CATARACT EXTRACTION ¹

FROM THE POINT OF VIEW OF THE GENERAL PRACTITIONER.

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In these lectures I do not propose to touch on the great variety of methods of operating for cataract, for these are matters which concern the ophthalmic surgeon and not the General Practitioner. I am going to confine myself severely to the cataract patient and his needs as met with in his everyday work by the medical man who makes no pretence to specialise in the practice of ophthalmology. I am abstaining even from commenting on the after-treatment of operated cases for the simple reason that each eye surgeon has his own views on the subject which he can make clear to the practitioner in whose hands he is leaving the after-conduct of the case.

Definition.

A cataract is an opacity of the lens or of its capsule, or of both. Such a cataract may be partial or complete; may be stationary or progressive; may be primary, secondary or traumatic; and yet to us as surgeons it is a cataract provided that there is any loss of transparency in the lens or in its capsule. A tiny dot at the anterior pole of the eye or at the posterior pole is to us just as much a cataract as the mature and complete form which we speak of as a "ripe" or "complete" senile cataract.

To the medical man the term cataract means very little until it is qualified by other terms such as some of those mentioned above, but it must never be forgotten that this point of view is not shared by the general public. To them cataract means only one thing. It raises in their minds the spectre of the condition from which some elderly relative suffered, a condition which led on to complete blindness and which called for operation, with very unhappy results in some cases. While we use the term in a generic sense, the public attach to it a specific and limited meaning. A great deal of harm is often done when these elementary truths are forgotten or overlooked.

It is probable that in advanced age very few lenses are completely clear, and it is quite certain that after sixty or even after fifty years of age, many patients present appearances due to partial and often non-progressive cataract. The commonest forms of these consist either of opaque rays projecting from the periphery towards or into the pupillary area, or of irregular masses hidden under the iris, especially at its lower portion. It has been suggested that the greater frequency of early cataract in the lower part of the lens is due to the influence of light falling on the eye from above, the skyline being more brightly lit than the earth. I give this guess for what it is worth. It has been defended on the ground that cataract is very frequent in the East, where the sunlight is intense and protracted. This argument has never seemed to me a strong one. It is true that surgeons in India get a very large number of cataracts to operate on. They got still more in the old days. In the Madras Hospital it was no uncommon event to extract thirty or even forty lenses each morning devoted to that special line of work, and on one occasion I extracted over fifty. Colonel Smith in Jullundur had even larger numbers. Against this you have to put the comparative paucity of hospitals for eye-work, especially in the old days, with what held in Europe, and at the same time to take

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account of the vast populations dealt with. Madras Presidency had a population nearly as great as that of the British Isles, and yet had only one really fully equipped ophthalmic hospital. Things have changed and are changing rapidly, but still the number of patients is relatively vastly disproportionate to that of the centres for ophthalmic relief even in India, whilst outside it, but still within the Orient, the old state of affairs still largely holds. Then again, in deciding the causation of cataract there is the question of diet to be taken into account, as well as the influence of vitamins and hormones. I am not disposed to accept this time-honoured explanation of the commencement of cataract in the lower part of the lens too seriously. There are so many other possibilities.

Another common form which is spoken of as cataract, but which is really due to a sclerosis of the lens, commences in the nucleus, and in its early stages causes first a slight and later a more considerable dimming of visual power.

I shall return to say something more of these different forms presently, but for the moment, my principal pre-occupation is to stress the difference between these slow-moving cataracts and the progressive forms which with comparative rapidity lead on to blindness. A want of realisation of the difference in the view-points of the public and of the medical profession not infrequently leads to much very regrettable misunderstanding. To tell a patient that he or she has cataract without any qualification of the diagnosis may lead to much unnecessary and very severe mental suffering. I have quite often met with people with useful vision who had been told years before that they had cataract and who had been wearily and anxiously waiting the oncoming of blindness. I think that the very word "cataract" should be taboo in our dealings with the patient unless he is suffering from a distinctly progressive form of lens opacity. I make a point of explaining these things to every patient, and in appropriate cases I emphasise that I would prefer to describe their condition as one of "flaws in the lens" rather than as cataract. If this is not done the surgeon and the patient are talking two different languages, and misunderstanding is the inevitable result. I can best illustrate this by an incident that occurred in my consulting room two or three years ago. When I had finished my explanation the patient's husband got out of his chair and pacing up and down the room remarked, "I wish to God the man who saw her five years ago had explained all this. He would have saved us five years of anxiety and apprehension." I may add that the lady was still able to read and to move about freely without help.

