evolution, and in cases which, superficially regarded, are uncomplicated. But having great integration of medical knowledge of other kinds, he does not regard them as eye-diseases only, but finds what they mean, what wide symptomatology they are important elements of. By co-operation of many different workers, each with definite or special knowledge of particular kinds, and each with great integration of more general knowledge, we may hope to thoroughly analyse three very complex symptomatologies. The symptoms are slowly produced, are presented in detail, are persistent or permanent, and, so to speak, are comparatively simple analysing experiments by disease on the lowest level of evolution (simple dissolutions). But now regarding these symptoms taken *en bloc* as signs of negative lesions of (nearly) all parts on the lowest level of evolution, let me compare and contrast them with symptoms from negative lesions on the highest level.

The condition of a patient after a severe epileptic fit is one of nearly universal, and almost total, paralysis (dissolution effected). He has loss of consciousness, but this has nothing to do with his not moving. The symptomatology is, so to speak, the "evolutionary sum" of all, or nearly all, the symptoms of all the diseases on the lowest level of evolution. This statement needs obvious qualifications; one is important. Since the epileptic discharge, beginning in the highest centres, produces effects in nearly all (onto- and epi-) peripheral parts, currents from this primary discharge must have traversed and discharged more or less of the middle and lowest centres, in order to "get at" the periphery. Hence the paralytic condition after a very severe fit will be a very compound one, a very compound dissolution, all orders of centres being somewhat exhausted, but in different degrees.

Thus the neurologist, by availing himself of the different definite work which ophthalmic surgeons, aural surgeons, laryngologists, etc., are doing at different points all along the (1) lowest level of evolution, by working himself at different diseases on the (2) middle level (epileptiform seizures, monoplegias, migraine, etc.), by working with the alienist physician at diseases of the (3) highest centres (epilepsies and insanities) may hope to justify his differentiation. The several workers may hope to add (1) different (2) definite knowledge to, and further the (3) integration of general medical knowledge, and to lead to a higher and more methodical (4) co-operation of different workers. I say once more that this wide comparative study cannot be methodically undertaken, if we confuse psychology with the anatomy and physiology of the nervous system—not if we take the *organ* of mind to be mind. The "*organ of mind*" is simply a series of centres re-representing impressions and movements of all, literally all, parts of the body.

LACTIC ACID AND TUBERCULAR LARYNGITIS.—A discussion has taken place in the Berlin Medical Society on the value of lactic acid in laryngeal tuberculosis. Dr. Krause stated that, of fourteen undoubted cases he had treated in this way, some were improved, and some completely cured. The least satisfactory cases were those where the posterior wall of the larynx was affected; also those where there was a lesion below the vocal cords which could not be well brought under the influence of the application. The voice improved, also the power of swallowing, and the general condition of the patients. Dr. Rosenberg confirmed the statements of Dr. Krause as to the good effects of lactic acid, but, for his own part, was still more satisfied with the results of a twenty per cent. solution of menthol. He was also treating pulmonary phthisis with menthol-inhalations. Dr. Lublinski had had a certain amount of success with lactic acid, but found that, after the ulcers had healed, they again broke out. Professor Virchow pointed out that when these ulcerations healed, a cicatrix only was formed, not true mucous membrane. He hoped that further observations on this subject might be made, especially on cases that had healed for some time.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.—The first meeting of the thirtieth session was held on Friday, November 6th, when the following officers were elected. *President:* Robert E. Carrington, M.D. *Vice-Presidents:* C. H. Hart, L.R.C.S.I.; F. B. Jessett, F.R.C.S. *Treasurer:* Prior Purvis, M.D. *Secretary:* H. W. Roberts, M.R.C.S. *Librarian:* J. B. Sandry, M.D. *Council:* J. Brindley James, M.R.C.S.; W. C. S. Burney, L.K.Q.C.P.; H. G. Cable, M.R.C.S.; W. Collingridge, M.D.; A. Forsyth, M.D.; John Marshall, M.R.C.S.; Frederick Moon, M.B.

RUSSIAN PROFESSORSHIPS.—Dr. A. Bruyeff, of the Military Medical Academy of St. Petersburg, has been appointed Professor of Syphilography and Dermatology in the University of Kharkoff. Professor Danilevski, of Kazan, has been appointed to the Chair of Physiological Chemistry in Kharkoff.

INAUGURAL ADDRESS ON MEDICAL TREATMENT.

Delivered before the Midland Medical Society, November 11th, 1885.

By SAMUEL WILKS, M.D., LL.D., F.R.S.,
Consulting Physician to Guy's Hospital, etc.

Slow Progress of Disease.—*Duty of the Medical Man as regards the Study of its Causes and its Prevention.*—*The Voice of the People as the Medical Man's Guide.*—*The Study of Disease and its Causes the true Foundation of Medical Practice.*—*Importance of Studying the Natural History of Disease.*—*Origin of Treatment by Drugs and other Agents.*—*Therapeutics as a Science.*—*Limitation of Value of Observations on Healthy Subjects.*—*Influence of Fashion on Modern Changes in Treatment.*—*Multiplicity of Medicines undesirable.*—*Specialism.*—*Increased Closeness of Relations between Medicine and Surgery.*—*Antisepsis.*—*Summary.*

[Continued from page 903.]

