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Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

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The Optimum Swing

The optimum swing is the swing which gives the best results under different conditions.
Most readers of this magazine and of "Perfect Sight Without Glasses" know about the swing. The swing may be spontaneous; that is to say, when one remembers a letter perfectly or sees a letter perfectly and continuously without any volition on his part he is able to imagine that it is a slow, short, easy swing. The speed is about as fast as one would count orally. The width of the swing is not more than the width of the letter, and it is remembered or imagined as easily as it is possible to imagine anything without any effort whatsoever. The normal swing of normal sight brings the greatest amount of relaxation and should be imagined. When one is able to succeed then it becomes the optimum swing under favorable conditions. Nearsighted persons have this normal optimum swing usually at the near point when the vision is perfect. At the distance where the vision is imperfect the optimum swing is something else. It is not spontaneous but has to be produced by a conscious movement of the eyes and head from side to side and is usually wider than the width of the letter, faster than the normal swing, and not so easily produced.
When one has a headache or a pain in the eyes or in any part of the body the optimum swing is always wider and more difficult to imagine than when one has less strain of the eyes. Under un-favorable conditions the long swing is the optimum swing, but under favorable conditions when the sight is good, the normal swing of the normal eye with normal sight is the optimum swing. The long swing brings a measure of relief when done right and makes it possible to shorten it down to the normal swing of the normal eye.

Vision and Education

By W. H. Bates, M.D.

POOR sight is admitted to be one of the most fruitful causes of retardation in the schools. It is estimated that it may reasonably be held responsible for a quarter of the habitually "left-backs," and it is commonly assumed that all this might be prevented by suitable glasses.
There is much more involved in defective vision, however, than mere inability to see the blackboard, or to use the eyes without pain or discomfort. Defective vision is the result of an abnormal condition of the mind, and when I the mind is in an abnormal condition it is obvious that) none of the processes of education can be conducted with advantage. By putting glasses upon a child we may, in some cases, neutralize the effect of this condition upon the eyes and by making the patient more comfortable may improve his mental faculties to some extent, but we do not alter fundamentally the condition of the mind and by confirming it in a bad habit we may make it worse.
It can easily be demonstrated that among the faculties of the mind which are impaired when the vision is impaired is the memory; and as a large part of the educational process consists of storing the mind with facts, and all the other mental processes depend upon one's knowledge of facts, it is easy to see how little is accomplished by merely putting glasses on a child that has "trouble with its eyes." The extraordinary memory of primitive people has been attributed to the fact that, owing to the absence of any convenient means of making written records, they had to depend upon their memories, which were strengthened accordingly; but in view of the known facts about the relation of memory to eyesight it is more reasonable to suppose that the retentive memory of primitive man was due to the same cause as his keen vision: namely, a mind at rest.
The primitive memory as well as primitive keenness of vision have been found among civilized people, and if the necessary tests had been made it would doubtless have been found that they always occur together, as they did in a case which recently came under my observation. The subject was a child of ten with such marvelous eyesight that she could see the moons of Jupiter with the naked eye, a fact which was demonstrated by her drawing a diagram of these satellites which exactly corresponded to the diagrams made by persons who had used a telescope. Her memory was equally remarkable. She could recite the whole content of a book after reading it, as Lord Macauley is said to have done, and she learned more Latin in a few days without a teacher than her sister, who had six diopters of myopia, had been able to do in several years. She remembered five years afterward what she ate at a restaurant, she recalled the name of the waiter, the number of the building and the street in which it stood. She also remembered what she wore on this occasion and what every one else in the party wore. The same was true of every other event which had awakened her interest in any way, and it was a favorite amusement in her family to ask her what the menu had been and what people had worn on particular occasions.
When the sight of two persons is different it has been found that their memories differ in exactly the same degree. Two sisters, one of whom had only ordinary good vision, indicated by the formula 20/20, while the other had 20/10, found that the time it took them to learn eight verses of a poem varied in almost exactly the same ratio as their sight. The one whose vision was 20/10 learned eight verses of the poem in fifteen minutes, while the one whose vision was only 20/20 required thirty-one minutes to do the same thing. After palming, the one with ordinary vision learned eight more verses in twenty-one minutes, while the one with 20/10 was only able to reduce her time by two minutes, a variation clearly within the limits of error. In other words, the mind of the latter be-ing already in a normal or nearly normal condition, she could not improve it appreciably by palming, while the former, whose mind was under a strain, was able to gain relaxation, and hence improve her memory, by this means.
When the two eyes of the same person are different a corresponding difference in the memory has been noted according to whether both eyes were open, or the better eye closed. A patient with normal vision in the right eye and half-normal vision in the left when looking at the Snellen test card with both eyes open could remember a period for twenty seconds continuously, but could remember it only ten seconds when the better eye was closed. A patient with half-normal vision in the right eye and one-quarter normal in the left could remember a period for twelve seconds with both eyes open and only six seconds with better eye closed. A third patient with normal sight in the right eye and vision of one-tenth in the left could remember a period twelve seconds with both eyes open and only two seconds when the better eye was closed. In other words if the right eye is better than the left the memory is better when the right eye is open than when only the left eye is open.
Under the present educational system there is a constant effort to compel the children to remember. These efforts always fail. They spoil both the

memory and the sight. The memory cannot be forced any more than the vision can be forced. We remember without effort, just as we see without effort, and the harder we try to remember or see the less we are able to do so.