Breaking the Diagnosis of Cataract to a Patient.

Whilst dealing with the question of what we have to say to a patient suffering from cataract, there is a very important aspect of the case which is sometimes lost sight of or at least not so carefully borne in mind as it should be. I refer to the great mental shock that it is to an elderly man or woman to hear for the first time the sentence of "cataract". One must remember that many of these patients have had excellent sight all their lives; they have confronted many dangers to their health and have met their troubles bravely, but the one thing that has never occurred to them has been the possibility of the failure of their sight; they have assumed that having seen well all their lives they will certainly continue to do so to the end, with the possible proviso that their eyes will slowly fail them to a certain extent, *pari passu* with the failure of all their other powers. If one has to break to such a patient the possibility that blindness may lie ahead of him, whatever the cause of that blindness may be, whether cataract or glaucoma, retinal changes or hæmorrhages, it is most

vital that the news should be broken as gently and as considerably as possible. The surgeon must put himself in the position of the patient and must endeavour to realise what a terrible shock his verdict is going to be. Many years ago, Mr. Sydney Stevenson, the famous Editor of "The Ophthalmoscope," told me that at a dinner which he gave to a number of medical men, he propounded the question, "What would you say was the first requisite for success in medical practice?" All his guests were men who had made a success of life, and the answer every one of them gave was, "Human sympathy." I have a very strong reason for laying so much stress on this: it is that I have so often been consulted by deeply agitated patients to whom the announcement of cataract had been made so lightly that it shocked the feelings, both of the patient and of his friends. Every man will adopt his own methods, but I would urge that the news should be broken as gently as possible and that before the word cataract is even mentioned it should be explained that what the surgeon has to say is not of the gravest import. Everything that can be said on the bright side should be said before announcing one's opinion, and after having announced it the theme should be elaborated. We have to remember that the cataract patient often has many weary months or maybe years to look forward to, and that this will be a time of great strain during which he will hang on every word of comfort and assurance which the surgeon has been able to give him. If he has been spoken to quietly, gently, confidently and encouragingly, and if he can feel that he has the strength of a friend to rest on, and that everything the surgeon can do is at his service, it will make a world of difference to him in facing the prospect of the weary time he sees before him. There are few things such patients resent more than the feeling that a man in health and strength is pronouncing upon them such a terrible sentence with the hard casualness derived from years of contact with suffering. The relationship is not merely that of a diagnoser and a diagnosed, but of a human being under the shock of a terrible blow who finds comfort in knowing that the man he has chosen to help him, not merely has the power to do so, but the will to put that power into action with the same gentleness and sympathy that he would expect if he were the sufferer instead of the surgeon.

Prognosis.

It is not to be inferred that I am advocating our telling the patient after a single examination what the exact prognosis is. A surgeon with experience will often be able to form a reliable opinion that progress will probably be slow, or, on the other hand, he may come to the opposite conclusion, but he must not commit himself to prophecy. The most he can do is to give an intelligent anticipation of the probable future course of events. A cataract which has progressed slowly for years may suddenly take on an active phase, or again, one whose development has caused anxiety may slow down considerably. The question is often put by the patient, "How soon will this eye be blind?" It is as if a man enquired the probable rate of a growth of weeds or of any other crop in a certain field or garden. In both cases everything turns on the conditions of the environment. Given a suitable soil, and rain and sunshine, a weed crop will grow rapidly. If these conditions are withheld, it will stand still or even die down. We know very little of the fundamental causes of cataract, but we do know enough to make us feel that the changes in bodily nutrition which are presided over by the ductless glands are essential elements in the case. I personally look upon cataract as a senile change closely allied to the wrinkling of the skin, the graying of the hair and the other related evidences of dystrophy due to the progressive failure of vitality as life advances.

