delirious, and the situation decidedly alarming. The storm of reaction soon subsided, and the girl's skin showed no sign of the unsightly disease. The wedding took place in due course, and she was never again troubled by psoriasis. Similar symptoms of poisoning were observed in

an old gentleman afflicted with chronic corneal ulcers, whose troubles were made worse by psoriasis. When the dermatitis subsided the skin was found to be quite free from the disease. Not only was the psoriasis cured, but the corneal ulcers, which had been a source of discomfort to the patient, were found to be healed. That it is the systemic reaction which works the cure is, I think, shown by the familiar fact that if patches of psoriasis on one leg are treated with chrysarobin those on the other get well at the same time without any local application. It is almost superfluous to say that a remedy of such potency must be used with proper precautions.

But the point on which I wish to insist is that the practitioner must not be afraid of exciting reaction or too ready to discontinue the remedy when it has been excited. Reasonable patients are quite willing to submit to some temporary suffering if thereby they are likely to be delivered from a troublesome complaint. The effect of the remedy must of course be watched, and the strength of the application carefully adapted to the responsiveness of the skin; but, if need be, it should be used up to the furthest limit of tolerance. The danger signal is the oncoming of serious constitutional disturbance. Even this, however, should not deter us from using chrysarobin a second and a third time if necessary; it will generally be found that when the application is repeated the reaction is slighter than on the first occasion.

Another method of treatment which in my opinion cures by exciting reaction is mineral baths. The arsenical waters of La Bourboule and Levico, like the sulphur baths, often make psoriasis and eczema worse at first. Even indifferent waters like those of Bath sometimes have a like effect; hence patients are told that the waters of a particular place do not suit them, whereas the very fact that they cause reaction proves to my mind that they are beneficial. The arsenical pastes—used by some to destroy growths—produce their effect by setting up a reaction around the mass, which causes necrosis of the tissues in which it is imbedded, and thus brings about its separation. Powerful caustics—such as nitrate of mercury—not only directly destroy diseased tissues but give rise to reaction in their neighbourhood, which completes the cure.

PHYSICAL AGENTS.

Of physical agents, simple baths—hot or cold—and radiant heat produce the mildest form of reaction, and to that extent have a place in the therapeutics of chronic obstinate skin affections. Everyone knows that sea bathing often aggravates psoriasis and eczema; they should not, however, on that account be discontinued in chronic cases, for in the reaction caused by the salt water lies the hopes of the “alterative” effect which makes for improvement if not cure.

The old idea in treating lupus vulgaris was to destroy the affected tissues; the object is nowadays to set up a reaction which shall destroy the cause of the disease. The use of light, according to Finsen's method, always causes a reaction, the intensity of which varies according to the intensity of the light, and also according to the depth to which the disease extends and the amount of thickening and scarring which it has produced. Reaction is greater in a thin than in a coarse, thick skin. Persons of a dark complexion are less favourable subjects for the light treatment than fair people, the pigment hindering the penetration of the rays. The inflammatory phenomena constituting the reaction are accompanied by more or less pain, but there is seldom any constitutional disturbance. My experience is that the curative effect of the light rays is directly proportionate to the intensity of the inflammatory response; this clinical observation is confirmed by microscopic investigation.¹ Dr. J. M. MacLeod states that the histological sections of lupus vulgaris, after exposure to a Finsen lamp, give evidence of the beneficial effect of the inflammatory reaction. In the application of this mode of treatment, therefore, it should be the aim of the practitioner to produce a considerable degree of reaction.

With regard to the x rays, there is considerable difference of opinion among experts as to their action on tissues. Dr. MacLeod says that the microscopical appearances in tissues which have been subjected to the influence of the x rays differ from those seen in structures which have been exposed to the Finsen light, distinctive changes being seen in the diseased tissue which seem to be independent of an inflammatory reaction. Other authorities suggest that the action of the x rays is chemical in nature; others, again, that it is specific, causing devitalization and degeneration of the tissue elements of the integument. MacLeod himself concludes, after a careful review of such evidence as is available,

that the action of the x rays is cumulative, and that when the cellular degeneration reaches a certain degree the toxic products of the broken-down cells are capable of setting up an inflammatory reaction. The clinical phenomena seem to me to warrant the belief that some part at least of the beneficial effects of the x rays is due to the reaction which they excite. That in the case of the rays, as in that of chrysarobin, there is something more than local reaction, however, may be inferred from the observation of the late Dr. Blacker,² that occasionally other patches of lupus vulgaris than those which were being treated improved at the same time, although they were not immediately under the influence of the rays.

