be too much to say that we shall ever succeed entirely in such an attempt, but of this not a shadow of a doubt can remain in the mind of any one who reads Koch's account of the cholera-tanks of Bengal; who studies Hunter's horrible description of the stricken crowds of pilgrims who each year carry cholera-seed from the Juggernaut festivals at Orissa; and who winds up with a perusal of Surgeon-General De Renzy's paper, to which I have before referred, that much could easily be done in India, enormously to cut down the cholera-supply of Europe, and free the civilised world from those periodical invasions from which, so long as India remains neglected, no conceivable amount of precaution is likely to ensure our prolonged escape.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF OPHTHALMOLOGY,

At the Annual Meeting of the British Medical Association in Belfast, July and August, 1884,

By W. A. McKEOWN, M.D., M.Ch.,

Surgeon to the Eye, Ear, and Throat Hospital, Belfast; President of the Section.

THE TREATMENT OF IMMATURE CATARACT.

GENTLEMEN,—Before entering upon the business of the Section, allow me to tender you a hearty welcome, and to express a confident hope that our meeting will tend to the progress of medical science, the advantage of the community, and the cementing of the bonds of professional friendship.

I had intended that the whole of the time at our disposal should be devoted to the discussions and papers upon our programme. I learned, however, that it was expected I should address you, and I had then to consider whether I should take upon myself the pleasant task of presenting a brief survey of the various stages of the advance which has placed ophthalmology in a scientific position unapproached by any other department of medicine or surgery, or endeavour to bring before you some subject of a practical nature. I felt you would prefer I should adopt the latter course, which is likewise to myself the more agreeable. I propose to ask you to consider with me some points relating to the extraction of cataract. One of the fundamental rules regarding that operation is that we should wait until the cataract is mature. This rule is seldom departed from, and then with a considerable amount of misgiving. Patients are kept waiting for an indefinite period—it may be for many years—while the process of ripening is going on; a period of gradually failing vision, perhaps of anxiety and failing health, of possible penury or destitution. Among ophthalmic surgeons, there will be unanimity on this point—that, if we could only remove this barrier of immaturity, and devise some method of operating with success on all cataracts, no matter what may be their condition of maturity—we would confer a great boon upon the community, and add considerably to the *prestige* of ophthalmic science. And I hope that ere long the experience of my brethren will enable them to share with me the opinion, that all lenses, whether cataractous or not, and if cataractous, whether wholly or partially so, may be extracted with as much success as the most mature cataract may be at present. I shall state, very shortly, the grounds upon which I base my opinion, and upon which I venture to ask you to give a trial to the procedure which has given me very promising results. That method I may designate as intracapsular or intralenticular injection.

The chain of observation and reasoning by which I came to practise this method is very simple. We have all noticed how tedious it is at times to remove cortical substance, and the necessity for frequently waiting for the resecretion of the aqueous humour. Why, I thought, should this process not be shortened by injecting inside the capsule a little water of about the temperature of the body to wash out the cortex, or at any rate to facilitate its removal? A little pure water differs so little from the aqueous humour, that it could hardly be regarded as a foreign body. Besides, were it necessary to have a fluid for injection of about the same composition as the aqueous humour, that could be easily prepared. The introduction of water into the eye was less likely to do harm to the structures than gold, silver, or steel instruments used as scoops. Besides, the water would exercise a certain force on parts which could not be safely reached by any instrument, and which too often contained fragments of the lens, the cause of destructive inflammation. Unless the temperature were too high or too low, or the injection were made with too much force, no reasonable fear of injury could be entertained.

On looking up the question of the relation of the capsule to the lens, with a view to find support or opposition to my views, I found in a small book of lectures published in 1849 by our distinguished countryman, Sir William (then Mr.) Bowman, a very interesting observation. In speaking of the elasticity of the capsule, he stated that on one occasion, when making some observations on this subject, he allowed a lens to remain in water for some time, and found that the fluid had by endosmosis passed within the capsule, and that the lens was detached from the capsule completely by a layer of fluid. On pricking the capsule with a needle, its elasticity was so great as to eject the water with considerable force. In this I found strong evidence in favour of my intracapsular injection-method for very immature cataracts and clear lenses. When such a separation of the lens from its capsule took place in a short time by endosmosis, why should not the lens be separated at once or quickly from the capsule by injection? Sir William Bowman's observation showed me that the connection between the lens and its capsule was easily severed, and left no doubt on my mind that, by a properly constructed needle, introduced immediately beneath the capsule, water injected would find its way rather towards the surface than into the body of the lens. In fact, assuming the point of puncture sufficiently occluded to prevent the water from coming back, the elastic capsule would inevitably be distended.

