

Noyes (H.D.)

EYE TROUBLES

IN

GENERAL PRACTICE.

BY

HENRY D. NOYES, M.D.,  
NEW YORK.

(A Paper read before the N. Y. Academy of Medicine, March 6, 1879.)

*Reprinted from the MEDICAL RECORD of April 19, 1879.*



NEW YORK:  
WILLIAM WOOD & CO., 27 GREAT JONES STREET,  
1879.





*With Compliments of*

*HENRY D. NOYES, M.D.,*

*73 Madison Avenue,*

*New York.*

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N. B.—After September 10, 1879, the office of Dr. Noyes  
will be at 233 MADISON AVENUE, corner of 37th street.

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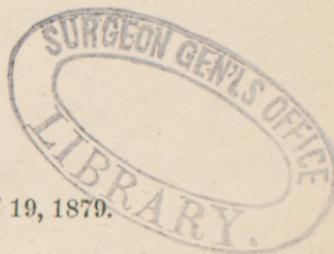
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GENTLEMEN—Fellows of the New York Academy of Medicine: The winsome ways of our honored and courteous President have brought it about that I am to read to you a paper upon a topic which may seem to convict me of a disposition to undue assumption. I have been seduced into consenting to offer you various suggestions derived from my field of work, which you may utilize in your own practice. I am not in the least reluctant to impart any acquisitions or methods, or deductions of my own, which others can profitably share, but I shrink from a position of didactic pretension to which I am not entitled. With this plea in extenuation, and promising that my contributions will be on matters of ordinary occurrence in general practice, may I not crave your indulgence for what is the same old story which was told in the beginning, when Paradise had not yet been invaded by the obstetrician, viz., the Professor tempted me and I consented.

Thus, Mr. President, having cast upon you the responsibility, both for my appearance and my topic, I salute you and enter upon my task. To the family physician the community give their confidence in a peculiar and sacred sense. Though specialties multiply and demonstrate the necessity for their being, by successes which are only attainable by diligent devotion to small fields, it will ever be true that the family physician will be the one to whom will be made known, or upon whom it will devolve to make known, the beginnings of disease, of whatever kind; and moreover he will, as now, have in his hands the treatment of many affections to which specialists devote themselves. I come to-night begging you to accept

hints which may quicken your perception of the early stages of important defects of sight, may help you in curing diseases of the eye, and may make you more capable of judging when you are in the presence of such of its maladies whose proper management calls for highly trained skill.

Let me first call your attention to the importance of recognizing at an early period in the life of children the existence of serious errors of refraction. Some of them are always congenital, viz., hypermetropia, or far-sightedness, astigmatism and cataract. Another error, viz.: myopia, or short-sightedness, is not usually congenital, but begins at the time when children give steady attention to books. It will vary in its commencement between five and twelve years of age. At the same time very young children are sometimes the subjects of extreme myopia, and then its congenital character is highly probable. This deduction is also worthy of belief when persons at twenty or twenty-five years of age are found to have myopia greater than  $\frac{1}{2}$ .

To put this statement into tangible form, let me offer you some statistics, kindly compiled from my private records of the last nine years, by my friend Dr. Callan. Out of 1,400 cases of erroneous refraction there have been found 102 cases in very young persons who had the high and highest degrees of refractive error, viz.: 55 of myopia, or short-sightedness, 29 of hyperopia, or unnatural long-sightedness, and 18 of astigmatism. The remarks above made are most emphatically applicable to these individuals, and in lesser degree to many others not quoted. I may mention a boy, H. B., nine years old, who had myopia  $\frac{3}{4}$ , with vision by glasses of only  $\frac{20}{100}$ . This lad, in delicate health, had never had glasses, and consequently had never seen anything a foot beyond his nose. All beyond was mist and mystery. He was excessively reserved and taciturn, with no animation in face or manner—unwilling to play and undeveloped in strength. A few months' experience with glasses made him a different boy in his whole appearance and character. My records will furnish many such illustrations, but I need not consume your time in presenting them. Without holding forth the extreme cases, the argument on behalf of the little ones is

sound and cogent, even though they are not so distressingly afflicted as are the worst.

To this I must add the remark that proper care on the part of parents, school-teachers, and physicians, can do much to prevent or retard the acquirement of myopia at the age when it is most likely to appear, viz.: between five and fifteen. On this point much has been written, and I merely allude to the subject.