Influence of Fashion on Modern Changes in Treatment.—The difference of treatment from a former age is due, partly to an advance, but more to a change in fashion. Then it was thought that disease implied some over-activity in the part of the body affected, and it was to be knocked down by depleting measures—such as bleeding, general or local, assisted by medicines of the nature of purges, emetics, and salines, combined with low diet. Now, the theory of modern medicine can be best exemplified by turning to the advertising pages of the medical journals, in which you will perceive that there is no insertion of any medicine of a lowering nature, and, if there were, not a single dose would be sold. Every patient is too low, and all the chemist's powers are exercised to produce strengthening remedies. After the clever combination of quinine and iron had existed for some time, strychnine was successfully added to them, and large was the number of people swallowing the compound. This continued until some one suggested the addition of phosphorus, as necessary for weak brains. As a fortune seems to be soon made with these invigorating compounds, we need not lament that it was soon to be superseded by a similar mixture, combined with cod-liver oil. Then some wary rival found that these would not digest without lactic acid or pepsine, and a new compound was framed. Then, the articles of diet are all made on the same principle; the strongest essences of meat are sold, so that a spoonful is equal to a chop or pound of beef, and a little maltine is as invigorating as, and less injurious than, a pint of beer. To prove the value of these things, I propose that a healthy chemist be taken, and made to live for a month, if possible, on his own essence of meat and maltine, with perhaps a few peptones thrown in. If he fall into a bad way, he should then be revived by chemical food—such as the lacto-phosphates, Siegel's syrup, or some good blood-restorer. I have intended to imply, as you no doubt comprehend, that we are too much in the hands of the chemists and druggists; and that, instead of administering simple remedies of known effect, we have been content, through laziness, to prescribe these popular strengthening compounds. In this way, the therapeutic art will assuredly not advance; and it is equally evident that, if it were placed on a scientific basis, nothing could be more conducive to the death of all quackery. The latter could not exist if the prescribing a medicine implied a knowledge of its action and the proper occasion for its employment.

Since the discovery by Bernard of the regulating power of nerves over the smaller blood-vessels, hopes have arisen that we had therein a clue to the operation of medicines, as well as an explanation of many morbid processes. A paralysis of the vessels, or their increased tension through the influence of the nerves, could explain almost every action in the human body. It was thought by one enthusiastic physician that in belladonna and strychnine might be found the universal remedies; the same idea was simplified by the substitution of heat and cold. It was certainly interesting to observe how the system could be made applicable both to surgical and to medical treatment. If the physician, by giving an internal medicine, could, by acting on the vaso-motor nerves, increase or diminish the supply of blood to a part, and so arrest the morbid process, in like manner the surgeon could apply an astringent to an inflamed conjunctiva, or paint nitrate of silver on an erysipelatous surface, or, by a more mechanical way, arrive at the same end by strapping an inflamed joint or testis, or arrest a growth in a limb, by tying the main artery which supplied it.

To me it seems strange that such a simple system should ever have

been propounded, fascinating as the theory is, seeing how complex is the human body, and how manifold are the conditions falling under the name disease. There was a time when a section of the profession thought that all changes occurred primarily in the solid tissues of the body, and the members were called solidists, in distinction to the humoralists, who thought that all disease commenced in the blood.

Now, if we prick the skin with the finest needle, we wound blood-vessel, nerve, and various cells, so closely are all parts united in the nutritive process. It may be true that the prime mover, in one case, is the blood, and, in another, the nerve, etc.; but it is quite impossible to separate the tissues, for pathological purposes, in the subsequent changes which take place. If fancy is to rule medical doctrine, we might have a third, for we hear our patients speak of a complaint flying from one part of the body to another, and then we should have the solid, humoral, and aerial pathologists.

How any general law of curing can be made applicable to the human body, seems to me about as likely as some general method of putting a watch or steam-engine to rights when out of order. No truth can be told in a few words. I myself have a great horror of formulæ; they are as false as telegrams, and, like proverbs, express one particular attitude of the mind, and that is all, for an exact opposite of every proverb can be readily found. I have a great sympathy with John Hunter in this respect, who says, in his lectures, "Of all things on the face of the earth, definitions are the most accursed; for if you make a definition, you may bring together under it a thousand things that have not the least connection with it."

Multiplicity of Medicines undesirable.—I should be loth to discourage true therapeutics, since the scientific method of treating disease is one great desideratum; but, at the same time, the discovery of a substance which shall act in some powerful manner upon the organism is only a small part that is required. Judging from the immense number of medicines in use, and these daily increasing, one would think that the sole object of the physician was to discover new remedies. In looking over a list lately sent me by a druggist, I counted no less than fifty drugs whose names I had never before heard of, and the multiplication is still going on. It is not medicines which we want, but a better knowledge of how to use those which we already possess. It has been said that all we have to do is to treat symptoms, but I never could see the force of this reasoning. The symptoms must depend upon a cause, and, unless we know their meaning and their origin, we cannot be sure whether we are right in treating them. Such a case as the following I constantly meet with.

