ABSTRACT
OF THE

Croonian Lectures

ON

DISEASE AND ITS REMEDIAL
TREATMENT.*Delivered at the Royal College of Physicians,
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LECTURE I.

MANY writers have tried their hands at defining disease. An exact definition, or at least one that shall meet with universal assent, is perhaps impossible in the present state of knowledge. Opinions differ with regard to points of fundamental importance, and the limits of health and disease are not well marked. Mr. Simon considers nearly every disease to be the normal result of a special cause, the only thing abnormal in each case being the presence of the cause; and that in the process itself there is nothing supernatural or mysterious. According to this view the biography of every disease comprises some specific cause and certain resulting phenomena—vital, chemical, mechanical,—which produce the signs by which we recognise the disease. For instance, in scabies, or tinea tonsurans, the cause is obviously the parasite; and the phenomena resulting, certain local inflammatory conditions fairly characteristic. Both of these must be included in the idea of the disease, since neither alone suffices. What is meant by the term “scarlet fever”? A specific contagious particle gives scarlet fever, and causes certain phenomena. But the poison alone is not the disease; neither are the phenomena, which, or others apparently identical, are sometimes combined in a person not suffering from this exanthem. Here the notion of the disease will obviously include both symptoms and cause. So, too, with acute rheumatism, and so with the neoplasms, tubercle, cancer, &c. Thus we may define disease as a complex of some deleterious agency acting on the body, and the phenomena, actual and potential, due to the operation of that agency.

The difficulties besetting the question, What is disease? have not yet been explained away. Are we to regard as diseases congenital malformations, inherited tendencies, and the degenerative changes that take place in various organs as we grow old, and that ultimately cause death? Here disease and health blend, and the boundary line is theoretical, if not arbitrary. Congenital malformations may be looked on as diseases from a double point of view—as the results of abnormal causes, and as the starting-points, in many cases, of grave morbid processes. In inherited proclivities, it might be argued, a different cause is at work from that which produces the resulting disease in those of healthy ancestry, and therefore cause must be eliminated from our conception of disease. But probably in each case the essential cause is the same, the system in the one being more ready to respond than in the other. Secondly, in some other forms of disease, especially forms of inflammation and tumours, it may be said that the cause soon ceases to exert any specific influence, and so the morbid phenomena alone must be held to constitute the disease. We are, it is true, apt to consider and speak of these processes apart from their cause. Nevertheless, in those forms of inflammation to which we give a specific name, we recognise the cause as essential to our conception. Examples of this might be multiplied indefinitely. This view can only be called in question in the case of those inflammations that are due to the local operation of mechanical and chemical causes; but even there the cause modifies the result, especially when that cause is in constant operation. A somewhat similar difficulty surrounds the subject of morbid growths, especially those that are innocent in nature.

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Thirdly, our conception of disease involves not only the pathological changes springing from morbid causes, but these involve others, and those others a tertiary series, and so on continuously. Examples of such complex consequences are to be seen in rheumatism, syphilis, &c. Where is the line to be drawn between the primary and secondary disease? Every day we speak of as diseases conditions, such as ascites, jaundice, dyspepsia, which are really symptoms of some deeper-seated affection; and if this conception of disease be the true one, every separate consequence should be deemed a disease, taking into consideration its cause as well as its presence. When the consequences are numerous and complex, as in scarlet fever, which are we to regard as constituting the primary disease? The answer is—those morbid conditions which spring directly from the operation of its contagium, and not those which survive the disappearance of the contagium, save those which, having originated under its influence, are in process of amendment at the time of its dissolution. The practical difficulty of determining the exact period at which the primary disease ceases to operate does not involve the essential truth of the proposition. Remains of previous disease in the body which have become inert—as calcified hydatid or tubercle—can only be regarded still in the light of diseases when they act mechanically or otherwise as the cause of other phenomena. The definition given already is thus as applicable to disease in the more comprehensive sense of the word as to the parts of each disease taken separately.