LIGHT AND X RAYS: SUMMARY AND RESULTS.

I have now had five years' experience in the use of these methods in various affections. Full details of the manner in which they are employed, singly or in combination, and of the results of the treatment have been given by Dr. S. E. Dore and myself in a series of papers published in the *BRITISH MEDICAL JOURNAL*³ and the *Practitioner*. I will not weary you by going over the ground again, but I take the opportunity of submitting a summary of our results up to the present date:

Lupus Vulgaris.—Of a total number of 67 cases of lupus vulgaris, in 19 the disease was of small, in 30 of moderate, and in 18 of large extent. In 3 of the first (small), in 10 of the second (moderate), and in 10 of the third (large) category mucous membranes had to be treated. In all the cases belonging to the first class a temporary cure was effected, but in most of them slight relapses calling for further treatment had occurred. In nearly all the cases belonging to the second category general improvement was brought about, and several of them were cured. In the majority of them, however, more or less frequent recurrence has taken place. Of the cases belonging to the third category—in which the disease had spread over the greater part of one or both sides of the face—nearly complete cure was achieved in 10. In 4 progress has been very slow, the patients still requiring continuous treatment; in 4 the treatment was not completed.

Rodent Ulcer.—We have treated 37 cases of rodent ulcer. These may be divided according to the stage of the process into three classes: (a) Pre-rodent, (b) pre-ulcerative, and (c) ulcerative. The first class (a) comprises 5 cases of small warty growths in which, although the diagnosis of rodent ulcer was somewhat doubtful, appearances were sufficiently suspicious to warrant destructive treatment. In all these complete recovery took place after a few applications of the Finsen light. In the second class (b) were 17 cases of rodent ulcer in the pre-ulcerative stage. The diagnosis was certain on clinical grounds. In one of them the disease, which was rather more extensive than in the others, was of the superficial serpiginous type; in another the disease was a small nodule which had followed the operative removal of a rodent ulcer. In all the cases belonging to this class the disease was cured for the time being, but in most slight recurrence has taken place. Of cases in the third class (c) we have had 15; in these there was advanced ulceration, and in some the lesions were of considerable extent, and most of them had undergone repeated operative treatment. In all these cases the treatment by Finsen light, supplemented by x rays, produced notable amelioration; healing took place even in the most extensive ulcers. In none of them, however, was the disease eradicated, and more or less continuous treatment has been required.

Lupus Erythematosus.—Of this disease 10 cases have been treated by the Finsen light. Nearly all were improved, but in none was recovery complete. In one in which the disease seemed to have been almost entirely removed, relapse subsequently occurred. In 3 cases the high frequency current was employed, and 2 of them were greatly benefited.

Ringworm of the Scalp.—Ringworm, which has hitherto been so troublesome to all concerned, is now very successfully dealt with by the x rays. The use of this method was suggested by Freund as long ago as 1896, but it was applied either in a wrong manner or too timidly, and the results were unsatisfactory. The problem has lately been solved by Sabouraud. His method is too complicated to describe here; an account of it may be found in the February number of the *British Journal of Dermatology*. It is sufficient to say that by his mode of applying the x rays the process of epilation can be completely carried out within the space of a month, the case then ceases to be infective. The growth of new hair does not begin till a considerable time after the last

infected hair has fallen out; hence there is no fungus to attack the young hairs. The efficacy of the new treatment as compared with the old, may be estimated from the fact that the disease can now be cured in three months. From the economic point of view this represents an immense saving of money. In the school for children infected with ringworm attached to the St. Louis Hospital in Paris, the average stay of a child was rather more than two years; it is now about three months. The cost of the treatment per head which used to be £80 is now a trifle over £10. As regards the mechanism of the cure Sabouraud insists that *x* rays have no parasiticide effect and great precautions are taken not to cause dermatitis. This, of course, is necessary or cicatricial alopecia would be produced. But that there is some reaction appears to be shown by the fact that some days after the application of the rays a slight erythema becomes visible in the area treated, and then gradually passes into a faint pigmentation. This to my mind represents a definite reaction in the depth of the follicle. The introduction of the method marks the beginning of a new era in the treatment of an affection which has previously been one of the stumbling-blocks of medical practice. It was fitting that we should owe the means of easy victory over a peculiarly rebellious disease to the distinguished man who has done so much to dissipate the darkness in which till lately its origin was enshrouded.