I was asked to go a few miles from London to see a young man who had for some days been the subject of constant vomiting. The medical man told me that he had given every known remedy, when I suggested iodide of potassium. This he never heard of as a remedy for sickness, but, after listening to the lad's history, an examination of the eyes, and the discovery of a lump in the testes, he willingly gave it. After a few doses the sickness had passed, and the young man was in every respect better. The medicine had been operating on the prime cause, which, no doubt, was a gummatous substance on the brain.

I say, even if you have a remedy for symptoms, it does not follow that you should use it; for example, I once heard a medical man order some Dover's powder for a patient suffering from rheumatic fever; his friend objected to it, since it would increase the sweating and weaken the patient. "The very thing I should give it for," said the other, "for I believe the disease is really cured by sweating." You see it was not the question of some remedy, but whether a known medicine should be used or not.

I constantly hear the opinion expressed, that our knowledge of therapeutics lags far behind our knowledge of physiology, pathology, or clinical medicine. I have no sympathy whatever with this notion, for I believe they all go hand in hand; and if I venture my own individual opinion—and with this, perhaps, some of you will not agree—I do not wish for any more drugs, for of what good would they be to us? What is the use of putting edged tools into the hands of children who do not know how to employ them? What is the value of a drug, even if we be not uncertain of its action, but have no knowledge of the indications for its use? I think you will, perhaps, be the more inclined to agree with me if you look into the past history of medicine; and what is true of the past is true of the present in a lesser degree. Suppose our ancestors, with a less amount of knowledge of disease than ourselves, had been in possession of powerful drugs, is it not clear that harm would have been done by their employment, as we know was the case by a misuse of those which they had, and of other powerful agents? Had they not the means of

using stimulants, and applying heat and cold, and similar methods? and do we not know that they injured their patients by their use? Take, for example, the specific diseases attended by fever; we are all now aware that the fever is a dangerous symptom, and that the patient will run favourably through the disease when this is kept in abeyance. Now what thought our forefathers? Why, that the symptoms should be encouraged, and heat was to be promoted. What was wanting to these good people was certainly not powerful agents, but a better clinical knowledge of disease.

Hear what Sydenham says. He tells us that, before his time, he found small-pox treated by placing the patients in a hot room with a fire, and closed windows, and with blankets heaped upon them. He, with more enlightenment, commenced a totally different system. He opened the windows, and allowed the patient to lie cool; and the good result was so marked, that he was forced to the melancholy conclusion that people would do better if left quite alone, than be treated by the usual method. Here are his words: "It appears, from what has been said, why so few of the common people die of this disease, compared with the rich that are killed by it, which, indeed, can hardly be ascribed to any other cause than that, by reason of their poverty and country way of living, they have not power to hurt themselves by a more accurate and delicate regimen. But this disease has destroyed more of the common people since they knew the use of mithridate, diascordium, and decoction of hartshorn, and the like, than in ages more unlearned, but far wiser; for now there is scarce a house wherein there is not a pragmatical woman who practises that art to man's destruction which she never learnt." Now, this is really an awful consideration, that the use of remedies should ever do harm; but if the reason was clear that it was so in Sydenham's time, it must be true still. I confess, for my own part, that I never pass a week without having inwardly to exclaim, "Thank Heaven, we have no more drugs, and those in use are not so powerful as their administrators would wish." I will explain. I see a lad with pleuritic effusion which has pushed down his liver; the medical man had overlooked the presence of water in the chest, but had discovered the liver below the ribs. He considered this to be enlarged, and gave the boy mercury to reduce it. Now, is it not fortunate that mercury had not the wished for power in reducing a healthy liver to half its size? Again, I see people with osteitis deformans and other cases where the bones are enlarged, and iodide of potassium is almost universally given, but it never does any good. Again I exclaim, "How fortunate is this. Could iodide of potassium absorb bone, what a responsibility would rest on the medical men who prescribe it, and in what a condition would all the skeletons of civilised people be."

Another example, the hypertrophied spleen. Nearly all patients with this affection are given quinine and iodide and bromide of potassium in order to reduce it. How thankful I am that these attempts are ineffectual; for if these drugs could absorb healthy spleen-structure, what a mass of people would now be spleenless! I have more than once heard a medical man deplore the want of a more powerful styptic in a case of hæmorrhage from the lung in heart-disease, and in hæmorrhage from the stomach in cirrhotic enlargement of the liver, when Nature was doing her best to relieve the congested organs. If good liver-tissue, bone-tissue, and spleen-tissue, could be removed in the manner hoped for by the medicines given for the purpose, and if gorged lungs and livers could be stopped from emptying themselves by styptics, is it not a mercy that we have no more powerful drugs? The only compensation I can see for these direful influences would be the compensating power of reproduction by other medicines, in the way of flesh-formers, fat-formers, blood-producers, and the like. For example, a little idiot child is taken to a medical man, who prescribes for it cod-liver oil and phosphate of iron as being the only likely remedies to improve the brain, seeing that phosphorus and fatty matters enter into its composition. Now, if the prescriber had his wish, he would have liked to create some more good cerebral tissue, or to see the brain grow. Supposing he could have done so, consider the gigantic brains and corresponding intellects which it would be in the power of the profession to produce.