Without attempting anything like a complete classification of disease, certain groups may be enumerated into which most diseases with which we are acquainted seem naturally to fall. These are (1) functional diseases, the result of changes of intimate structure and chemical changes unknown to us. (2) Those originating in excess, deficiency, or improper quality of nourishment. (3) Those due to retained excretions. (4) Those due to the action of poisons, vegetable, animal, and inorganic. (5) Those originating in mechanical causes, as narrowing of tubes, &c. (6) Parasitic diseases. (7) Inflammatory affections, tubercle and other proliferating neoplasms. (8) Diseases originating by contagion.

The mechanical group, which is the most simple, may be illustrated by the hypertrophy and dilatation of the left ventricle secondary to aortic constriction, and the corresponding changes in the portion of the bowel above a stricture. In all such cases the muscular wall becomes hypertrophied, not in consequence of any conservative instinct, but according to the ordinary physiological law that muscular tissue tends to become more powerful within certain limits according to the force required. It is conservative by accident only, and neutralised almost from the beginning by the weakening dilatation which accompanies it. In an aneurism of the aorta, opening by a small orifice into the vessel, the deposit of fibrin, far from being an effort of nature to remedy the disease, is an accidental consequence of the stagnation of blood in it, and of the roughness of the wall. It does not occur in the equally dangerous fusiform and saccular aneurisms, and is due to the same process which in a vein not uncommonly leads to death. In the case of parasitic diseases there is no provision for the elimination or destruction of the cause of the disease; many of them increase and multiply indefinitely, and the only way Nature relieves herself is by the accidental discharge of those on the surface, with the epidermis constantly shed off, or by the death of those occupying internal organs.

Poisons coming from without which are easily diffusible, entering by the alimentary canal or lungs, or by inoculation, pass directly into the veins; but probably all that consist of not readily soluble particles enter indirectly through the lymphatic system, and get into the blood only after a comparatively longer period. Of this syphilis affords an illustration, and so also probably do all the contagious diseases. Those contagious particles which enter by the lungs do not seem to reach the air-cells, but become attached to the mucous surface, and pass into the lymphatics, and thence into the bronchial lymphatic glands. In cholera and enteric fever the contagium passing into the stomach and bowels is absorbed doubtless by the columnar epithelium, and passes, not into the vessels, but into the lymphatics. Occasionally, it may be, the contagium passes directly into the blood, and is more rapidly diffused.

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The blood itself is an ever-changing fluid. It constantly tends to get rid of deleterious matters which have entered it, but we cannot expect it to get rid of matters accidentally introduced so rapidly as of those naturally entering it, as urea or bile. The circumstances determining removal seem to be the solubility and diffusibility, or elective affinities with certain organs, as lead tends to be deposited in the muscles of the arm and intestine. The germs of tubercle and carcinoma in the circulation manifest an elective affinity for certain organs. The same is the case in the various forms of contagious diseases. One poison affects one part, another another, and this whether recovery or death be the final issue. In many of these cases it cannot be contended that there is any special eliminative effort of nature to get rid of the matters acting injuriously on the system. It is certainly not so with lead; and if it be contended that in the diseases of limited duration the contagium escapes from the blood through the connective tissue to the cutaneous and mucous surfaces, it may be objected that Nature is clumsy for good, and powerful for evil; for, instead of neutralising the poison on the threshold, she lets it run riot in the system, and only allows it to escape after it has effected all the harm possible, and the power of imparting disease to others has been increased a millionfold. In some diseases, as tubercle, cancer, syphilis, hydrophobia, glanders, there is no attempt at elimination.

In conclusion, it may be admitted that poisonous matters of some kinds tend speedily to be discharged; when they have affinities for certain parts, they tend mainly to be deposited there, irrespective of good or evil, and subsequent morbid processes depend partly on position, structure, and functions of the organs in which the deposit has taken place, partly on the nature of the deposit, whether mechanical or vital, and in the latter case on whether it acts as a ferment and rapidly influences the whole system, or whether it takes root in the tissues and produces proliferation or a tumour.