The sort of things we remember are the things that interest us, and the reason children have difficulty in learning their lessons is because they are bored by them. For the same reason, among others, their eyesight becomes impaired, boredom being a condition of mental strain in which it is impossible for the eye to function normally.

Some of the various kinds of compulsion now employed in the educational process may have the effect of awakening interest. Betty Smith's interest in winning a prize, for instance, or in merely getting ahead of Johnny Jones, may have the effect of rousing her interest in lessons that have hitherto bored her, and this interest may develop into a genuine interest in the acquisition of knowledge; but this cannot be said of the various fear incentives still so largely employed by teachers. These, on the contrary, have the effect, usually, of completely paralyzing minds already benumbed by lack of interest, and the effect upon the vision is equally disastrous.

The fundamental reason, both for poor memory and poor eyesight in school children, in short, is our irrational and unnatural educational system. Montessori has taught us that it is only when children are interested that they can learn. It is equally true that it is only when they are interested that they can see. This fact was strikingly illustrated in the case of one of the two pairs of sisters mentioned above. Phebe, of the keen eyes, who could recite whole books if she happened to be interested in

them, disliked mathematics and anatomy extremely, and not only could not learn them but became myopic when they were presented to her mind. She could read letters a quarter of an inch high at twenty feet in a poor light, but when asked to read figures one to two inches high in a good light at ten feet she miscalled half of them. When asked to tell how much 2 and 3 made, she said "4," before finally deciding on "S"; and all the time she was occupied with this disagreeable subject the retinoscope showed that she was myopic. When I asked her to look into my eye with the ophthalmoscope she could see nothing, although a much lower degree of visual acuity is required to note the details of the interior of the eye than to see the moons of Jupiter.

Short-sighted Isabel, on the contrary, had a passion for mathematics and anatomy, and excelled in those subjects. She learned to use the ophthalmoscope as easily as Phebe had learned Latin. Almost immediately she saw the optic nerve, and noted that the center was whiter than the peri-phery. She saw the light-colored lines, the arteries; and the darker ones, the veins; and she saw the light streaks on the blood-vessels. Some specialists never become able to do this, and no one could do it without normal vision. Isabel's vision, therefore, must have been temporarily normal when she did it. Her vision for figures, although not normal, was better than for letters.

In both these cases the ability to learn and the ability to see went hand in hand with interest. Phebe could read a photographic reduction of the Bible and recite what she had read verbatim, she could see the moons of Jupiter and draw a diagram of them afterwards, because she was in-terested in these things; but she could not see the interior of the eye, nor see figures even half as well as she saw letters, because these things bored her. When, however, it was suggested to her that it would be a good joke to surprise her teachers, who were always reproaching her for her backwardness in mathematics, by taking a high mark in a coming examination, her interest in the subject awakened and she contrived to learn enough to get seventy-eight percent. In Isabel's case letters were antagonistic. She was not interested in most of the subjects with which they dealt and, therefore, she was backward in those subjects and had become habitually myopic. But when asked to look at objects which aroused an intense interest her vision became normal.

When one is not interested, in short, one's mind is not under control, and without mental control one can neither learn nor see. Not only the memory but all other mental faculties are improved when the eyesight becomes normal. It is a common experience with patients cured of defective sight to find that their ability to do their work has improved.

A teacher whose letter was quoted in an early issue of "Better Eyesight" testified that after gaining perfect eyesight she "knew better how to get at the minds of the pupils," was "more direct, more definite, less diffused, less vague," possessed, in fact, "central fixation of the mind." In another letter she said, "The better my eyesight becomes the greater is my ambition. On the days when my sight is best I have the greatest anxiety to do things."

Another teacher reported that one of her pupils used to sit doing nothing all day long and apparently was not interested in anything. After the test card was introduced into the classroom and his sight improved, he became anxious to learn, and speedily developed into one of the best students in the class. In other words his eyes and his mind became normal together.