Management of Cataract Cases.

I lay more stress upon the above considerations because I have so often met with cataract patients who have been advised to give up reading, writing and other amusements in order to "spare their eyes and so to slow down the advance of cataract." I do not believe there is the slightest rational foundation for such advice. It seems to me that it would be just as reasonable to hope to stop the graying of the hair or the wrinkling of the forehead by abstaining from the use of the eyes for near work. At any rate, acting on this principle, I have always encouraged patients to forget their cataracts and carry on as long as they could, and I have never found that the greater freedom they thus enjoyed showed signs of doing any harm whatever. On the other hand, it made life much more enjoyable and much fuller than it was before. As the sailors say, "It is better to wear out than to rust out." It is my firm conviction that if a cataract is going to progress there is nothing that we can do which will stop or even delay it, with the sole exception of taking those measures which influence the general nutrition of the body. This is a point to which I hope to return later. On the other hand, if it is not going to progress I see no reason to believe that the ordinary use of the eyes, short of fatigue, will in any way influence the course of the case unfavourably. I consider that a great deal of advice that is given to these patients lacks any solid physiological foundation and is psychologically unsound.

There is an obvious limitation to what I have been saying. If much use of the eyes leads to exhaustion and fatigue it is common sense that the patient should recognise the restrictions imposed on him and cut down whatever is thus acting to his disadvantage. For I hold strongly that one of our principal means of endeavouring to arrest the progress of cataract lies in keeping the patient thoroughly healthy. No better illustration of this axiom can be given than the baneful influence on the progress of a cataract of diseases such as influenza, or of mental conditions such as grief, worry and anxiety. I understand that in many departments of medicine and surgery there has been abundant evidence of the evil effect of the great strain through which the world has recently been passing. Of such matters I can only speak on hearsay, but it is a different question when it comes to speaking of the harm that has been done to eyes. I feel sure that every observant ophthalmic surgeon will bear me out in this. It used to be taught that glaucoma was a disease brought on by anxiety; the category of ocular diseases falling under this head can be very widely enlarged, and not least amongst such conditions we must classify cataract. Many patients will give a history of sorrow or of mental strain before the eye trouble began, or of its sudden and marked increase under unfavourable circumstances such as the above. I have very often heard the history that the loss of a near and dear relative, or great financial anxiety and strain immediately preceded the rapid fall in vision for which the patient consulted me. This has occurred far too often to admit of any other explanation than that of cause and effect.

It must always be borne in mind that the refraction of an eye which is becoming cataractous is much more likely to change than that of a normal one, and this in several directions. Latent hyperopia may become manifest and an astigmatism which had not previously troubled the patient may call for suitable correction. In both these cases the obvious explanation would appear to be that the increasing rigidity of the changing lens prevents it responding to the compensatory action of the ciliary muscle, and so renders latent hyperopia or latent astigmatism manifest, whereas it was hidden before these changes had progressed so far.

On the other hand, an increase in the refractive power of the lens may, and not infrequently does, lead to an artificial myopia in old patients who are developing nuclear cataracts. Many elderly people on consulting an ophthalmic surgeon congratulate themselves on being able to "read now without glasses". This is an ominous sign that the changes in the lens are inducing myopia.

Diagnosis.