LECTURE II.

The art of prescribing, though unquestionably very important, rather hinders than advances therapeutical knowledge. Such rules as those of Dr. Paris—"Pharmacologia"—are more adapted for those who believe that they understand the action of medicines in relation to processes of disease than for investigators. In proportion as we combine we deprive ourselves of the power of obtaining precise acquaintance with the individual drugs we employ. But the difficulties in ascertaining the effects of medicine on disease are almost insuperable, and not limited to those which arise from the art of prescribing. One of the greatest sources of error lies in the fact that all diseases tend to run a certain course, varied by constitutional peculiarities and the severity of the attack; and we are apt to ascribe the favourable result to our remedies, and the unfavourable course to the disease. In chronic illness slight variations are put down to the credit of medicines employed, of which they are often quite independent. The danger is increased when we fail to recognise accurately the nature of the disease we are called upon to treat. How often is a specific fever cut short by an emetic, which fever never was; the action of an hypertrophied heart reduced, when only functional disturbance was present. Again, various forms of hygienic treatment are usually combined with medical treatment, and the resulting improvement ascribed to the latter when it is really due to the former. But perhaps the greatest impediment of all is offered by the various theories of disease which spring up from time to time and influence both our judgment of the nature of diseases and our mode of action; such, for instance, as is exemplified in the bleeding, stimulating, and eliminating plans of treatment. Each theory received the credit of the recoveries that were certain to occur under, or in spite of, the corresponding plan of treatment, no attempt being made to ascertain the average duration of the disease, the percentage of deaths, or the frequency of secondary affections. Yet we find it easier to believe in change of type of disease than in change in our own opinions; and theories are invented to account for such a change, founded on imperfect knowledge, and never shown to be true in any large sense.

Functional diseases constitute a large proportion of the maladies with which we have to do. In a large number,

the nervous system, and especially the vaso-motor portion, is involved; but how, and whether primarily or secondarily, is beyond our knowledge. We remain perfectly ignorant of the fundamental causes on which the phenomena depend, and of their intimate pathology. It is not to be wondered at, therefore, that the curative treatment of functional diseases should be for the most part empirical and unscientific; and, when scientific, all the science is bestowed on counteracting or relieving secondary phenomena or symptoms; and here, it must be admitted, we are far from being powerless for good. Yet on many we have no influence, and on many—as chorea—our curative power is illusory. The principles of treatment of diseases due to the action of poisons, and of excessive or deficient or improper nourishment, are better understood, but we often fail to bring them into successful operation from many causes. Of the class of diseases due to the retention within the system of matters originating in the waste of tissues, and destined normally to be removed by the excretory organs, the principles of treatment may be simple, but the means of carrying them out are by no means equally simple. It is often impossible to restore the organ to a healthy state. This is less important, however, in the case of the liver than in that of the kidney. In the latter, besides the usual measures, it is important to check as far as possible the formation of urea &c.; hence the diet should be carefully regulated, and not allowed to exceed the actual requirements of the system.

Mechanical diseases we can only hope to relieve or cure by the means which Nature herself employs, often in a blind manner, and productive of more harm than good. Our best chance of relief lies in moderating rather than stimulating her efforts—in relieving violent spasm by sedatives, rather than by increasing the muscular effort. The impaction of a calculus in the ureter or of a gall-stone in the bile-duct illustrates this. Nor is the case of the heart in valvular disease very different. The dilated and hypertrophied ventricle acts more powerfully, though with less effect, and soon runs into purposeless violence, palpitates, and acts irregularly. Our object must be, not to stimulate the heart, but to allay its irritability, and for this quiet of body and peace of mind are more efficient than any medicine. In justice to Nature, it must be admitted she sometimes makes a compromise with these mechanical diseases: the gall-stone becomes lodged in a cyst—the stricture may be partially destroyed by ulceration; but these are processes we can neither initiate nor aid. Aneurism, another of the mechanical diseases, can only be cured by the deposition of fibrin within the sac—a process which probably no medicine is capable of bringing about, except that which does so by promoting tranquillity of circulation.