Sycosis, Acne, etc.—In addition to lupus vulgaris, rodent ulcer, and lupus erythematosus, cases of acne, sycosis, and other affections have been treated. In 2 cases of acne and 3 of sycosis the *x* rays were very beneficial after all other methods had failed. Three cases of keloid were treated—1 with the Finsen light, 1 with *x* rays, and 1 with *x* rays followed by the Finsen light. In 2 improvement took place; in the third treatment was abandoned before there had been time for it to produce much effect. Disfiguring scars are also successfully dealt with by the reaction caused by the light rays, leaving a soft healthy surface. In a man suffering from rhinophyma the hypertrophic mass was considerably reduced in size by the *x* rays. Several cases of alopecia were treated with Finsen light together with the high-frequency current, but the improvement was no greater than could have been brought about by other methods. In a case of well-developed leucoplakia of the tongue and mucous membrane of the mouth with ulceration, great relief was given by *x*-ray treatment. In two or three cases of malignant ulceration within the mouth, temporary improvement followed the use of the *x* rays, but the final result was not satisfactory. I think it right here to recall the fact that Dr. Schiff, of Vienna, was the first to call attention to the value of the *x* rays in these and some other chronic affections of the skin.

Radium.—We have used radium in several cases of rodent ulcer and lupus vulgaris. In small rodent ulcers we have not found that its effect is any better than that of the *x* rays, while in the case of large rodent ulcers the smallness of the area that can be treated with radium is a great disadvantage. In a patient with rodent ulcer, in whom a raised warty epithelioma-like growth developed on the side of the neck, the growth shrivelled, became pedunculated, and afterwards detached after about a month. Radium was applied for periods from ten minutes to half an hour. The objection arising from the smallness of the area that can be treated with radium applies also to its use in lupus. We have tried radium in dealing with small isolated nodules of lupus, but have not found it in any way superior to the Finsen light. In our experience the reaction caused by radium is preceded by a period of latency lasting from two to three weeks. After the application of five milligrammes of radium to the healthy skin in three persons for about twenty minutes a day during three weeks, small punched-out painful ulcers were produced. These took some weeks to heal, and left a slightly depressed pigmented scar. These scars became slightly telangiectatic and continued to be the seat of pain for several months after the application.

INTERNAL AGENTS.

It is a fact familiar to all that certain drugs cause cutaneous reactions. Certain diseases have a like effect. Of modern remedies which produce their therapeutic effect by causing reaction I may mention tuberculin, certain serums, and adrenal, and thyroid extract. Any one who has seen the violent reaction caused by Koch's tuberculin in its original form—the TR is much milder, and, therefore, not so efficient—on patches of lupus vulgaris must have been struck by the change which had come over the scene of disease when calm was restored. It looked as though at last Huxley's therapeutic ideal had been realized and it had "become possible

to introduce into the economy a molecular mechanism which, like a very cunningly contrived torpedo, shall find its way to some particular group of living elements, and cause an explosion among them leaving the rest untouched." The hopes thus raised were doomed to speedy disappointment, for it soon proved that the "torpedo" caused explosions not only in the places where cutaneous disease actually existed, but in hidden and—it might be—unsuspected points in vital organs like the lungs. Theoretically it was admirable, but it was not war in the therapeutic sense. The impossibility of limiting the reactive energy of tuberculin to the skin prevents in many cases the utilization of the specific properties in the treatment of lupus vulgaris.

Of serums or vaccines in dermatological therapeutics I can say little or nothing of my own knowledge. Dr. A. E. Wright asks us to believe that external antiseptics have no longer a place in dermatological therapeutics. According to him the proper way of applying such substances to the cure of diseases is by artificial means to stimulate the body to produce them within itself. When this has been accomplished all that remains to be done is to determine them to the particular site of infection, which I gather Dr. Wright thinks a comparatively small matter. If, he says, we take a normal man and test his protective substances against staphylococcus or against tubercle and compare him with a patient suffering from acne or furunculosis, it will be found that there is much less protective substance in the diseased man's blood than there is in that of the normal man. If he is inoculated with a staphylococcus vaccine the first result will be the appearance of new acne pustules or of a new crop of boils. This, as I understand Dr. Wright, is due to a diminution of the protective substances in the blood owing to the action of the poison on the cells using up whatever protective substance there may previously have been in the blood. This he calls the "negative phase" in the production of immunization; it is quickly followed by a "positive phase," in which a fresh supply of protective substances is produced. What is developed in the blood, says Dr. Wright, is a substance produced in the serum, which, though it does not kill staphylococci, paralyzes them or makes them subject to phagocytosis; "it converts them into suitable pabulum for phagocytosis; it alters them so that the white corpuscles can afterwards ingest them." He has found that in the case of persons inoculated against staphylococcus the blood is richer in these substances than that of a healthy man. By means of his staphylococcus vaccine Dr. Wright states that he "has cured a number of cases of acne and furunculosis, with only one doubtful failure."