The first case in which I used the intracapsular injection was one of senile cataract. The progress of the case was normal; the injection had no injurious influence. I used the water of a temperature of about 100° Fahr. Since that time, I have used it in almost every case in which I have operated, and in various ways; and this I can say, that in no case does it seem to have given rise to any tendency to a suppurative process. I have used it in various cases of immature idiopathic cataract in which the periphery of the lens was clear, and of immature traumatic cataract; and I need not point out that such cases afford a good test of the capability of the method. It is quite as easy—indeed, I should say more so—to remove a perfectly transparent lens as one in which only the cortex is transparent.

The methods of injection which I have used are: 1. The introduction within the capsule of a needle attached to an ordinary hypodermic syringe. If there be any part of the lens-substance easily disturbed, the injection usually ruptures the capsule a little at the point of puncture, and washes out a good deal of cortex. It is certain that it clears out masses quite easily which could not readily be removed, even by a scoop. This mode of injection is perfectly safe. 2. After removal of the nucleus, the introduction of water inside the capsule by gravitation from a bottle fitted with a tube. 3. The introduction of a similar terminal to that attached to the bottle, but fixed to the syringe. The latter two methods require a good deal of care, and involve the question of the force allowable, and the time during which the flow of water and the syringing can be safely continued. It is difficult to regulate the temperature with precision, because the syringe and bottle, when removed from the vessel in which they are immersed, lose temperature quickly. I have had, however, instruments constructed which, I think, obviate the difficulty experienced in my first operations, and which I now have pleasure in submitting for your inspection.

I need hardly add that the power of completely removing any lens will have an important bearing on the question of the part played by the lens in the causation of glaucoma, which has been so ably brought before the profession by our distinguished associate, Mr. Priestley Smith, and which is not likely to be settled until it be recognised that a clear lens can be removed with perfect safety from the eye. I have already extracted one in glaucoma, but the case was exceptional in several ways, and I am not prepared to form any idea whether the removal of the lens in ordinary cases will diminish tension.

I had an opportunity last week of trying the effect of intracapsular injection in a perfectly clear lens in a healthy eye. The patient was aged sixty years, and was affected with a cancer of the orbit, which necessitated the excision of all the orbital contents. Before performing the operation, I punctured the eye, and injected water beneath the capsule. The capsule was immediately distended. On opening the eye afterwards, I found the capsule ruptured anteriorly, one segment retracted, and the other lying on, but separated from, the lens.

The relative harmlessness of intra-ocular injection being once recognised, other applications of it will suggest themselves, as, for example, in the case of certain affections attended with hypopyon. I have used it already in some such cases, I think with advantage.

In any new operative procedure, the most minute particulars are of consequence. These I should have given you, but this is neither the time nor place. I purpose shortly publishing all my cases in full.

Before bringing the question before the profession, I should have preferred to wait and introduce it in a more complete way; but when I found I had to address you, I selected the subject which was engrossing my attention, and which I was sure would be most interesting to you. In addition, my experience of the method, although not great, extending only over a period of three months, was sufficient to enable me to give you an idea of its value and of its relative innocuousness, and to warrant me in asking you to assist in determining its capabilities and its place (which I expect will be a high one) in the ophthalmic surgery of the future. To summarise, it shortens operations, it puts aside scoops, spoons, and curettes, does away largely with the tedious process of friction through the lids to remove cortex, and enables me to undertake operations of which previously I should not have dreamt.

I congratulate you upon the variety and interesting character of the discussions and papers which have been promised. The three subjects for discussion are of a very practical character, and I am confident that I only give expression to the feelings of the members of this Section, when I say that we anticipate that they will be ably handled by the distinguished associates who have undertaken the duty of opening the discussions. I need not refer in detail to the papers to be read. You can judge from the list, that they deal with questions which concern us deeply, and which therefore merit our closest attention.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF PSYCHOLOGY,

*At the Annual Meeting of the British Medical Association in Belfast,
July and August, 1884.*

By GEORGE HENRY SAVAGE, M.D.,

Medical Superintendent and Resident Physician to Bethlem Royal Hospital.

THE PATHOLOGY OF INSANITY.

WITH advancing time, specialisation increases; facts increase to such an extent that many repositories are required, and many specially trained custodians are needed. The period of accumulation, the time of making fact-heaps, is not the period of highest culture, but it is a necessary period. The bricks must be made, and the rocks hewn from solid and resisting nature, before any secure and sheltering edifice can arise.

There are sufficient signs that collections of facts concerning insane patients are being vigorously made, and that the present generation is not content with the mere naming of things, but is seeking better to classify and to understand them. Every large generalisation must affect the knowledge of facts which have already been collected, and all true generalisation is found to be applicable in regions where, at first sight, it seemed to have no force. In my address, I shall endeavour to point out some of the generalisations of science which have been recently made, and trace their influence in our special domain.

I shall, in the following paper, refer to psychiatry in many relations, and I shall pay most attention to its advancing lines. I shall cursorily refer to its literary advances, more fully study its scientific developments, and, in brief, consider some points in which the educational, social, and legal aspects are involved.