Parasitic diseases affect different portions of the body, and necessarily need different kinds of treatment. Wherever we can reach them we have the power of destroying them, and it is very questionable whether their eradication is facilitated by any indirect treatment, tonic or other. It is equally doubtful whether the parasites which are out of our reach can be affected by the remedies which have been administered in some cases with alleged benefit. It is hardly more reasonable to expect iodide of potassium or kama to influence echinococci than to endeavour to remove itch by a course of brimstone and treacle, or ringworm by diuretics.

In no subject has fashion had more influence than in the treatment of inflammation. The obvious differences between the process in different forms and organs is a justification for some of the differences in treatment. The measure of success which has attended the most different systems indicates that the essential course of the disease, its progress towards recovery, was independent of the specific measures employed, which probably effected nothing beyond a little delay or hastening of the progress. So much has this sceptical view found its way that a considerable number have adopted the expectant or "do-nothing" treatment, especially Dr. Hughes Bennett, of Edinburgh, and if statistics mean anything they mean that his success has been remarkable. During the last ten years, Dr. Bristowe has given up the special treatment of pneumonia, and patients have got as rapidly well, and have recovered in as large a proportion, as when special treatment was adopted; and during the last few years he has refrained from alcohol, except during the period of convalescence with equal success.

Acute rheumatism, like pneumonia, arises from exposure to cold, but differs in its less definite course. There is strong reason to believe that each local inflammation acts as the starting-point of fresh complications. Numerous systems of treating it have sprung up, and each has been attended with a fair amount of success. It is even more difficult than with pneumonia to judge of the influence of treatment. A specific remedy must be one that curtails its course, and prevents heart disease; but a little experience shows that no such remedy has yet been found. The value of statistics in settling the point at issue is doubtful. The tables of Sir Wm. Gull and Dr. Sutton have been rearranged by Dr. Fuller to prove that they are wrong. Dr. Bristowe's experience with regard to acute rheumatism is the same as with pneumonia. In many other inflammatory affections, in common catarrh, psoriasis, carbuncle, and herpes, for instance, it is doubtful if we can do more than in acute rheumatism or in pneumonia. Psoriasis is especially regarded as a curable disease, but its course is generally intermittent, and many reputed cures by arsenic &c. are probably due to the fact that the patient was put and kept under its influence until the normal time for the disappearance of the rash.

Yet there can be no doubt that we have it in our power to influence very materially the course of these and many other inflammatory affections. If we cannot cure, in the sense of stamping out the disease, we can at least improve general health, prevent exposure, and relieve symptoms or complications, and so by judicious exercise of art, give relief, hasten convalescence, and save life.

LECTURE III.

Effusions of various kinds—of blood-serum or of the products of secretion—fall naturally into one or another of the groups of diseases enumerated in the first lecture, but their treatment deserves special consideration. Its chief difficulty resides in the fact that their causes are, for the most part, in permanent operation, organic, and incurable. Organic disease of the kidneys, emphysema of the lungs, valvular disease of the heart, are conditions not only incurable but progressive, and permanent cure of the resulting dropsy would seem out of the question. Still many inconveniences and dangers may arise from the mere accumulation of dropsical fluid, and its removal, even temporary, is desirable by puncture or by action on the various emunctories by which fluids are usually removed from the system. Of these the lecturer has most faith in diaphoresis, least in diuretics; never having seen anasarca removed by diuretics alone. In no case of localised oedema do diuretics appear to have any effect, and yet if they are potent to relieve general dropsies they ought to be able to relieve local dropsies; if able to remove oedematous fluid from both legs, surely they should be able to remove it from one. That purgatives can remove much anasarcaous fluid is beyond doubt. During the cholera epidemic of 1854 a man with general anasarca one morning called attention, with much satisfaction, to the disappearance of his dropsy; in a few hours he died of cholera. Diaphoresis the lecturer has used with great success, but he has as little confidence in medicinal diaphoretics as in diuretics. The hot-air bath, however, has yielded excellent results in dropsy from both renal and heart disease. But in these, as in so many other cases, health-producing hygienic conditions co-operate with the special treatment, and are concerned in the result.