A bookkeeper nearly seventy years of age who had worn glasses for forty years found after he had gained perfect sight without glasses that he could work more rapidly and accurately and with less fatigue than ever in his life before. During busy seasons, or when short of help, he has worked for some weeks at a time from 7 A.M. until 11 P.M. and he reports that he felt less tired at night after he was through than he did in the morning when he started. Previously, although he had done more work than any other man in the office, it always tired him very much. He also noticed an improvement in his temper. Having been so long in the office and knowing so much more about the business than his fellow employees, he was frequently appealed to for advice. These interruptions, before his sight became normal, were very annoying to him and often caused him to lose his temper. Afterward, however, they caused him no irritation whatever. In the case of another patient whose story follows, symptoms of insanity were relieved when the vision became normal.

From all these facts it will be seen that the problems of vision are far more intimately associated with the prob-lems of education than we had supposed, and that they can by no means be solved by putting concave, or convex, or astigmatic lenses before the eyes of the children.

THE DOCTOR'S STORY

One of the most striking cases of the relation of mind to vision that ever came to my attention was that of a physician whose mental troubles, at one time so serious that they suggested to him the idea that he might be going insane, were completely relieved when his sight became normal. He had been seen by many eye and nerve specialists before he came to me and consulted me at last, not because he had any faith in my methods, but because nothing else seemed to be left for him to do. He brought with him quite a collection of glasses prescribed by different men, no two of them being alike. He had worn glasses, he told me, for many months at a time without benefit, and then he had left them off and had been apparently no worse. Outdoor life had also failed to help him. On the advice of some prominent neurologists he had even given up his practice for a couple of years to spend the time upon a ranch, but the vacation had done him no good.

I examined his eyes and found no organic defects and no error of refraction. Yet his vision with each eye was only three-fourths of the normal, and he suffered from double vision and all sorts of unpleasant symptoms. He used to see people standing on their heads, and little devils dancing on the tops of the high buildings. He also had other illusions too numerous to mention in a short paper. At night his sight was so bad that he had difficulty in finding his way about, and when walking along a country road he believed that he saw better when he turned his eyes far to one side and viewed the road with the side of the retina instead of with the center. At variable intervals, without warning and without loss of consciousness, he had

attacks of blindness. These caused him great uneasiness, for he was a surgeon with a large and lucrative practice, and he feared that he might have an attack while operating.

His memory was very poor. He could not remember the color of the eyes of any member of his family, although he had seen them all daily for years. Neither could he recall the color of his house, the number of rooms on the different floors, or other details. The faces and names of patients and friends he recalled with difficulty, or not at all.

His treatment proved to be very difficult, chiefly because he had an infinite number of erroneous ideas about physiological optics in general and his own case in particular, and insisted that all these should be discussed; while these discussions were going on he received no benefit. Every day for hours at a time over a long period he talked and argued. Never have I met a person whose logic was so wonderful, so apparently unanswerable, and yet so utterly wrong.

His eccentric fixation was of such high degree that when he looked at a point forty-five degree to one side of the big C on the Snellen test card, he saw the letter just as black as when he looked directly at it. The strain to do this was terrific, and produced much astigmatism; but the patient was unconscious of it, and could not be convinced that there was anything abnormal in the symptom. If he saw the letter at all, he argued, he must see it as black as it really was, because he was not color-blind. Finally he became able to look away from one of the smaller letters on the card and see it worse than when he looked directly at it. It took eight or nine months to accomplish this, but when it had been done the patient said that it seemed as if a great burden had been lifted from his mind. He experienced a wonderful feeling of rest and relaxation throughout his whole body.

When asked to remember black with his eyes closed and covered he said he could not do so, and he saw every color but the black which one ought normally to see when the optic nerve is not subject to the stimulus of light. He had, however, been an enthusiastic football player at college, and he found at last that he could remember a black football. I asked him to imagine that this football had been thrown into the sea and that it was being carried outward by the tide, becoming constantly smaller but no less black. This he was able to do, and the strain floated with the football, until, by the time the latter had been reduced to the size of a period in a newspaper, the strain was entirely gone. The relief continued as long as he remembered the black spot, but as he could not remember it all the time, I suggested another method of gaining permanent relief. This was to make his sight voluntarily worse, a plan against which he protested with consider-able emphasis.

"Good heavens!" he said, "Is not my sight bad enough without making it worse?"

After a week of argument, however, he consented to try the method, and the result was extremely satisfactory. After he had learned to see two or more lights where there was only one, by straining to see a point above the light while still trying to see the light as well as when looking directly at it, he became able to avoid the unconscious strain that had produced his double and multiple vision and was not troubled by these superfluous images any more. In a similar manner other illusions were prevented.

One of the last illusions to disappear was his belief that an effort was required to remember black. His logic on this point was overwhelming, but after many demonstrations he was convinced that no effort was required to let go, and when he realized this, both his vision and his mental condition immediately improved.