The points which I desire to impress are, that the want of suitable aid to sight, in cases so aggravated as the above, not only inflicts upon the children unnecessary discomfort and privation of enjoyment, but it has a bearing upon their character and development which is most unhappy.

As the young mind reaches out to the surrounding world, by aid of touch and taste and hearing and sight, it reasons upon the impressions brought to it, and accepts the messages which the senses deliver, as absolute truth. Of course the reasoning and collating power is at first most feeble, but as the mind gathers force it still trusts the couriers who describe the characteristics of the world outside of consciousness; and if the messengers bring falsified, or garbled, or distorted reports, the mind must be hopelessly deceived and perverted. A child may be thought a dullard, and to have no aptitude for observation or learning; he may be counted cold-hearted and unresponsive when his face does not light up at the smile of his mother or the caress of his sister; he may be esteemed sullen or stupid; he may be counted a bad playfellow; he may be thought eccentric or peculiar because he does not behave like other children. All this and more may be the character ascribed to him because his misfortune is to have bad sight. Beside this, it is a truth in mental philosophy that exactly such a character may be fastened upon him for life, because in his young days he was cut off from enjoyment of the visible world on terms of equality with his fellows. Do we not know that dim-sighted persons are apt to be queer? If their deficiencies had been noted and corrected at an early stage of life, who can say how much more symmetrical would have been their adult character, and how much happiness society and the family might have enjoyed from them.

I therefore beg to ask that if your attention is called

to young children whose traits of character excite surprise, and who are considered to be strange or deficient, that you will make inquiry whether they possess good sight, and to this I may add with not less force that the possession of good hearing is in its way equally important. For the very young, viz., those under five years of age, tests of reading may not be applicable; but happily in our day the trained observer can quickly decide by the ophthalmoscope whether any error of sight exists, and also point out the remedy irrespective of intelligent answers or co-operation on the part of the child.

I would not hesitate to give a young child the use of needful glasses for at least such periods of time as should serve to inform his mind of the true character of surrounding objects, provided the ocular defect were great enough to obscure or pervert his perceptions. In respect to congenital cataract the same remarks apply, and I mention this condition to bring out the fact, that there may be a most serious loss of transparency in the crystalline lens, which will not in the least be visible to ordinary inspection, and the pupil shall have the normal degree of clearness and blackness. The ophthalmoscope will unerringly discover the lesion, and the proper treatment will follow. Moreover, the operation ought to be done early—in healthy children by the end of the first year.

To the same category belongs, in a degree, the subject of strabismus, the foundation of which is erroneous sight. The order of events is first visual error, and then disturbance of muscular action. It often happens that if the visual error be corrected, the muscles will redress themselves, provided they have not undergone organic shortening. If this result be attained, the cure is much more likely to be of that perfect kind, which includes the obtaining of proper binocular vision, rather than that incomplete cure which makes the eyes look as if they worked together harmoniously, but consists really in the use of but one eye at a time. I grant that the defect of sight in one eye is often incurable, and that the best result may be impossible; but this misfortune should not be an excuse for omitting to discover the visual error and its quality. I do not mean that an operation can be often avoided, but I insist that the first step is to

recognize the visual error before the muscles have undergone permanent perversion. Among the most intelligent persons who bring their children for examination at the very beginning of squint, I have, in not a few instances, been able, by the timely suggestion of glasses, to aid the child's sight so much that the disposition to squint has been kept under control, and the function of co-operation of the eyes been preserved until the age arrives when an operation may be most appropriate. Such treatment is the ideal method of dealing with squint.

Another matter may be briefly touched. As with the arrival of middle life the focussing power of the eye declines so far that for the usual reading distance a sufficient reserve of adjusting force no longer exists, it is decidedly the preferable thing to put on weak magnifying glasses to take off strain, rather than to postpone their use as long as possible, either on the plea of avoiding permanent dependence on them, or because of the fear of seeming to be growing old. Not seldom the token of need of help is found in irritation of the lids, in styes, in a sense of worry about the eyes, as well as in difficulty in seeing by evening, or inability to make out the fine print of the newspapers. Every one knows that holding the book at arm's length and drawing near to the window are infallible tokens of the coming need, and yet some will stoutly resist, until, as a gentleman said to me, they need to hold the book with a pair of tongs.