The result of all this experience teaches me that we have enough drugs for our present state of medical knowledge. In spite of the enthusiasm of some as to the value of drugs, I think there must be a large amount of scepticism afloat in the minds of the profession; for if, for example, in a case which is believed to be tubercular meningitis, medicine should be given in a most serious mood, and the child recover, the medical man thinks he must have been mistaken in his diagnosis, and the disease could never have existed. He never fails to give medicine, but never expects it to do any good; he has some kind of hope that it may be useful in some other way. Now this is a very curious attitude of the medical mind:

to prescribe for a complaint in the hope that it does not exist, or that it is something else. Then, again, scepticism is shown in the absence of any compunction of conscience when we discover that we have mistaken the nature of the case. Now, if remedies were more precise in their action, they would do harm if wrongly prescribed (as assuredly all good remedies do), and when the discovery was made, our bewailing would be great; but this is not so, or with rare exceptions. I think Helmholtz told us that he was brought up to the medical profession, but when one of his patients died, he felt the responsibility so great that he gave up medicine for the study of natural science. Simple-minded man! Now, I think I can show you how an improved treatment has come about, not by the discovery of new drugs, but by a better knowledge of the nature of disease, and by clinical observation. Thousands of persons are now cured of epilepsy, paralysis, and various other nerve-disorders, by means of iodide of potassium; and why? Because syphilis was found to attack the brain and internal organs, when a more extended and closer observation of morbid structures was begun to be made in the *post mortem* room. Let me most emphatically dwell upon this fact, that an improved treatment, saving thousands of lives annually, arose, not from the discovery of a new drug, but from work in the deadhouse. Suppose phthisis is proved to be of bacillary origin, and is to be treated by antiseptics. Where are we to look for the origin of the improved treatment? Not to any new remedies, for they were already at hand, but to the pathological laboratory at Berlin. The cold bath has saved many lives in hyperpyrexia; the remedy had always been before us, but was not put in force until suggested by the thermometer. Look, again, at the enormous improvement in surgery due to the antiseptic treatment, whereby tens of thousands of lives are now annually saved. This was not due to the discovery of new remedies, but by seeing the necessity for using those which we had. I might go on illustrating the fact that a very large part of the improved treatment of late years has not been by the use of new drugs, but by pathological and clinical researches which have pointed out the use to us of those which we have always before us. It would require a long survey of the practice of medicine to show the proportional advances made in treatment by the introduction of new drugs and by an improved pathological and clinical knowledge. You must judge for yourselves; but for my own part, if I look merely at the two examples I have mentioned—the cure of visceral syphilis by iodide of potassium, and antiseptic surgery—and remember how the improved treatment has saved thousands and thousands of lives, I cannot but think that the preponderance in favour of pathological and clinical knowledge is overwhelming. It seems to me that, so far from therapeutics lagging behind, we seem to be ever ready with drugs when we require them. A well known gynaecologist told me, the other day, that every rising member in his department had invented a new pessary, but probably there were only one or two who had the experience to know whether the instrument was wanted or not. The treatment had far outrun pathology and clinical medicine.

I am not saying a word against pharmacology, for I hail with delight the introduction of a drug whose action we know and whose use we have ascertained; and as regards this department of our art, I believe great advance has been made of late years. I have been more than once told by examiners at medical boards that students fail in writing prescriptions. I answer that this is probably true, but that they have learned something better, a knowledge of drugs. I can go back now many years, and call to my remembrance Addison and Babington in the wards of Guy's Hospital, and their dictating prescriptions which were written out in a book by the clerk, but I have no recollection of their ever giving a reason for mixing a dozen drugs together. It is very different now. After an examination of the case, the physician asks what is the best treatment to pursue, and if there be any medicine which may be of service to the patient. If it be thought so, a medicine is ordered in its simplicity. The students have thus an opportunity of watching its effects unalloyed with other drugs, and in this way they acquire a positive knowledge of the effects of iodide of potassium, digitalis, belladonna, or arsenic. They know now that quinine is not only a tonic, but an antiseptic and antipyretic. A very revered physician, who died not long ago, is reported to have said that therapeutics had retrograded in the last twenty years. This coincided with the time at which he retired from practice. I believe there is not the slightest truth in such a supposition, but, on the contrary, I hold that it has made a marked advance.