First, then, from its literary point of advance. I can rest satisfied with the evidences which exist of the activity in this branch of our speciality, for every month has seen new volumes or new editions appearing, each covering some new ground, and each with its own object in view. Doubtless these are of very different value, some being mere collections of the observations by others; while some are records of the life-work of carefully trained physicians. I cannot refrain from referring to the work recently published by Dr. Clouston, of Edinburgh, as it is a book of special interest as the first English series of lectures on insanity, in its scientific, legal, and social aspects. The lectures are eminently practical, and markedly truthful, and I trust that they will be but pioneers of many other series of lectures which may be published by other lecturers.

Under the literary head, I would refer to a deficiency which I trust is being corrected. Case-books, as kept in asylums, are not to my mind satisfactory productions, especially when compared with the case-books of the general hospital. In the latter, plain unvarnished facts are recorded; facts which often, after the termination of the case, are found to be of great value. Whereas, unfortunately, the

majority of the asylum case-books are filled with diary-like records: "about the same," "going on favourably," "no change," and the like. Such records can by no possibility be of any scientific value; whereas a record kept regularly of the weight, the temperature, the pulse, the condition of the respiration and excretions, might help in clearing up many doubtful points in the physiology of insanity. Till we, in asylums, have learned to register fully and exactly, we cannot expect to be able to take the next step, that of generalisation, for we shall not have the bricks to build with.

I think it would be well if we, in our Section, could decide upon a more complete series of questions which should be answered as completely as possible in reference to every patient admitted into asylums, for definite questions get more or less definite answers. Whereas, if each superintendent makes use of his own questions, the results cannot be satisfactorily compared.

This question of case-taking necessarily leads me to question whether the most use is being made of our asylums in the way of clinical teaching. The overburdened student should not have any more subjects added to his examinations; but my experience of ten years as a lecturer and teacher convinces me that students find a few hours spent each week among insane patients a useful, instructive, and not altogether unpleasant variety, and by it they lose their cramped ideas of horror which have been connected with insanity. They mix for a time with another world, one in which the tints and hues of facts are changed, and may be refracted, and yet can be traced as similar to those experienced by the same world. I am inclined to think that in an asylum the very greatest laws of therapeutics can be taught, that students can be shown that the administration of a draught or a pill is small compared with the alteration of surroundings. In an asylum they meet with patients recovering from serious disease, who have been treated, not by physic, but by quiet pleasant sights and soothing influences; and I believe that as they grow older they will find that other than mental disorders may be satisfactorily treated on similar principles.

Many a sickly person now in hospital, being removed from his poverty-stricken surroundings, and placed in establishments resembling asylums, would improve even more rapidly than when sent to the hospital. Let the patient with early phthisis be made to breathe and move in bright sunshine, with stimulating food and medicines, let cheerfulness, and not the shadow of the grave, rest over her, and she may yet recover, bacilli notwithstanding.

The future of medicine must rest on means, not on potions; we are advancing, but still the relics of the ages of faith and simples remain.

One chief object of my address will be to refer to some of the points at which ordinary medicine and mental medicine come in contact, and should be made to assist one another. Nearly every bodily ailment has a mental aspect. I do not only mean that pain as evidence by laborious working of the organ will affect the whole body, but I go further, and say that mind is but the organised result of all the past experience of the being, and therefore that mind, being an ever inconstant and growing power, varies directly as it is supplied by impressions from all parts of the body.

I shall consider more fully the examples of what I refer to. Now I think we are wrong in making our classifications etiologically. It is convenient to make use of such terms as phthisical or gouty insanity, but they are misleading if we lead others to think that the insanity depends on lung-conditions or blood-conditions only, or if they believe that the terms infer that patients will pass through regular courses of symptoms connected with phthisis or gout.

The time is not far distant when the terms mania, melancholia, and dementia, will be merely used as are the words headache, vomiting, and albuminuria, referring to symptoms and not to diseases. I think diabetes, for many reasons, is comparable with insanity. Like it, the causation is doubtful. Like it, being a symptom, it is named as though it were a disease. Cases of insanity, to my thinking, will be divided, first of all, into those in which there is disorder of function, and secondly, those in which there is disease of the organ, as well as disorder of its functions. Probably some will say that no disorder can exist without disease of the organ. This may be so, but, in this case, I should like to see a definition of disease which will cover only disease and not include disorder. Is diabetes a disease, or a disorder? Is a conversion from drunkenness and impiety to a state of religious satisfaction to be separated by a definition from a moral perversity frequently met with in early insanity? Is it, in fact, disorder or disease? I can understand the idea that want of harmony and disorder of function are not to be considered the healthiest conditions, but what are these healthiest conditions which are only discovered by a sacrifice of hundreds of lives to prove the laws which govern them, and are no sooner discovered and formulated than they are abrogated