It is most important for the practitioner that he should not make a mistake in his diagnosis or want of diagnosis of a cataract, for the simple reason that the lapse of time will inevitably demonstrate such a mistake to the patient and to all his relatives and friends. This reminds me of my old and venerated teacher, Matthews Duncan, who on one occasion told a woman that she was not pregnant, when she maintained she was. She said to him, "I have had eight children, Dr. Duncan, and I ought to know." He replied "I have had 8,000 and I ought to know." He was wrong and she came back to confute him with the facts. In this, cataract is very like pregnancy. Time demonstrates it dramatically, and much harm may accrue to a man who has given a wrong verdict. When in doubt it is much better to shelter behind expert opinion and in the meantime to be wholly non-committal. But in the great majority of cases it is no more difficult to diagnose a cataract than it is to name an object lying on a table in front of you. The self-luminous ophthalmoscope has made life much easier for the general practitioner who wants to include—as indeed he always should—the examination of the eye in his routine overhaul of a patient.

Take the patient into a dark room. Put in front of him at about the level of his eye some fixation object. I always use a weak electric globe in a dark funnel provided with a ground glass aperture for the purpose. This makes examination very much easier, both for the patient and for the surgeon. Use a plus 12.0 Dioptré lens with a parallel beam of light, and move backward and forward until any opacities in the lens come into sharp focus. This will be somewhere about six inches from the eye. Don't be misled by hairs hanging down over the forehead or by opacities on the cornea. The latter can be easily excluded at the next stage of the examination. If the pupil is a small one or if for any reason you are still in doubt, dilate the pupil with Euphthalmin (2% aqueous solution), instilled if necessary four or five times. The first three instillations can be at five minute intervals; then space them out longer, say one every quarter of an hour. Euphthalmin acts slowly and you must give it plenty of time. On the other hand, it has this great advantage that it can be very quickly and easily neutralised afterwards by Pilocarpin, (gr. 2 to the ounce) if necessary. Sometimes Euphthalmin fails to act, and Homatropin (gr. 1 to the drachm) must then be used. One drop will probably suffice. If not, it can be repeated once or twice at fifteen minute intervals. If the pupil fails to dilate, examine it very carefully under oblique illumination and preferably with a loupe to exclude posterior synechiæ. Never send an elderly patient away from your consulting room after one of these examinations until the pupil has been contracted again by pilocarpin. The danger of glaucoma is too great. With a well-dilated pupil you should be able to see any cataract striæ or wedges or other masses without any difficulty.

Next examine your patient by oblique illumination, focussing a strong beam of light on the front of his eye with a plus 16.0 Dioptré lens. Don't forget to search the cornea for opacities and to look out for evidence of posterior synechiæ. Striæ in the lens will be easily seen and larger cataract masses still more easily. I do

not propose to talk to you about the use of the corneal microscope for that is a specialist's instrument. The vision in each eye should be taken and noted, both with and without suitable correction by lenses. The amount of vision found is a most important item. I shall recur to this later on.

At the earliest possible date after the diagnosis of a cataract the fundus should be examined with great care for evidence of any lesion which might interfere with the success of an operation when undertaken later on. Valuable information can be accurately obtained at an early stage, whereas at a late one our deductions are always somewhat uncertain. We have then to depend on the power of *projection of light*. To carry out this test the patient is usually seated in a dark room, bidden to look straight in front of him, or given a dimly illuminated object to gaze at, and then the light from a torch or from an ophthalmoscope is flashed on to the eye from different directions in turn. (Demonstration of method.) At one time I always used a luminous ophthalmoscope and reduced the intensity of the beam to the lowest that the patient could perceive. If he can tell where the light comes from in all directions his projection is said to be good. This is a very simple and on the whole a trustworthy test. In cases where retinal detachment, old glaucoma or extensive fundus lesions are present, it gives quite good indications. Where it fails however, is in the very important cases of central retinal lesions. I have therefore had an instrument specially constructed by Messrs. Clement Clarke with the idea of cutting off all peripheral illumination and obtaining the narrowest beam possible. I show it to you here today. It seems to be of value, though I haven't been able to test it very thoroughly yet.