I pass now to certain other matters which are partly hygienic and partly within the domain of pathology. A large class of chronic or recent invalids are surprised and distressed to find themselves unable to command the services of their eyes as they once could. Often they are alarmed with fear that organic mischief has befallen their sight. No persons present this symptom so frequently as do those who suffer from uterine disease. It seems to matter little what may be the special form of lesion of the female generative system. They suffer from enfeebled endurance of accommodation, and equally feeble power in the extrinsic ocular muscles. They do not so much complain of indistinct or blurred vision, as of pain in attempting to read or to sew, etc. The pain may come after a little effort, or it may be constant. In extreme cases the

patient cannot look in the face of one with whom she is conversing without exciting neuralgic pain. This condition is very widely prevalent, and it must have forced itself upon the notice of every observing physician. So, too, when persons are recovering from any severe illness, such as a fever, or from protracted exhaustion, or after prolonged lactation, or watching with invalids, or great loss of sleep; when there has been much grief and weeping, or after severe mental strain; also as a consequence of masturbation, or after severe loss of blood, or in severe or chronic dyspepsia, impaired eye power is pretty sure to appear. I only give utterance to your own experience when saying this, but permit me to go a little farther and say that while in the above situation the essential condition to recovery, lies in restoration to vigor and sound health and habits, certain additional points are worthy to be remembered. One is, that to such people graduated use of their eyes, beginning with short periods and advancing by small additions, is a valuable means of helping them develop and recover their ocular energy. We know this plan of treatment under the name of Dyer's method. Similar to this is the use of prisms to help the power of the ocular muscles, as dumb-bells call forth the strength of the arms and shoulders.

Moreover some of these patients are destined to remain chronic invalids. I utter no malicious sarcasms upon my most esteemed friends the gynæcologists, but all their patients do not get well. To such women who pitifully implore the oculist to give them some solace for the weary hours upon the sofa or in the house, it is of the highest importance to discover and to note deviations from normal states of vision, which to persons in health are of absolutely no moment. Slight degrees of far-sightedness, trifling degrees of astigmatism, must in these cases be accurately corrected by glasses, and often the relief is most keenly appreciated. So, too, faintly tinted glasses are of use, and perhaps the most common relief is found in combining weak magnifying-glasses with abductive prisms. Such persons complain of glaring light; they almost always have irritable and congested conjunctival membranes. Treatment of their eyelids and regulation of the light is of no small

value. The great necessity of carefully regulating all their hygienic conditions and doing this with detail and precision I need not dwell on.

Above and beyond these cases in pathological significance are the cases of intense hysterical photophobia, or intolerance of light. Fortunately they are not frequent, but they make up in malignancy often what they lack in frequency. In some of them there will be real optical error, or perhaps erosion of corneal epithelium, but behind these lesions is a perverted nervous system, a weakened moral nature; sometimes we find the invalid's eager craving for sympathy and condolence, the gratification of a strange passion for being pitied and coddled and made the centre of a worshipping and ministering family circle. Such patients call for great firmness, tact, and penetration. They are like the bedridden girls whom no arguments can convince that they are able to get up if they will. I for a long time kept in my possession a quilted mask made of pasteboard, cotton, and thick cloth, constructed to go from the top of the head to the mouth, which was worn like a visor by a patient who would not allow me to take it off or have the least glimpse of her eyes. By putting her under chloroform I convinced her she could face the light and I robbed her of her visor. For a certain period she was made much better, but again relapsed.

To return to the eyes of weakly people who are only too anxious to comply with suggestions aimed for their good. In the first place, they need much comforting and encouragement. They should always be addressed hopefully, not to deceive them by promises of perfect recovery, but that they will at least attain a degree of ocular function which they can rely upon for permanent use, and that they must have care for eye strength as for any bodily strength; that they will not lose their sight, and that if they get well in health their eyes will in the end be restored. Moreover, if they have had to use glasses they will probably put them away, as other patients get rid of canes and crutches, and plaster-of-Paris jackets, and the whole pitiful list of surgical testimonies to our physical frailties. To persons who do not enjoy good health certain precautions in the use and exposure of their eyes are important. Ladies who suffer from

painful menstruation should not read when lying in bed at the time of their menstrual flow. Reading while lying down is almost always trying to weakly persons, because the usual method of directing the eyes is interfered with, and the ocular muscles do not act in the combinations and proportions to which, for reading in the erect posture, they are habitually adapted. To such persons, thick veils or dotted veils, or the so-called glistening illusion veils, or heavy crape veils, cause worry and retinal irritation. The modern styles of bonnets leave the eyes without any protection from the sun and wind, therefore umbrellas and parasols, or colored glasses, become needful to the sensitive. To such it is hurtful to read in railway cars or in carriages; and to them an atmosphere of smoke, or the air of an ill-ventilated or crowded and brightly lighted room is offensive; oftentimes the viewing of a multitude of persons, or a walk along a crowded street, is painful, just as bright and flashing light or strong colors are disagreeable.