Of dropsical effusions within cavities ascites is one of the most important. Here it is very doubtful whether diaphoretics, diuretics, or purgatives have any beneficial effect alone. If those measures will remove fluid from the peritoneum or the pericardium, they ought to be capable of removing it also from an ovarian cyst or a hydrocele. They probably do good, in cases where benefit follows their employment, by improving the general health. Uncontrollable diarrhoea is a not uncommon attendant upon ascites, and is, for the most part, of bad augury. But in most cases of ascites, improvement of the general health by tonics, iron and quinine, yields good results. Ten cases treated thus were communicated by the lecturer to the Clinical Society, in nine of which the dropsical effusion was lost after tapping. In cases of general dropsy also tonic treatment is of great benefit.

Neoplasms form a large proportion of the diseases we

are called upon to treat. Some disappear spontaneously; others are influenced by medical treatment. Most innocent tumours are quite beyond reach of remedies taken into the system. Iodine long enjoyed a reputation for the cure of goitre, but when it was discovered to cure goitre, it was discovered equally to cure the male of his testicles, the female of her breasts. Long experience has shown that the belief that it could influence the latter is altogether illusory, and it may be asked whether anyone believes that goitrous necks are less common in Switzerland than before iodine was discovered to be a specific. The lecturer has seen no case of goitre in which its use was followed by any satisfactory evidence of amelioration.

Passing over the malignant growths, we come to tubercle, in some respects a malignant disease, but differing from the diseases allied to carcinoma in the remarkable proneness of its growths to undergo degeneration and become inert, and in the occasional arrest of the disease.* Drugs, probably, have no direct influence upon it, but there seems no reason to doubt the effect of cod-liver oil and tonics, which improve the patient's general health, and so favour the tendency of the disease to die out.

Syphilis forms an important link between tumours and the exanthemata, but differs from both in its inherited communicability. No treatment in the primary stage will prevent further symptoms. Mercury and iodine seem to have an almost specific influence upon it, but often with (and sometimes even before) the discontinuance of the medicines the symptoms recur. On the assumption of the nature of the disease and its diffusion from fresh centres, given in a previous lecture, it is easy to believe how, after the most thorough apparent cure, the germs of the malady may be left behind in some remote corner, ready to prove the starting-point of a fresh outbreak. The transitory nature of the influence of the most powerful remedies upon it resembles the action of some other specifics, as quinine and arsenic in ague, colchicum in gout, which seem to have little or no power to prevent a recurrence of the maladies over the individual attacks of which they exercise so marked an influence.

For the treatment of the specific infectious fevers innumerable methods have been recommended. Of late years the conviction has become more and more prevalent that we are unable by our remedies to cut any of them short. We can only sustain the patient, and prevent or relieve unfavourable contingencies.