I said just now that it is the custom to prescribe a drug for every ailment for which the patient seeks our advice. I am well aware that this is often done to act on the patient's mind, rather than on the supposition that it has any directly curative effect. I believe this is not only legitimate, but right, for human nature requires

something to be done on which to rest. None of us are so strong-minded but that, if, while we lay on a bed of suffering, a friend came in, and put something in our mouth, assuring us, at the same time, that it would do us good, we should not be relieved, and feel happier than if we were told we must lie and suffer. I think, however, that when we have prescribed for the patient's mind, we should hesitate before giving him medicine for the sake of his friends. When, for example, a patient is lying unconscious on his bed, and beyond all hope, I feel very reluctant to make him swallow physic for the satisfaction of those around him. If it do him no harm, so much the better; but how often is the medical man asked to give a patient a narcotic because he does not sleep at night, and the friends are tired of the weary hours? A man, although he obtains snatches of sleep during the day and night which suffice for his necessities, must have an opiate given him because the wife declares that she cannot go through another such night.

My belief in remedies goes to this extent, that if the right one for the complaint be given, it is tolerated, and that all good remedies, if not rightly administered, do harm. When, therefore, I hear of a universal remedy like bromide of potassium being given with impunity for any time and in any doses, I do not form a very high opinion of its value.

I believe also that we have a sufficient number of remedies to afford relief in all complaints, even the organic and incurable; therefore, if in any case no medicine be of any good, and the patient say "I cannot take this, and I cannot take that," I conclude that he or she has no disease to cure. We thus have a number of patients who are never any better for our treatment, and I am often inclined to reverse the aphorism of Hippocrates, and exclaim, "Life is long, but art is short."

Specialism.—I find it impossible to speak of medical treatment without touching on the subject of specialism. I do so rather reluctantly, because a discussion of it seems apt to arouse angry feelings—a fact in itself, however, which might be made use of in arguing the question of its advantages. From what I have already said, there can be little doubt in what direction my own thoughts tend; for, when I say it is a prime duty of the medical man to discover the causes which give rise to complaints, and that many of these are to be found in our usual surroundings, it is evident that a very large and comprehensive view must be taken of the conditions in which we live, before we can arrive at a conclusion upon this point. When, again, a large number of ailments are due to the wear and tear of life, and of age itself, a consideration must be given to the working of the whole organism, in order to understand the derangements thus brought about. No limited view of one part of the body would suffice. Again, if one organ be so markedly diseased as to warrant the expression of a name denoting its morbid change, a large number of other parts are affected in relation with it. This is one of the most striking facts observed by those who make *post mortem* examinations, and I can substantiate it with the result of large experience: that, under whatever name the patient dies, a very large number of structures in the body are found altered from their normal state; and, on the contrary, that a number of persons dying under different appellations may be all the subject of the same disorder. One may be dying insensible with coma, another with fits, a third with apoplexy, a fourth has pneumonia, and so on; and yet all these persons are the victims of chronic Bright's disease. During life, the affections which are called secondary or accessory to the main disorder may not be so manifest, but assuredly they exist. In these circumstances, it seems to me perfectly impossible for anyone to treat one organ alone, without a due consideration of others; and I know as a fact, from observation, that the best physicians are those who can take the body as a whole, and study the relations existing between the parts, and then regulate the functions accordingly. As regards medical specialism, or that which relates to physicians' practice, it has no basis in nature, and therefore cannot be attempted without detriment to the patient. Now, although it is not applicable to internal complaints, specialism may be of service in the surgical department. I think it is evident that a man who is always using his hands in a particular manner must gain a facility which others cannot possess, and therefore the necessity of the oculist and the operator in some other special sections. I apprehend that the surgeon who did nothing but perform herniotomy would be more skilful in that operation than the one who did nothing but amputate, and *vice versa*. To what extent the surgeon should thus subdivide himself with advantage, is another question. The gynaecologist, in like manner, who is constantly making an examination of the uterus, must gain a facility of diagnosis which others cannot have; but, as regards the mere disturbances of the sexual organs, then the general physician can equally take cognisance of them, seeing that they occur in connection with

every kind of disease. As a matter of fact, therefore, pure specialism can exist to only a limited extent; and the public are in error when they think that there are physicians with special hospitals devoted to the treatment of kidney, liver, heart-disease, etc. The nearest approach to specialism in medicine proper, is seen in the case of a general physician whose inclination leads him to the study of some disease, and writes a book about it. This will always be the case; but such men are not regarded as specialists either by the profession or by the public. The public opinion is virtually expressed in the words which I heard let fall the other day from a poor woman who had been sent to two of the leading hospital-surgeons in London for cancer, both of whom had written on the subject. She was not content until she had seen the surgeon of a special cancer-hospital (whose name was unknown to me), and then told her friends she had consulted "the head cancer-doctor."