In your examination of a cataract patient you must take into account the density of the opacity as compared with the standard of vision he possesses. This is of the greatest importance. Thus, you would not expect a man to read small type or indeed any type when an examination with an ophthalmoscope shows you that the lens is so opaque that you can't even get a fundus reflex, or when oblique illumination through a dilated pupil reveals complete opacification of the lens. On the other hand, when the cataract is not very dense and when the standard of vision is disproportionately poor, you will do well to be careful in giving a favourable opinion as to the prospects after operation, for there may be serious retinal lesions. Such responsibilities are, however, much better thrown upon the expert.

From time to time you will be surprised to find a patient whose pupil is extensively blocked by cataract and who yet with his back to the light has quite good vision, due to a small chink of clear lens substance left somewhere. In such cases you may be sure that sooner or later, and probably sooner, that chink will fill up and a very severe fall in visual acuity will come on quite rapidly.

A number of patients will tell you, especially if you cross-question them, that when they face a light they see very badly, but that when they turn their back to it or make a hood with their hands and so allow the pupil to dilate, they see very much better. In Madras where cataract is very common, I used to meet with a large number of patients who complained that in the early morning or in the evening they could see well, but that in the bright light of the rest of the day they were practically blind. I knew at once that I had, in these patients, to deal with central nuclear cataract, and this even before I had examined them. Many of you may have heard of the story of a foreign oculist who was called over to see the late Queen Victoria when she was developing cataract. He put a stenopæic slip before her eye, with the result that her vision was considerably improved.

When however, she endeavoured to use this for walking about, her field was naturally so limited that she unhesitatingly discarded it, and that with some emphasis.

Things are quite different when one is dealing with a cataract evenly diffused through the lens. The patient then complains of a serious fall in his vision whenever the intensity of the light begins to fail. The brighter the light the better he sees and *vice versa*. He complains that in order to read he has to get right under a very bright light, and possibly other people in the room object to this light and think it unreasonable of him to want it. They give him all sorts of "good advice" which upsets him and which he brings to you for your decision as to its value. Like most advice for nothing, it is worth nothing.

A last small, but not unimportant point: patients developing cataract will sometimes complain of seeing the lens opacities against any bright light; others mistake *muscæ volitantes* for these specks in the lens and are unduly alarmed. The differential diagnosis is easy. The lenticular opacities always remain stationary each time the eye comes to rest. The *muscæ*, on the contrary, lying in the semi-liquid vitreous, have an independent movement of their own, due to the pull of gravity. They are seen to swing up each time the eye moves upward, but if it then remains at rest they come floating slowly down. This experiment can be repeated again and again, and is quick and conclusive.

The Methods of Unqualified Practitioners.

Few things are more pathetic than the efforts many cataract patients make to get rid of their trouble by resort to unqualified practitioners. I cannot help feeling that we as ophthalmic surgeons are partly responsible for the success these men are undoubtedly obtaining in London today. Let me explain right away that I mean their financial success, for I have never seen the least evidence that they ever benefit the patients, even in the smallest degree. At the same time, you will find many people who will confidently assure you that they are much better for the treatment. I am quite willing to learn from anyone, whether he be an out-and-out quack or one of the first ophthalmic surgeons of his day, and I have given a good deal of time and attention to this particular subject.

One of the methods advocated is the fitting of patients with very strong convex lenses, and the insistence that they should use these for so much time every day. Another is the employment of exercises designed to bring into action the extra and intra-ocular muscles. How this could possibly affect the progress of a cataract it would be hard to imagine, but if it could be proved that it did, one might adopt the method and sit down to reason how it worked. Another form of treatment consists in making the patient sit in a dark room for a long period each day looking at one or other form of coloured light. One of the most pathetic cases I can remember was that of a dental surgeon. He had been up to a celebrated ophthalmologist and had been told that his cataracts were too immature for operation and that he must wait till they were ripe. They were progressing very slowly and he learnt that it was unlikely that they would be fit for operation for two or three years. One eye was practically useless for the delicate work demanded of his profession, and the other was rapidly going. His sons were at school and he was in despair as he could not afford to keep them there if he was not working. A kind patient hearing of this diagnosis, suggested that he should go to the expert who cured cataract by light, and undertook to pay the fee, a heavy one, for him. He shamefacedly acknowledged that in despair he had gone there and