All these diseases are obviously preventable. Few, if any, arise *de novo*; and our power of preventing their spread is increased by a knowledge of their actual history and the sources of their contagion. Such, for instance, is the case with syphilis; and we cannot but lament the educated bigotry which is opposing, with so much earnestness and success, the efforts of sanitary authorities to check a disease which is not only a source of the direst misery to those who contract it through their own misdeeds, but which visits the sins of the fathers upon the children to the third and fourth generation. When the origin of cholera was unknown, no efficient mode of staying its spread could be proposed. Now that we know that the contagium passes almost entirely by the evacuations, and that contaminated water or food communicates it, the requisite measures become apparent. But although we are powerless to cut these diseases short, it is probable that by careful attention during their earliest stages we may render the attack milder; and throughout its course we may often diminish its severity by attention to hygienic measures, and may do much to relieve functional disturbances, whether an essential part of the disease or accidental complications. Again, in most there is a tumultuous development of protoplasm, attended with the production of much heat and rapid destruction of the albuminous tissues. A temperature much exceeding the normal is certainly injurious, and increases the severity and danger of the disease from which it results; and its reduction by the tepid or cold bath is often of great advantage. The retention of effete matters in the blood cannot but be detrimental, and benefit may result from stimulating the sluggish excretory organs to increased activity. It has been assumed, partly from the tendency of the period of greatest severity of the attack to be attended by some discharge termed "critical," partly from the fact of the occurrence of a rash on the skin or mucous membrane in which the contagium thickly resides, and from the fact that

many poisons pass out by certain paths, that there is a natural elimination of poisonous material, and hence that a cure may be promoted by the encouragement of that elimination. The theory of elimination is an old one, which has obtained special interest from Dr. Johnson's views on cholera. It must be admitted that if cholera depend on a poisonous something which multiplies in the blood, and thus causes the characteristic symptoms of the disease, and if recovery depend on the separation of this at the mucous surface of the bowels, it would be desirable to adopt measures to promote such separation, and undesirable to do anything calculated to arrest it. It may, however, be doubted whether this chain of hypotheses is sound. The modes in which the organised particles constituting contagium become introduced into the blood, and their numbers augmented and kept up in it, have been already considered, and it has been pointed out that their residence in it must be of short duration, since they cannot be detected in the circulating blood by the microscope, and since the blood is rarely capable of inoculating the disease upon healthy persons. This renders it most improbable that the characteristic symptoms are due to the presence of the poison in the blood. In carcinoma and syphilis it is certain that so long as the germs are retained within the vessels they cause no symptoms. It is not denied that the blood becomes much affected in many of these diseases; but it is contended that these changes are not, except in slight degree, specific, but are due to the rapid destructive processes going on in the tissues, and the insufficient removal of their products. It seems clear that the characteristic symptoms of fevers do not arise so long as the specific poisons are merely circulating in the blood, and that poisonous or foreign matters in the circulation tend rapidly to leave it. Whether their escape into and operation on the solid tissues is beneficial, or injurious, or neither, depends on other circumstances. It is so with inorganic poisons, with substances given as medicines, and with the germs of syphilis and tubercle. Is it not so with the infectious diseases, measles, small-pox, &c.? All that renders these diseases characteristic and dangerous to the person himself or to others, is in intimate relation, not with the processes within the bloodvessels, but with those occurring externally to them, and dependent on the escape of the contagium from the vessels. In small-pox the patient receives the poison, and after a time there occur the peculiar symptoms and the rash. On the eliminative theory it is assumed that the poison discharged from the blood produces the cutaneous inflammation as a step towards its final discharge from the body. Obviously this is not the fact. No doubt the poison of small-pox escapes and produces the inflammation of the skin; but it is at least equally certain that the skin thus inoculated becomes a most active manufactory of the virulent poison. It can hardly be argued that all the virus of each pustule is from the blood. Clear evidence on this subject is afforded by the phenomena of inoculation. The primary pustule goes through the same stages as the others, no doubt from the direct multiplication of the poison inoculated, and it follows almost as a matter of course that the other pustules are due to a similar local multiplication of the poison. If this be true of small-pox, surely the same is true also of scarlet fever, measles, and probably also of whooping-cough and mumps.

Are not all these considerations applicable with equal force to the explanation of the phenomena of cholera? A specific poison enters the blood which has a marked tendency to become eliminated by the alimentary mucous surface. There is no proof that this acts injuriously while retained, and, judging mainly by analogy, it may be assumed that it produces its characteristic effects when it escapes from the blood and acts on the solid tissues. That it undergoes development out of the blood is established by experiments on animals, and by the experience that cholera evacuations become more and more infective up to the time at which, after a few days, they are rendered inert by the advance of putrefactive changes.