If purely local diseases existed, something might be said in favour of specialism, especially if the medical attendant could proclaim with ease the part at fault, and recommend the proper person to put it right; but, in a large number of cases, this is quite impossible, the organisation of the body is too complex, and the difficulty of diagnosis too great. What really happens is that the patient judges for himself, both as to his complaint and his adviser. Thus many phthisical patients go to the throat-doctor because they are hoarse; and, if women, to the gynaecologist, because the menses have ceased. I have met with a great many instances of both kinds.

If specialism were instituted in its various branches by the profession, it is very difficult to say to what extent it would be allowed; but, at present, the system is said by some of its advocates to have been invented by the public, which is probably the case. The *vox populi* declares it is common sense that a person who devotes all his attention to one thing must know most about it, to which is added the corollary, which appears to me strictly logical, that the medical man who gives all his time to one subject must necessarily know less of others; how unfortunate, then, I have heard a patient exclaim, should he fall into the hands of the wrong man. I am sorry to say the public are perfectly justified in their fears, as I could show by numerous examples. I believe the statement is correct that the public, in contemplating the division in the mechanical arts, have demanded the same thing in our profession; specialism has been asked for, and the demand has created a good supply. The reason one is led to this view is, that it is not otherwise apparent why some parts of the body are selected for the medical man's devotion rather than others. If there be no specialists for the pancreas or spleen, it would be probably because the public are not aware of the presence of these organs, whereas they are conscious, often too conscious, of those parts which constitute the orifices of the body, highly sensitive parts, and always before the ken of the patient; these are, therefore, to be found amongst the principal objects of the specialist's care, some taking the superior and others the inferior orifices. There may be, also, a more legitimate reason for this selection, seeing that these parts can be manipulated, and, therefore, can receive the undivided attention of the surgeon, who obtains, without doubt, a facility in handling them which others have not.

As regards the evils from mistaken diagnosis, this is inevitable, for it is impossible for a man devoted to one object to discover the causes of disease as well as his fellows; this can only be done effectually by the general practitioner or by the general physician. And even pure clinical experience is not enough, as I have often proved; for it requires the addition of pathological knowledge to form a right conclusion; one is of no value without the other. I must call your attention for a moment to the method of making a diagnosis; it amounts to no more than this in a large majority of cases: the probability in favour of the existence of one disease rather than other; the symptoms imply a certain derangement within the body, and you infer from your experience what the cause of this is. You must, therefore, be previously supplied with a category of disease, and out of this you choose one most accordant with the symptoms. Now, this category could not be made in the wards alone, it must be supplemented by *post mortem* examinations. You may diagnose an intestinal obstruction, but the different causes which may have produced it can only be known by inspection after death.

It might remind you here that general hospitals alone can give us the results obtained by this *post mortem* inspection. I naturally think of my own institution, and recall the discoveries of Bright, Addison, Hodgkin, and others. Visceral syphilis could never have been discovered at a venereal hospital. Again, all the great improvements in surgery, notably the antiseptic treatment, excision of joints, have all been made in general hospitals. It is in the general hospitals, also, that medicine can be properly taught; the public are little aware that

diseases of the heart, liver, stomach, etc., are taught to students by men whom the public in no way know as specialists. One reason why specialism is so favoured by the public and discredited by many men in the profession, is that it is formed generally on a basis of treatment rather than for scientific ends. This is what the public like; but, at the same time, it partakes of that nature which often leads to charlatanism. Any man of any scientific knowledge and feeling must be aware that some of the most useful inventions of the age have arisen from small beginnings, and from facts which had apparently no value; also, that true workers labour for truth alone, in the *siccum lumen* of Bacon, and not for any result of practical good; they know that this must some day follow, but it is not the immediate object before them. Grand is the toast which is said to be given at the Mathematical Society in honour of mathematics—that it is of no use to anybody. Therefore, there must always be a number of workers of whom the world knows nothing, although the fruits of their discoveries may be made use of by others who gain the pecuniary reward. This holds true in medicine as in other branches of science; and, therefore, whilst there are the silent workers, there are those who make use of the results in the more lucrative department of treatment. I would finally say, in a word, that surgical specialism is allowable, because great facilities of manipulation must be gained by those who are always using their hands in the treatment of one part of the body; from which it follows that its professors must gain a greater knowledge of local diseases and means for their relief. At the same time, I should pronounce against purely medical specialism, seeing that the internal organs are so intimately related; it is impossible to attempt to treat one alone without disadvantage to the patient.