described to me what happened. In common with a number of other patients he waited till a nurse came and shepherded them into a dark room where they were arranged in a circle round a coloured lamp. The light was turned on and they were bidden to watch it attentively, which they did for a long period. I understand that different coloured lights were used on different days; needless to say, he obtained no benefit and when he first consulted me, was getting progressively blinder. I at once removed one cataract and later the other without the least difficulty. He has been working at full pressure ever since. I need hardly say that he did not tell me of his experience with the lights until he had recovered his vision. He was obviously ashamed of it, but the fact that he, a man with a medical training, could have resorted to it, shows the depths of despair to which he had been reduced and furnishes a ready explanation of the number of laymen who pay quite considerable sums, which I at least regard as a sheer waste of money. My reason for making so strong a statement is that I have had quite a number of patients who have undergone these various forms of quack treatment. Some of them have only told me about it afterwards, whilst others have asked my consent to the course of procedure they were thinking of following. I have never opposed any of these forms of so-called treatment, but have pointed out to them carefully what my attitude is, explaining the genesis of cataract, its course, etc., and saying that I could not understand how any of these methods could be of the slightest value. This has given me the opportunity of following up some of these cases, and I have never been able to discover the least advantage from the boasted treatment.

Against this one must put the very strong statements of patients and their friends to the effect that they have been greatly benefited. Let us consider this side of the question. One of the things one's cataract patients constantly say is that their sight varies from day to day, and they ask one to explain this. It is not very difficult if what has already been said about the various forms of cataract is borne in mind. A man who has a central cataract finds after a few bright days in which, with a contracted pupil he has been able to see comparatively little, that when a series of dull days comes, as it inevitably must in this climate, his vision is much improved, owing to the physiological dilatation of his pupils. Again, if for any reason he has been facing a bright light, for instance when watching a cricket match, and later, gets a more favourable seat with his back to the light, he is astonished to find that he is able to observe points in the play which on the previous occasion had escaped him. I won't pursue this subject further; you can elaborate it for yourselves.

Again, take a man with a diffuse cataract which acts like a ground glass screen in front of his eyes. A series of dull and yet duller days has reduced him almost to despair; and then the brighter days come when more light filters through his opacifying lenses and he finds to his delight that he can see much better. If by chance, in addition to this, he has been placed with his back to the source of illumination instead of facing it, his more widely dilated pupils admit more light and the improvement in vision cheers him greatly.

There is another factor that must not be lost sight of. The measure of visual acuity given to a normal person with clear media, emmetropic refraction and a healthy retina is far in excess of ordinary requirements. A dull day hardly makes any difference to him; indeed, he does not begin to complain until he gets into mist, fog or darkness; but the state of affairs is very different in the cataract

patient. The latter has little surplus visual acuity and can only just get along under favourable circumstances. If the amount of daylight is reduced in any way, or if the contraction of his pupils diminishes the amount of light entering his eyes, he is at once conscious of the change and often very acutely so. He is therefore aware of ups and downs of vision which are spared to the ordinary man.

There is a last point that I wish to bring before you, namely, that of the general health of the patient. We none of us feel equally well every day of the year, but as pointed out in the last paragraph, our surplus visual power makes us very little conscious of these slight variations in our general health. To the man who has a very small margin to come and go on so far as sight is concerned, the differences brought about by the state of his general health are by no means negligible. Some of these influences are unquestionably nutritional. They depend on the supply to the parts of a full and healthy flow of blood, but it would never do to forget the psychological side, the cheeriness one day, the depression another, depending upon so many factors, not the least important of which is the healthy elimination of our waste products by the skin, bowel and kidneys. Well indeed did the ancients name them "*primæ viæ*". Once again, I am going to leave you to work out the matter for yourselves. All I have ventured to do is to suggest a line of thought to you in the hopes that you will follow it up. If you do so I think you will not fail to understand one of the great factors on which the success of these unqualified practitioners depends. They may fully believe in their methods; I do not dispute this; if they do, they will be much more likely to convince their patients. Few things in life carry such conviction to others as the presence of conviction in one's own mind.