The method is plausible, but it must be borne in mind that the majority of cases of furunculosis and acne are among the easiest of all skin diseases to treat. The staphylococcus can readily be killed by the antiseptics despised by Dr. Wright, without the constitutional disturbance caused by the vaccine. I am disposed to think that the good effects of his inoculations can be explained by the reaction which manifests itself in the aggravation of the lesions. Moreover, the method is far too complicated for general use, and even if boils "get well promptly" and acne "gets distinctly better" by its means, the use of such heavy artillery against these comparatively trifling ailments seems to be akin to the Russian methods of naval warfare. It would be interesting to learn how Dr. Wright has fared with his dealing with tubercle. It seems to me that here, as in the case of tuberculin, there would be a danger of quickening any slumbering embers of disease into a flame.

Captain E. R. Rost, of the Indian Medical Service, has recently⁶ reported that he and others have had excellent results in the treatment of leprosy with a preparation which he calls "leprolin," a toxin of the cultivation of the bacillus leprae. This is prepared on the same lines as tuberculin. It produces a powerful reaction which lasts several days. Rost points out that the reaction varies in intensity, and as a rule, he says, the severity of the reaction may be taken as the index of the benefit that is likely to occur. He has used leprolin over 400 times without the production of any bad symptoms, and "in every case the disease has ceased to advance."

In four cases a complete cure seems to have been effected; at least there remains no sign of the disease. Akin to these methods is the injection of erysipelas toxins in cases of malignant disease that are past all surgery. The good effects of this plan in checking the progress of the disease and even causing it to recede to some extent, which have been noted by Coley of New York, have not been confirmed by observers in this country. It is well known, however, that an attack of

erysipelas often cures tuberculous and other chronic ulcers, doubtless by the modification of the sluggish character of the process produced by the reaction of the affected tissues.

Feeding with thyroid extract has a marked "alterative" influence in certain chronic affections of the skin. Its beneficial action in some cases of psoriasis was pointed out by Byrom Bramwell, but it was soon found that the effect was so evanescent as to make the remedy of little practical value; at any rate, that has been my experience, and I would explain its failure by its want of power to excite an adequate reaction. I have, however, found thyroid extract of use in quickening the healing of small indolent tuberculous ulcers, the manifestation of the condition connoted by the now obsolete term "scrofuloderma."

I have found adrenalin useful in lupus erythematosus owing to its tonic effect on the vascular system. This property would seem also to indicate its use in Raynaud's disease and "chilblain circulation," but in such conditions ichthyol may generally be relied on.

Under the head of internal remedies also comes the system of feeding with raw meat and flushing the system with large quantities of hot water. I have seen inveterate cases of psoriasis associated with rheumatoid arthritis which has resisted all the usual methods get well under this treatment. In addition to the eliminating of waste products brought about by it, the hot water doubtless causes a beneficial action on the skin.

COMBINATION OF EXTERNAL AND INTERNAL AGENTS.

Useful reaction can be produced in some skin affections by what may be called a mixed method. As a particularly good example, I would point to the effect on that intractable disease, lupus erythematosus, by Welander's method, of quinine (gr. ij to iij t. d.), combined with the external application of iodine. Under this treatment I have seen an obstinate case get well in a month. Adrenalin may with advantage be combined with the quinine. It is necessary to watch with special care the action of remedies used in combination to set up reaction, as they sometimes reinforce each other to an excessive, and it may be a dangerous, degree. Thus the administration of mercury internally is especially apt to cause symptoms of poisoning when combined with the extensive use of tar externally.

GENERAL CONCLUSION.

In conclusion, I would say that the moral of these discursive remarks is that, as a general rule, in the treatment of chronic and obstinate affections of the skin, the object to be aimed at is the production of reaction. So far from its being an accident to be avoided, I think that it is a most important part of the curative process. Of course, there must not be any excess of zeal, or the overwhelming force called into play may be as destructive as a too powerful ally brought in to suppress a rebellion. The means must in all cases be precisely adapted to the end that is aimed at. It would, for instance, be unjustifiably rash to run the risk of poisoning a patient with chrysarobin to cure a small patch of psoriasis on the elbow. Caution is particularly necessary in the use of the x rays, which, as every one knows, may, if used without strict precautions, cause necrosis of tissues, even extending through the thickness of a limb.