Let me here allude to the grave mischief engendered in closely packed dwellings, where no proper supply of pure air is furnished, such as in tenement-houses, over-crowded asylums, and poor-houses. In them the degeneration of health, besides manifold other ills, may bring on granular conjunctivitis. The follicular deposits and hypertrophy of tissue soon find occasion for sudden aggravation in a slight cold, and then the contagious secretion is carried from one to another until many fall victims to the miseries of this chronic disease. One who has seen much of eye disease feels most intensely how sad is the future of the tenement-house poor who contract granular conjunctivitis.

Having touched upon the subject of granular conjunctivitis, let me call attention to the loose way in which this condition is sometimes asserted to exist. Many times have I known a state of simple hyperæmia declared to be granular lids, and the disease treated, perhaps, with sulphate of copper in crystal. Let me only say that it is essential to granular conjunctivitis that there be thickening of the membrane, either in minute globules, or over an extended area. Moreover, that the theory of treatment is to stimulate the tissues to absorption of the morbid material, and not to actually destroy and remove the morbid thickening,

as is done in ulcers of the skin and in granulating wounds. Hence, the stimulating remedy must not produce an excessive action. But the details of this subject would lead us too far for me to enter upon them.

Some words about conjunctival hyperæmia of the lids will, I think, be fitting. The cases I have in view are not severe; there is often nothing wrong to be seen until the lids are turned over, and then a varying degree of congestion is all that appears. For this, an astringent is usually ordered, either an outward lotion or drops, and among the latter, perhaps the most frequently ordered is the very worst in my esteem, viz., sulphate of zinc, usually gr. ij. ad ʒj. It is possible that this slight local trouble comes from cold, or overwork, or outward irritation; in such cases, the treatment will often be effective.

But I have to insist strenuously upon the fact that a large proportion, and I believe a considerable majority of such cases are connected with various forms of optical or muscular error, viz., all the forms of defective refraction and weakness of sight, and the cases of partial or incipient cataract. Not even are the amblyopic affections excluded. The explanation is most simple, viz., that whatever causes difficulty of sight, excites irritation of the conjunctival vessels. The symptoms are burning, dryness, heaviness, stickiness, scratching of the lids, and other similar sensations. Now the cure for these cases is to ascertain the cause; if possible, remove it, and also apply the soothing or alterative topical remedies.

Besides the above causes of conjunctival irritation, there are some which are to be looked for outside of the eye. One which I would most urgently bring forward is chronic nasal catarrh. In our climate this is one of the most common conditions, and it extends its hurtful influence upon all the special senses except touch. Hearing, smelling, taste, and sight are all more or less damaged. To the eye the mischief comes in troubles of the lachrymal passages, and of the palpebral and ocular conjunctiva. For six or eight years I have been compelled to treat nasal catarrh with energy and regularity, in order to enable me to cure chronic conjunctivitis as well as chronic and acute otitis media.

Another lesion, which has similar affiliations, is marginal blepharitis, the ophthalmia tarsi. True, this may be only a local and idiopathic affection, but my observation long ago taught me that the persons who had it were often subjects with optical errors, or with nasal catarrh. In this I quite agree with my friend Prof. Roosa, who has written upon the subject. The local treatment by the application of a sharp point of nitrate of silver to each little ulcer, followed up by cleanliness and a stimulating yellow oxide of mercury ointment, will readily cure the disease; but to keep it cured requires correction of the optical error, in case this should exist.

Let me offer a few hints on treatment of conjunctivitis. I do not pretend to set forth what ought to be done in all ordinary cases, but simply speak of certain special and rather unusual conditions. The form which occurs in new-born infants is, in the vast majority of cases, easily removed by luke-warm water, or by such simple astringents as alum or borax. But the decidedly purulent form, with puffy lids and creamy discharge, cannot be safely left to such means. I would not speak to a point which seems so self-evident, had it not been suggested to me by the remark of a medical friend that, having attended 1,500 confinements, he had never seen but three or four cases of bad sore eyes among babies, and when he asked me to assist him in caring for one such bad case, he was considerably surprised at the treatment which I instituted. The lids must be thoroughly everted, and to the red and swollen membrane, as it unfolds, a solution of nitrate of silver, five grains to the ounce, must be well applied by a brush; both lids must be thus treated, and the application repeated as the discharge again becomes thick, viz., in from twelve to twenty-four hours. Meanwhile careful wiping away of the secretion, the use of an alum solution, and greasing the skin to avoid excoriation are in order. The caustic to the everted lids, in severe cases, is what I have to emphasize, and this, in *bad* cases, will be ten grains to the ounce, or be the mitigated stick, one part to two. Should the cornea be threatened by perforation, other and skilful advice ought to be summoned, as paracentesis, etc., may be needful. Again, in the violent forms of purulent conjunctivitis in adults, whether gonor-