A further argument that the contagious particles multiply in the blood or organs, and then sow themselves and germinate in the tissues outside the vessels, rather than are merely eliminated thus, is shown by the fact that the foci of contagion never reinfect the individual. The inoculated pustule of small-pox throws out effective contagious particles into the system. Similar pustules formed at a later date

have no such ulterior influence. Absorption by lymphatics is a passive and unselective act, and so no doubt absorption takes place from the secondary pustules as from the first; but whatever is thus absorbed remains inoperative. It may be said that this is connected with the protective influence which follows an attack, but this consideration does not explain the phenomenon. The essential feature is that the duration of the disease is limited—a limitation not determined by the tendency of the vastly multiplied poison to pass off by the emunctories, but due to some occult influence exerted by its development which renders it ineffective for further aggravation or maintenance. The cessation of the disease does not depend on elimination, but on the supervention of a condition which renders the poison inoperative.

These conclusions are incompatible with the value of the eliminative treatment of contagious diseases, and the results of experiment are scarcely favourable to it. Where it can be best applied—as in the exanthemata, which develop chiefly on the skin—measures to promote it would tend rather to increase the rash; and every physician, as a matter of course, treats the patient on the opposite principle, and discourages elimination. Does anyone think of eliminating diphtheria by encouraging the development of false membrane? Yet, if the eliminative theory be true, this should be the proper mode of treatment. There are no sufficient grounds for regarding the discharges of cholera as more eliminative than the eruption of small-pox or the membrane of diphtheria: as the latter is the chief source of danger, and its development is to be moderated as much as possible, so the alvine discharges are detrimental, and to be restrained. The occurrence of rapidly fatal cases of cholera without much evacuation neither proves that such discharges are not a source of danger nor that they are eliminative. Such cases bear the same relation to ordinary cases as do those terrible cases of small-pox, measles, and scarlet fever in which the patient is struck down by the intensity of the attack, to the more common forms. In recorded experience there seems to the lecturer to be little evidence in favour of the purgative plan of treatment, which is so opposed to these theoretical considerations. He doubts whether, in the premonitory stage, it is possible to prevent the subsequent full development of the attack, or materially influence its progress, by either purgatives or astringents; and whether, in the later stage, any benefit can be derived from opening medicine to remove poisonous matter from the bowels—a proceeding which may be compared to the removal of the scabs in variola and the squamæ in scarlet fever. In the premonitory stage, the poison is in the system, and is not in the bowel, and a purgative is no more likely to expel it than is a hot bath to remove the poison of variola through the skin. In the second stage absorption is impossible, and it is obviously useless to give medicines which only operate after absorption. It is as reasonable to hope to check or hasten the discharge by remedies acting locally, as to hasten or retard the downward rush of a mountain torrent by throwing astringent or purgative medicine into it.

Though a large number of diseases are incurable, the skilful physician has numerous opportunities of exercising his skill for the patient's benefit by guarding against and averting complications, and treating as they arise those symptoms which distress the patient or endanger life. He may often be able to cure the patient, though he cannot cure the disease. Further, in many diseases, especially in functional ones, it is absolutely within our competence to cure the disease. In all, regulation of the emunctories, strengthening of the nervous system, improvement of digestion by tonic medicines and regulated food, are of the highest importance. By such means patients are often saved from death during the severity of disease, and brought into safe convalescence.

In conclusion, Dr. Bristowe observed that he feared that much that he had said was little likely to command acquiescence. It was easier to pull down than to build up, but he trusted that he had used no expressions which might have seemed disrespectful or contemptuous towards the opinions of others. He certainly entertained none towards those which he had most freely criticised. Those who held them were as entitled to do so as he was to hold his, and he had no claim to be the judge between himself and them.