Increased Closeness of Relation between Medicine and Surgery.—In speaking of the progress of our art, it is impossible to overlook the fact of how much more intimate of late years has been the relation between medicine and surgery. Surgery at one time was occupied largely in the use of the knife for the removal of parts which failed to be cured; it now applies itself as a remedial agent, and assists the physician in the treatment of many internal diseases. Surgery as a mere piece of carpentry reached its climax when, a few years ago, two rival surgeons were able respectively to remove the upper and the lower extremities with the parts to which they were articulated. When I was a student, the surgeon would say to the patient with a diseased knee-joint, "I cannot cure you, but I can cut your leg off." The improvement in surgery has been due to two things, the employment of anæsthetics and the antiseptic treatment; for, even if the surgeon had soared to the possibility of removing diseased structures from a scientific standpoint, the length of time required for the operation would have entirely frustrated his purpose. Anæsthetics have now allowed him to take deliberate measures for the manipulative treatment of various morbid processes. If a calculus cannot be got rid of from the kidney, the surgeon will cut it out, or remove the whole organ if diseased; and, in a most remarkable case of which we were lately reading, an Italian surgeon dilated a strictured pylorus, and cured his patient. One of the greatest successes from the physician's point of view is the treatment of empyema; a large number of lives are now saved by surgical interference, and sometimes with a complete restoration of the chest to its normal condition. In my younger days, when a patient was tapped, the greatest care was taken not to admit air into the chest; consequently, if the case were one of empyema, it was excessively rare for the whole of the matter to be expelled by the expanding lung, the amount drawn off being merely the excess above that which had occupied the lung's place from distension of the chest. A certain amount of relief was obtained, but the operation was again had recourse to, and then for the third and fourth time, until the patient sank, with the chest as full as on the first occasion. It is obvious that, if the lung did not expand, and no air were allowed to enter through the cannula, no matter could flow. It did not either occur to the physician at that time that the presence of the purulent fluid was injurious otherwise than by its mechanical action on the lung, so that, if the chest were not full of fluid, and there were no great oppression of breathing, there seemed no need of operation. We now, on the contrary, see the error of this, and that a localised empyema, comparatively small in amount, will affect the system injuriously, and gradually bring about hectic fever and wasting, as in suppuration elsewhere. Some of the most remarkable instances of recovery from approaching death which I have seen have been those of thoracentesis: cases where the chest has been opened and washed out, with immediate subsidence of all constitutional disturbance. And more than this, as in the case of a lad I had lately in the hospital, who was so ill and wasted that he apparently had only a day or two longer to live, on finding that he had empyema, his chest was opened, and he gained immediate relief. He then began slowly to

recover, his chest falling in on one side, and the spine becoming curved. After some further time, however, I found the lung gradually expanding, and the chest filling out, so that very shortly the affected side was as large as the other, and the spine straight. There was no trace left, except the scar, of there having been any thoracic affection whatever. I apprehend that in such cases the lung becomes adherent, and so goes creeping down by means of pleuritic adhesions, after the manner of a plant with its tendrils. It is quite impossible that so painful and prolonged operation as thoracentesis, with washing out of the chest, could have been performed in pre-anæsthetic times.

Conservative surgery almost entirely owes its origin and progress to anæsthetics, seeing how tedious must necessarily be operations performed under this denomination. One of the most striking and important is that of the removal of carious bone and diseased joints; the propriety and success of such operations have already been realised by the dentist, to whom too much praise cannot be given for the wonderful remedial measures which he is able to adopt. There is scarcely a person above middle age who has not been relieved by his skill, and can still boast of the retention of teeth which, had he lived years before, would inevitably have been lost to him. The method of removal of diseased parts is now carried to great perfection, and the surgeon sees some of the greatest triumphs of his art in the preserved limbs of his patients. He can now exclaim, in the words of our great poet (*Richard II*, Act v, Scene iii)—

"This festered joint cut off, the rest rest sound;
This let alone will all the rest confound."

Antiseptics.—And now a word about antiseptics as it strikes a physician or a looker-on. As regards the beneficial result of antiseptic surgery, there can be no doubt, for rarely now do we see a case of pyæmia on the *post mortem* table at Guy's, when formerly this was almost of daily occurrence. When, some years ago, I was writing a paper on pyæmia, I had no difficulty in collecting 150 cases from my own recent records. But the great fact which has struck me as an outside observer is, that the use of antiseptics has delivered the surgeon from the fear of infection, and allowed him to treat his wounds after pure scientific principles. Formerly, the terror of infection obliged the surgeon to put into practice the most unnatural and most unscientific methods of treatment; for it is remarkable that, if by chance he discarded these fears and adopted a rational method, he would often obtain as good results as he does now. I remember seeing the flaps of a thigh-stump stitched together by Mr. Bransby Cooper, and unite in a few days by what was called the first intention; also the case of a boy, under Mr. Aston Key, who had all the fingers of his hand crushed by machinery, lacerating the skin and breaking the bones; and which, being all plastered up, were found, after a week, rapidly healing, and all the parts becoming cemented together. In one of the earliest recorded cases of ovariectomy, in the year 1837 (the organ removed is now in Guy's Hospital museum), the surgeon tapped the cyst, then turned it out, tied the peduncle, replaced it in the abdomen, sewed up the wound, and in a few days this had healed, and the patient was well. The operation exactly resembled what is done now, and with equal success; showing that, if a scientific and true method be adopted, the results must be the same; but between the performance of this successful operation, nearly fifty years ago, and a similar operation now, what have we witnessed! The most extraordinary and unnatural devices put into practice in order to avoid this dreadful blood-infection; so that the best methods of treating the wound became a matter of secondary consideration, compared with the great object of preventing or getting rid of the purulent secretion and other discharges which might act as septic poisoning. Now, if we consider for a moment how the body grows, by the formation of cells, fibres, and blood-vessels, and how this takes place in the mother's womb at a temperature of 100°, we are sure that nearly the same temperature must be necessary during the subsequent growth of parts as in the healing of a wound. Now, look at the extraordinary and unnatural conditions to which wounds were submitted, and ask yourselves if you can be surprised at the result. If two raw surfaces can only grow together when placed contiguous at a temperature of nearly a 100°, what must happen to flaps of an amputated leg when left sticking out at the end of the bed, with water of the temperature of 60° constantly trickling upon them? Is it surprising that, under this treatment, the muscle looked like a piece of boiled beef, that the flaps sloughed, and that necrosis of the bone projecting quite out of the wound came to be looked upon almost as the normal process of cure? All this was done to get rid of the dreaded discharges which might infect the system; but it is obvious that the very delay in the healing process added to the chances of blood-poisoning. But even in those times I believe we were more natural and simple in our methods than the French, who would not allow the healing process to go on without being interrupted by