rhœal or not, besides continuous application of iced water and the use of caustic, I lay great stress on the relief of the pressure of the swollen lids by deeply and extensively incising the outer commissure—to do this when the lids are much swollen—and to repeat incisions in this way as the wound grows together, and the œdematous conjunctiva threatens the vitality of the cornea. I am most deeply persuaded of the value and imminent necessity of this proceeding in severe cases.

For the great number of cases of decided conjunctivitis nitrate of silver is the best remedy, and rarely, in my judgment, does it need to be more than gr. v. or x. ad  $\xi$  i. But cases arise in which this remedy fails to cure. We find this fact among old persons, and in hydræmic subjects. I have also seen it in young infants. In fact, however, it is no easy thing to thoroughly turn the eyelids of a baby of a week old inside out; not a little skill in manipulation is often necessary to do it well, and with unnecessary pain. The normal way in which the nitrate of silver acts is as follows: the caustic makes a slough of the epithelium; this is cast off with serous transudation, and the unloaded vessels then find relief, and the emigration of pus-cells is abated. Such is the process in the vigorous, and when the pus again appears in quantity, the application is renewed; but to the feeble, and especially the old, the tendencies are to less vigorous action, and the recrudescence after the slough comes away, is less perfect. In fact, the formation of pus may be made more abundant than before. For such cases the remedy is tannin in glycerine, gr. xx. to lx. ad  $\xi$  i., painted upon the everted lids. Its action is most satisfactory and direct. So, too, for œdematous inflammations, with little purulent or mucous secretion, but with the tissues loaded with serum, a solution of tannin in water will sometimes act like magic. Such, at least, was the testimony of one of our most distinguished surgeons, who enjoyed opportunity for personal experience of this bit of therapeutics.

May I say a word about treatment of inflammations of the cornea. A well-settled axiom is, that during the acute period of trouble, stimulation is out of place; but as the stage of intense hyperæmia, intolerance of light and pain abates, the eyelids may, with

advantage, be touched with solution of nitrate of silver gr. iij. or v. ad  $\zeta$  i. It is in the subacute stage of the phlyctenular form that the yellow oxide of mercury gr. ij. vel x. ad  $\zeta$  i. of vaseline or amylo-glycerine sometimes does admirably. But in acute periods, atropine and warm fomentations are the proper thing. I am not attempting a resumé of this topic, but I wish to lead up to three suggestions, viz.: that the fluid extract of conium can be used with great benefit, notwithstanding some dangerous results have been reported from overdoses, as a means of overcoming the palpebral spasm, which is a great aggravation of the corneal irritation, and that bromides are also clearly indicated in the same condition.

Very severe cases would be likely to demand experienced advice, and I may say that paracentesis of the anterior chamber and sometimes iridectomy I have found of immense use in some bad cases.

A combination of severe keratitis with iritis is an unhappy condition, and the bad cases will seldom yield to anything short of iridectomy. As to purulent inflammation of the cornea,—this occurs from direct injury, as by a bit of stone or steel, or as a result of great debility, or from anæsthesia of the cornea. On the last head I beg to remark that an imperfect degree of sensibility in the cornea is, I have lately found, much more common than is usually supposed.

In all these conditions, if the cornea be deeply or extensively infiltrated with pus, nothing can compare in efficacy with the free division of the structure horizontally across the cornea with a fine Graefe's cataract-knife. Precede and supplement this proceeding by atropia and steady continuance of warm fomentations, and the damage suffered by the eye will be far less than would otherwise take place. I could fortify this assertion by many cases, and I emphasize it as confirmative of the practice first introduced by Prof. Saemisch, of Bonn. As to cases of pus in the anterior chamber, with infiltration of the cornea, the lesser degrees need no surgical interference; but when the plastic or purulent material rises to occupy the lower third of the cornea, I decidedly advocate its evacuation by a free paracentesis. This is a painful operation, and may be worthy of the administration of ether. In these cases the wound heals at once, and

possibly the hypopyum may form again and need a second discharge. Whereas, in suppuration of the corneal substance, the wound above advocated continues open for days and allows the fluids to drain away, to the great relief of the eye. At a later time, when the eye has recovered, an iridectomy will confer valuable sight.