Now I want to pass on to another and quite different factor for the existence of which many ophthalmologists are largely responsible. I refer to the method in which the diagnosis of cataract is so often given. A patient consults a distinguished surgeon and is told that he has cataract. The very name fills him with foreboding and fear. The surgeon has told him there is nothing to do for the present and he must await the course of events. He possibly also tells him to come back after a while for further inspection. As soon as the patient goes home his friends start talking, and well-intentioned people inundate him with advice. They tell him of the wonderful cures Mr. Y. has performed by lenses, or Mr. X. by exercises, or Mr. Z. by lights. *He expects a speedy fall in vision* and only too often catches like a drowning man at a straw. What I contend most strongly—and I think this matter so important that I venture to risk repeating it—is that a diagnosis of cataract should never be given without a full and patient explanation: (1) of what cataract is; (2) of the great differences in its rate of progress in different people; and (3) of the prognosis in the particular case. It should be explained to the patient that though there are certain features of a cataract which indicate that it is likely to grow fast or slowly or moderately, yet no one can say positively exactly what it is going to do in any individual case. When the surgeon has made a drawing of the cataract as he finds it and as full a description of it as possible in his notes and when he has got a careful record of the vision, both for distance and for near work, he can point out to the patient that it will be easy after a time to tell whether it is progressive or stationary, and if the former, what the probable rate of progress is. He may drive the lesson home by a simile. You are lunching on a hillside and on the opposite side of the valley you see a white object. Is it a stone or a sheep? You can't tell, but you notice its position with reference to another object that you know is stationary. After a while you look again. Has it moved with relation to that other object? If so, how far has it

moved in the time? If it has moved it is an animal, and the distance it has moved may tell you for instance whether it is a dog or a sheep.

If you have won the patient's confidence he may come and ask you whether you object to his going to an unqualified practitioner for some form of treatment. I think it most unwise to refuse such a request. You can give your reasons for thinking that it is a mistake for him to do so, and a waste of money, but do not oppose him. If your diagnosis is correct and your explanation of the probabilities of the future has been clear and forcible, time is bound to be on your side. The future will confirm all you have told him. Don't forget to explain to the patient that he will have ups and downs in his vision, dependent on the conditions I have already discussed, and that he must not rely upon observations which he cannot carefully control and which depend on varying conditions such as the state of his pupils, the brightness of the light, the way in which the light falls upon his eyes, the condition of his general health, and so on. A careful examination by standard tests and the comparison of the lens opacities found from time to time are of much more value than general impressions. If you talk horse-sense to your patient and if you show yourself devoid of prejudice, with no axe to grind and with his welfare obviously as your first consideration, you will not fail to get his confidence. Without that you will never do him any good. Nothing can be more short-sighted than to run down these irregular practitioners or to attribute fraud to them. Apart altogether from the fact that you may be utterly mistaken in doing so, you can find no better way to alienate the patient's sympathies and to transfer them to the man who is being run down. Our one great aim is to help our patients; we do this best by extreme moderation in our whole attitude. To be convicted of intemperance, even in thought, is bad. I am not tilting at a wind-mill, but speaking practically of affairs of everyday life, of which I have had abundant experience. I do not believe that any of these vaunted methods help a cataract patient, but I recognise that a large section of the public does believe in them, and to my mind, care in diagnosis, gentleness and clarity in the exposition of our views and patient forbearance—even with those whom we think very foolish—are the best available means for our real object, which as I have said, is to help those who consult us to the maximum of our power.

Methods to Arrest the Advance of Cataract Recommended by Surgeons.