the introduction of charpie into the wound, besides all sorts of unguents and other messes. A looker-on, as I am, who knows nothing of the details of dressing, sees now a scientific method of procedure, adopted in distinction to a most unnatural and barbarous one of former years; and he witnesses the fact that, the fear of infection having passed, natural processes are allowed to pursue their own course. Knowing, as a physiological fact, that the temperature of the body is the same in all of us, although some may produce and give off more heat than others, and recognising that the balance is kept in whatever climate we may be, it wants but a moment's consideration to see how the relation between the blood and the tissues would be altered, the cells themselves undergoing a change, were not the temperature always the same. In these circumstances, if a wound heal, it must be placed under the same conditions as regards heat as the natural tissues during their growth; and the surgeon now looks to his wound to see that it is neither too hot nor too cold. With such facts before me, it does not seem remarkable that it is a better piece of surgery to stitch up a piece of injured intestine and put it back into the abdomen than to leave it outside, seeing that it is in the best condition to heal in the former position, and to slough in the latter. One felt also equally sure that, as regards ovariectomy, a method adopted in the case I mentioned as occurring fifty years ago was the right one, that of replacing the stump in a cavity where the temperature would allow it to heal up rapidly. Regarding, therefore, the progress of our art, we cannot but look upon the assistance of the surgeon in cases which were once called strictly medical as an immense advance; and this has been accomplished by the discovery of anæsthetics, and by the use of measures which has allowed wounds to be treated on a scientific method.

Summary.—The moral of my whole discourse is this. Advance in medicine must be looked for by a better insight into the causes of disease; by a study of pathology, in its very widest signification, which shall include not only morbid anatomy, but all those changes in the blood, and nervous system which often constitute the *fons et origo mali*. These causes may be found to be of a specific nature, or to exist in the ordinary surroundings of our lives. Of whatever kind they may be, a discovery of their detrimental influence will lead to the means of their removal.

Then, again, much success may be hoped for on making a more complete study of diseases when actually running their course before us, by observing which are the favourable and which the unfavourable circumstances which determine the issue of the case; and not only the surroundings should be noted, but the meaning of the symptoms should be investigated, so as to discover which to encourage and which to oppose.

When we have arrived at some knowledge acquired by these means, the action of drugs may be considered, and the conditions which suggest their employment. As I have before said, it is by no means sufficient to know the physiological action of a medicine, but rather how it will exert an influence on various pathological phenomena. To quote again the instance of digitalis, we require to know not only its action on a healthy heart and arteries, but what power it exerts on quickly acting hearts, for whose correction we now see it daily given.

In upholding these views, I am of necessity protesting against the so-called popular theory, that diseases are so many entities, whose symptoms are to be relieved by some drug; or, as I have seen it expressed in a book on the most widespread heresy of the day, that, since it has pleased the Almighty to visit his children with various ailments, so he has provided in the herbs of the field some remedy for their cure. This is both an untruth and an absurdity; or, as a Member of Parliament declared in the House of Commons, when denouncing restrictions on medical practice, that all collegiate training was useless, the medical art being a gift with which some persons were naturally endowed. It need scarcely be said that he was the patron of the most flourishing quack in the county. If medicine is a branch of science, it must be studied in the same way as other sciences, by observation and experiment. There must first be a study of anatomy and physiology; then a study of disease, as seen in the living subject, and in its results on the dead; then, again, an investigation into the action of remedies of all kinds, and their suitability to the amelioration of morbid states; efficient treatment can only follow by a complete adoption of all these methods. By making it the result of a scientific procedure, we are assisting to stay the degeneracy of medicine, which is ever apt to constitute treatment the very foundation of our art, the alpha as well as the omega.

At a special meeting of the Council of the British Gynaecological Society, on November 11th, Dr. W. C. Grigg was appointed one of the Secretaries of the Society.