I must, perhaps, guard myself from misapprehension of my meaning as to the rules of treatment, by saying that general measures of a supporting and tonic kind, generous diet and stimulants, rest in bed, avoidance of light and of irritating causes, are all supposed to be made to contribute to the desired result.

Keratitis in children is always a distressing and tedious affection. Whatever its form, the severe symptoms are the extreme dread of light, and pain, while there is always more or less danger to sight. The great difficulty of treatment is how to get local medication into and upon the eyeball. If the child refuses to open the lids, and they are often by reflex irritation incapable of doing so, there is little use in trying by the fingers or by elevators to separate them. The attempt inflicts great pain, and the view of the eye is unsatisfactory. After the disease has lasted long it is very common to find an ulceration of the skin at the outer commissure, and this is torn apart whenever the lids are forced open. This is a serious aggravation of the blepharospasm which the corneal inflammation first excites. The great remedy for extricating one's self from the embarrassments of treatment, and for giving relief to the suffering child, lies in the administration of chloroform. It was long noticed by myself and others, and Mr. Hutchinson, of London, has, with his customary acuteness, written upon it, that to give chloroform not only enables the physician to see and treat the eye, but by its narcotism has a permanent good influence on the disease by abating the nervous spasm. Therefore, when a child has acute corneal inflammation, and buries its head away from the light and obstinately shuts up its eyes, give it chloroform so as to bring on the first quieting influence; then the state of the cornea can be inspected, an atropine solution can be freely dropped in, the lids can be everted, and to their congested conjunctival surface a solution of nitrate of silver—gr.

ij.-v. ad  $\zeta$  i.—may be applied; or, in the later stage of the malady, the yellow oxide of mercury ointment—gr. ij.-v. ad  $\zeta$  i. of amylo-glycerine—may be used. Besides this, seize the opportunity to apply a pointed crayon of pure solid nitrate of silver to the skin-ulcer at the outer commissure, and freely apply it also to the abrasions which will often be found about the nostrils, lips, and chin. From these latter abrasions the scabs must be forcibly wiped away; and though the raw surfaces and fissures will often bleed, the caustic should be fully applied and the parts afterwards dressed with simple or medicated cerate. I merely give these hints as to the handling of a very common and troublesome class of cases, without attempting to depict the full treatment which must be instituted under the various stages and conditions and phases of the disease. This may be learned from the usual text-books.

Likewise may I offer some hints as to the management of iritis. For my purposes I may enumerate four principal causes of iritis—injury, syphilis, rheumatism or gout, and gonorrhœa. As to traumatic iritis, I may say in general, that the management consists in rest, exclusion of intense light, lotions of cold water and atropia, with or without leeches. The rheumatic or gouty form has these features, that when fully established it yields very slowly to treatment; that it exhibits little plastic exudation, and often is of the œdematous variety; that the patients often suffer much pain, and that the local application will generally have to be lukewarm, and will in any event not be well tolerated; that atropine must be used with moderate vigor, sufficient to dilate the pupil; and that leeches often do much good in acute cases, while paracentesis is not seldom in bad cases a valuable resort. In this class of cases, constitutional treatment is of high importance, and this will usually be of the alkaline variety. As to the merits of salicylic acid I cannot speak. Iodide of potassium and colchicum sometimes do good service, but I have found the alkalies of the greatest use. Frequently has it been possible, in subjects prone to rheumatic iritis, to abort an attack by full doses of sal Rochelle, or liquor potassæ and Vichy water. With some persons attacks are very frequent, and they depend on imperfect ac-

tion of the excretions. I make it a point with such patients to insist on a great deal of outdoor exercise, on careful attention to the skin as well as to the kidneys, and occasional Russian baths. Gonorrhoeal iritis is only a sub-variety of the rheumatic form, and I mention it to indicate my conviction of the potency of urethral inflammation to be the cause of iritis as well as of rheumatism. I could cite cases which have proven this relationship, and that the control of the urethral trouble was necessary to the speedy cure of the eye trouble.