One of the best known of these has been *the injection of a solution of perchloride of mercury under the conjunctiva*, and very wonderful results have been claimed for it. I can only say that I tried this method very carefully in India and could not satisfy myself that it did any good. On the other hand, it had two serious disadvantages: (1) it was very painful; and (2) it produced tight adhesions over the area of injection. On more than one occasion I have found these adhesions, the result of other surgeons' practice, a great handicap in a subsequent operation for glaucoma. I need hardly remind you that the essential thing for success in operating for glaucoma, is to establish a filtering scar, which can only be done if the conjunctival tissue over the area is loose and healthy.

Another method which has attracted a great deal of attention and which is very widely practised, is the instillation into the conjunctival sac of an aqueous solution of various *iodides*. I have never been able to satisfy myself that this treatment is of the least use. Its only recommendation is that whilst being perfectly harmless, it gives the patient the feeling that he is doing something. Psychologically, this may be of value in helping him to tide over the first shock of the news that he has cataract.

There is only one form of treatment in which I have any confidence, namely, the administration of some form of *glandular extracts*. Looking as I do on cataract as a perversion of nutrition associated with the advance of life, it seems to me reasonable and right to do anything possible to regulate the hormone supplies of the body. Probably thyroid extract is the most valuable of them all for the purpose, but when it is possible to obtain an expert opinion from a physician who makes a speciality of this line of work, I think it is well worth calling in outside help. If the cataract continues to progress in spite of such treatment, it is better to stop the administration of the extracts unless they are benefiting the patient's general health and so making and keeping him fitter for the operative procedure when the time for it comes.

The Dangers of the Use of Mydriatics to Improve Vision.

It is surprising how widespread this practice is. I have already pointed out to you the advantages which the patient obtains by even temporary dilatation of his pupils when the cataract is central. Many surgeons have consequently resorted to the use of mydriatics in order to keep the pupil permanently dilated. Atropin solution is often used for the purpose, and that by surgeons of great repute. Do not for one moment forget that the induction of mydriasis in elderly people is apt to be followed by an attack of glaucoma. I have seen this happen after the use of each and all of the mydriatics, including even cocaine, novocain and euphthalmin. In two cases the attacks were precipitated by the use of cocaine injected into the gums for the extraction of teeth. Are we justified in running such risks as these for the deliberate production and maintenance of mydriasis? What would be our legal position if the patient took proceedings against us for doing so, in the event of an attack of high tension having supervened? It would be a different matter if there were no other way of attaining our end, but there undoubtedly is; for the performance of a narrow iridectomy upwards ensures a permanent dilatation of the pupil, and at the same time constitutes the first step in the extraction of the cataract. I have been so much impressed with the safety added to an extraction by performing it in two stages—the first being a preliminary iridectomy—that for years I have made this my routine procedure and but rarely depart from it. There are no disadvantages attendant on an early iridectomy in such cases as we are now discussing, and the advantage is often very great. I have known patients able to read and “carry on” for years quite easily after the production of a permanent artificial mydriasis in this way. In one case, the patient, who was a very well-known lecturer, went on to the day of his death without the need for any further operation. All are, of course, not so lucky as this. The operation is simple, easy and safe, and the surgeon can sleep without the nightmare of the possible incidence of a glaucomatous attack. I admit that some of these patients do go on for years without anything happening. There is one very distinguished old lady who, on the advice of another surgeon, has been instilling atropin for years, in spite of my warnings; she is now nearly ninety and is quite convinced that she could not stand an operation, which of course she could; however, the responsibility is hers and not mine. I think you should make it a rule that whenever you have occasion to use any mydriatic, no matter what, on an elderly patient for the purpose of making an examination, you should not lose sight of that patient until the pupil has been got down to normal again by the use of a weak solution of pilocarpin. Don't forget that such a pupil may contract for a short time and then go wide again, so keep an eye on the patient until you are sure all danger is past. If in doubt, get him to come back in an hour's time for a moment's examination; it will not take you more to make sure.