It is better as a general principle to produce reaction by a local application, but where this is found to be impossible an attempt should be made to excite it by means of agents within the body.

I do not wish to be understood as holding that the whole or even the essential part of the curative process consists in reaction alone. There may, as already hinted, be other factors which stimulate the vital processes into healthier activity, produce chemical changes, destroy parasites, or render the soil unsuitable for their growth, or make an environment in which they cannot live, or act in some way at present totally unknown.

The active principle in the cure may be generated or brought into operation by the reaction, and different kinds of reaction may have special functions. Much, too, must depend on the manner in which the reaction is excited; it is probable that a certain kind of reaction is adapted to a particular disease. This field of clinical and pathological research is as yet almost virgin soil. I think it will repay cultivation. I have only touched the fringe of a great subject, and I would ask you to take my remarks as conveying nothing more than a suggestion of a theory on which a rational system of treatment of some of the most inveterate

diseases within the province of the dermatologist may ultimately be based.

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- ³ *Ibid.*, February 9th and September 28th, 1901, and May 13th, 1902.
- ⁴ *The Connexion of the Biological Sciences with Medicine*, an address delivered at the International Medical Congress held in London in 1881; *Science and Culture*, London, 1881, p. 348.
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CHRONIC CONSTIPATION AND ITS MEDICAL AND SURGICAL TREATMENT.

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IN opening the debate on this subject at the Chelsea Clinical Society, on March 14th, Mr. Arbuthnot Lane said:

I feel very much the responsible position you have laid upon me in doing me the honour of asking me to open this debate. I agreed to do so with great pleasure for the reason that I am very much interested in the subject, which is one of extreme importance to the duration of life and to the health and happiness of the people, and because the mechanical conditions which are produced by the affection have, as far as I am aware, not been touched on or recognized by the pathologist.

Fortunately, it is always possible for any one to verify the accuracy of conditions which I have shown to exist very commonly in the human body by a sufficiently careful and accurate observation of the parts themselves. With many pathologists and anatomists the education of their special senses leads them to miss coarse changes which are obvious even from a considerable distance, while they devote valuable time to minute details. They do this the more readily since the conditions of the parts and the mutual relationships of the viscera differ very greatly after death from those present in life, especially in the erect position. I do not think I can do better than to place before you the conditions of the viscera which are consequent on an imperfect evacuation of the large bowel or cesspool of the gastro-intestinal tract. In the very large majority of cases such a condition is associated with the symptoms popularly comprehended under the term "constipation," but in a small proportion, while the large bowel up to the hepatic flexure or even to the splenic flexure may be constantly or frequently loaded, yet the patient obtains from the overflow a daily action which is usually solid, but may be fluid, and consequently makes no complaint of constipation—that is, though a patient may have a daily evacuation, he may still have a loaded large bowel. Again, the large intestine whose vitality has been depreciated both by local inflammatory changes and by the general loss of tone is thereby rendered liable to some specific infection, and ulcerative, membranous or other forms of colitis may develop in consequence.

The condition frequently may and often does date from a very early period, when, owing to the unsuitable feeding of the child, the intestines, and particularly the large bowel, are distended with gas, rendering the whole of the abdomen abnormally prominent, popularly known as "pot-belly." In these circumstances the caecum and ascending colon appear to suffer most severely, owing to the fact that this portion of the bowel is hung up at the hepatic flexure, which is rendered more acute by the distension, and consequent elongation, of the transverse colon in a downward direction. This distension of the transverse colon by dragging upon the band which supports the splenic flexure renders it difficult for the contents of the transverse colon to pass into the descending colon. In consequence of this distension the large bowel becomes more or less inflamed, and this inflammation may be sufficient to produce a distinct peritonitis as manifested by effusion.

In a paper¹ read before the meeting of the British Medical Association at Newcastle-on-Tyne in August, 1893, I called attention to the presence of fluid associated with distension of the intestines resulting from malnutrition, and described the manner in which hydrocele and hernia are produced in infancy by the increase in intra-abdominal tension resulting from flatulence and indigestion. It is to a certain extent analogous to the peritoneal effusion which accompanies cases of obstruction of the large intestine by malignant growth, etc. The appendix shares in the inflammatory process, and may do so sufficiently to become attached in the position in which it happens to lie at the time. If the condition occurs early in life the appendix may become attached