Finally, upon syphilitic iritis I beg to say that in the moderate cases, the local or atropine treatment is the most essential. As to the type of the inflammation, there may be every variety of pathological lesions; but when a case of iritis exhibits a rich amount of plastic exudation, it is pretty surely syphilitic. I emphasized the use of atropia. The solution should be four grains of the sulphate to the ounce; the frequency must be governed by its ability to secure expansion. Once every two hours, or four times an hour three times daily, or with any frequency needful to dilate the pupil, is the rule. The necessity of using it vigorously is too often not appreciated. The obstacles to dilatation of the pupil are, the difficulty of forcing any solution to pass through the saturated cornea by endosmosis, the fulness of the anterior chamber, the reluctance of the iritic muscular fibres to contract because the vessels are congested, and the mechanical opposition of the adhesions to the lens. The iris rests in contact with the front of the crystalline lens, both when the pupil is contracted and when it is dilated; hence, whatever the degree to which the pupil may expand, adhesions can occur and offer resistance to the remedy. The efficacy of the remedy is often enhanced by local depletion, viz.: by four leeches to the temple, placed far away from the eye. The reduction of congestion of iris vessels is favorable to the endosmosis of atropine solution. Unhappily, certain disadvantages attend the vigorous use of atropia. It causes conjunctival irritation with some people, although the solution be wholly free from acid. Some persons experience the symptoms of constitutional poisoning before the requisite local influence is secured. The substitution of

daturine has sometimes served to circumvent this difficulty, and we are now in possession of a new agent called Duboisia, of which only the extract has yet come into this market, and which is asserted to be free from some of the objectionable qualities of atropia. On this I cannot offer any experience.

I strongly emphasize the beneficial change which always passes over a case of iritis, when success crowns the effort to enlarge the pupil to the uttermost. Let this effect be attained, and the vast majority of cases are speedily relieved. Should this not be possible, a different future is to be expected. Extensive pupillary adhesions will surely entail protracted inflammation, and cause mischief to sight, not only by the obstruction of the pupil, but by the accompanying haziness of the vitreous and lesions in the choroid. So disastrous is this condition that iridectomy may be done, and even *must* be done, during the height of the inflammation, and with greatly beneficial effect. Adhesions of the pupil are the great cause of obstinacy in iritis, and of the repetition of attacks.

While so much has been said of the local treatment, I am bound to advert to the constitutional treatment of syphilitic iritis. Do we need it to control the inflammation? In two conditions I think we do, viz., where there is a large amount of plastic exudation coming out in yellow masses on the surface of the iris, and also in certain cases of total pupillary adhesion. Under these conditions I recognize the need of using mercurial inunction vigorously, and can testify to its ready and happy influence. But for the common run of cases the constitutional treatment is employed only because the patient has secondary syphilis, and is not an essential factor in curing iritis. Therefore we do not ptyalize every case of iritis *secundum artem*, as was formerly held to be sound practice. But we administer the constitutional treatment according to the rules which the state of the general system imposes. Let me here remark that while iritis usually comes among the events of secondary syphilis, it may also appear during the tertiary stage of the disease.

A few words now on diathesis as recognizable in inflammations of the eye. It was the nosology of

former times to designate a scrofulous ophthalmia, and rheumatic ophthalmia, and catarrhal, and syphilitic, and abdominal ophthalmia, etc. We no longer use these terms except as they indicate our views in causation; but they have no meaning whatever as descriptive of any special phases of disease in the eye. It is impossible to pronounce in a given case with any better accuracy than good guessing, what is the constitutional condition associated with an inflammatory disease of the eye. It cannot be asserted, except in a vague way, that one case is scrofulous, another rheumatic, and another syphilitic, except by getting information from other symptoms. Of course I admit that weakly patients, and those who are badly nourished or cachectic, will have a type of inflammation differing from that of the robust, but beyond this general statement it is not safe to attempt to refine.

I grant that for successful treatment the constitutional condition must be accurately appreciated, but we learn this by interrogating the system, and not by looking only at the eye.

I want to say something on the subject of sympathetic ophthalmia. Every physician is consulted respecting cases of injury of the eye. All know that instances occur where the remaining eye subsequently is inflamed, and may be lost through an injurious influence exerted upon it by the damaged eye. It is of the highest importance to know first what classes of injuries are likely to exert this pernicious sympathy; and secondly, what are the early signs that it has begun.

The injuries most prone to cause mischief to the second eye are: 1st, when foreign bodies enter and lodge in the organ; 2d, when the eye is badly lacerated, especially in the region just behind the cornea; 3d, when the crystalline lens is dislocated; or 4th, when the iris is extensively caught in a wound or cicatrix. The time when such trouble may begin can be as early as three weeks or six months, or as late as two years or twenty years. The eyeball likely to cause such mischief is one in which attacks of inflammation now and then occur, and, above all, one which is sensitive to slight pressure of the finger. If a damaged eye which has recovered from the first effects of its lesion cannot bear moderate pressure without

causing pain, that eyeball or stump ought to come out.

What are the *symptoms* of sympathetic trouble? They are of two general classes; first, those which implicate the general usefulness of the eye; secondly, signs of inflammation of the iris, choroid, optic nerve, and retina. As to the first, the person complains that he cannot use his eye, it easily wearies, it runs water, it is sensitive to light, yet its vision may be perfect. There may be conjunctival hyperæmia, but no other lesion. Unless some clear cause for complaint can be found in special defect of the eye to account for these symptoms, such as astigmatism or far-sightedness, etc., the damaged eye must come out to protect the good one. But a more subtle and dangerous condition is a low form of iritis, called serous iritis, which will not give pain, and not command attention, especially among children and ignorant persons, although it will somewhat impair sight. A more intense degree of inflammation, an irido-choroiditis, may occur, and these are severe forms of lesion which are sure to attract attention. For these patients a grave responsibility must be assumed. In some of them the enucleation of the injured eye seems to excite rather than allay the sympathetic trouble—such is the last scientific utterance on this subject (see Mauthner, *Vorträge*, etc., 1879); and reflection on some cases, in my own experience, inclines me to accept this statement with respectful attention. For other cases enucleation must be practised at once, and it banishes the dreaded disease as by magic. For the advanced cases enucleation is impotent; it does neither good nor evil. Hence, in a juncture so critical as when a fellow-being asks for counsel as to what is to be done to preserve him from the misery of total blindness, a large experience and skilled observation must be the basis of sound advice. As a practical suggestion it may be said that, when a person receives a severe injury of one eye, and he live at a distance from a good eye surgeon, or if he be ignorant, or a child of ignorant parents, it is safe to take out the damaged eye at once, and thus protect the other from any baleful influence. For those better circumstanced or properly observant of themselves, some discretion may be permitted; but they must be stringently warned to present

themselves for inspection on the slightest token of trouble.

One other topic remains before I close. It is not uncommon for cataract in old people to be confounded with glaucoma, and *vice versa*. It is true that cataract is the more frequent disease, but it is not fatal to sight as glaucoma. Now, the latter often seems to the naked eye to be just like cataract. The distinction between them can to some degree be made out by any physician, and is to be found by noting that the eye which has glaucoma is hard and resists the pressure of the finger far more than the normal eye, or than a cataractous eye. Again, the field of vision is invaded and partly cut off, especially on the nasal side, by glaucoma, as does not occur in cataract. How shall this be discovered? Examine each eye by itself, having the other shut. Let the patient look at your eye, and, while he fixes his direct gaze upon you, let him note whether he can see the hand held up at his temporal side, and afterward on his nasal side. On the outer side, the hand should be visible to an extent of almost 90 degrees; on the nasal or medial side the limit of the field of view is from 40 to 45 degrees, being bounded by the height of the nose. Now, in glaucoma, while the direct vision suffers more or less, the lateral vision is also very markedly impaired. Especially does this take place on the nasal side, and to this symptom I invite special attention. By very simple experiment it will be found that absolute blindness exists over a space on the nasal side of the field of vision, in which a cataractous patient will be perfectly able to see light and perhaps also objects. The real diagnosis of glaucoma will need the help of the ophthalmoscope, and that is of no use to the untrained and inexperienced observer. Another point is perhaps worthy of note, viz., that while in glaucoma the pupil is very apt to be smoky, this may be thought to be evidence of cataract; whereas a smoky pupil is the natural condition in the eyes of old persons.

I can only ask your attention to the possibility of making the false diagnosis alluded to, and leave the topic to your own reflection.

Gentlemen, I may no longer trespass on your patience. Very much more might be said, and I leave to those who follow me, to indicate what I leave un-

touched. These suggestions are tendered with much distrust, but with a genuine feeling of good-will and desire to aid in our common work of promoting the happiness and abating the misfortunes of our fellow-beings. This cluster of fruit from the small plot which I cultivate, is placed in your hands as the expression of my fellowship with you, in the husbandry of science and humanity, as well as a testimonial of my most sincere regard. Would that the gift were more worthy of your acceptance!