He finally became able to read 20/10 or more, and although more than fifty-five years of age, he also read diamond type at from six to twenty-four inches. His night blindness was relieved, his attacks of day blindness ceased, and he told me the color of the eyes of his wife and children. One day he said to me:

"Doctor, I thank you for what you have done for my sight; but no words can express the gratitude I feel for what you have done for my mind."

Some years later he called with his heart full of gratitude, because there had been no relapse.

LYING AS A CAUSE OF MYOPIA

I may claim to have discovered the fact that telling lies is bad for the eyes. Whatever bearing this circumstance may have upon the prevalence of defects of vision, it can easily be demonstrated that it is impossible to say what is not true, even with no intent to deceive, or even to imagine a falsehood, without producing an error of refraction.

If a patient can read all the small letters on the bottom line of the test card, and either deliberately or carelessly miscalls any of them, the retinoscope will indicate an error of refraction. In numerous cases patients have peen asked to state their ages incorrectly, or to try to imagine that they were a year older, or a year younger, than they actually were, and in every case when they did this the retinoscope indicated an error of refraction. A patient twenty-five years old had no error of refraction when he looked at a blank wall without trying to see; but if he said he was twenty-six, or if someone else said he was twenty-six, or if he tried to imagine that he was twenty-six, he became myopic. The same thing happened when he stated or tried to imagine that he was twenty-four. When he stated or remembered the truth his vision was normal, but when he stated or imagined an error he had an error of refraction.

Two little girl patients arrived one after the gther one day, and the first accused the second of having stopped for an ice-cream soda, which she had been instructed not to do, being somewhat too much addicted to sweets. The second denied the charge, and the first, who had used the retinoscope and knew what it did to people who told lies, said

"Do take the retinoscope and find out"

I followed the suggestion, and having thrown the light into the second child's eye, I asked:

"Did you go to Huyler's?"

"Yes," was the response, and the retinoscope indicated no error of refraction.

"Did you have an ice-cream soda?"

"No," said the child; but the tell-tale shadow moved in a direction opposite to that of the mirror, showing that she had become myopic and was not telling the truth.

The child blushed when I told her this and acknowledged that the retinoscope was right, for she had heard of the ways of the uncanny instrument before and did not know what else it might do to her if she said anything more that was not true.

The fact is that it requires an effort to state what is not true, and this effort always results in a deviation from the normal in the refraction of the eye. So sensitive is the test that if the subject, whether his vision is ordinarily normal or not, pronounces the initials of his name correctly while looking at a blank surface without trying to see, there will be no error of refraction; but if he miscalls one initial, even without any consciousness of effort, and with full knowledge that he is deceiving no one, myopia will be produced.

Suggestions for Myopic Patients

By Emily A. Bates

IN THE morning when you awaken, before getting out of bed, sit up and palm. Memory helps. While palming, the memory of a flower or of the color of it, of a white cloud with the sun shining behind it, of the blue of the sky, or of any pleasant thing that you can remember perfectly, something that you have seen perfectly, helps. If nothing else can be remembered you can imagine part of the test card and when you imagine some of the letters with your eyes closed and imagine the form of each letter, not trying to remember any particular letter any length of time, because that is a strain, your mind will be relaxed when you get out of bed.

After arising, practice the sway. Always blink while swaying. After the sway do the long swing; let your head and eyes alone, allow your body to do the moving. Pay no attention to stationary objects which appear to be moving as you swing. After practicing the long swing, keep up the blinking while dressing, but do not blink fast. The eyes move gently with every blink and that is a rest. You will notice that heretofore you have stared.

If the test cards can be used for practice before going to business, so much the better. Place the "C" card to the right of you, a little more than arm's length away. Place the black card to the left of you, also a little more than arm's length away. Then place the number card to the left six feet away, and the inverted "E" card to the right of you six feet away. Now start the sway. Pay no attention to anything, but just keep looking right ahead of you at the wall. Blink and keep up the sway. Notice that all cards appear to be moving opposite to the movement of your body. Blink. Never stop blinking, still noticing that the cards move opposite to the movement of the sway. Do not sway too fast; take it easy. Better vision comes without effort. Notice that when things become too blurred that you are staring, that you have forgotten to blink.

When it is noticed that the cards appear to be moving opposite to the movement of the body, then start the long swing, flashing a letter of the "C" card as you swing to the right, then noticing a letter on a line of the black card as you swing to the left. Be sure to move your body and not only your head and eyes. Don't forget to blink. Then while keeping up the long swing, flash a numeral on the number card to the left and then as you swing to the right, flash an inverted "E" on any line of that card. Every day see if you can flash a smaller numeral on one of the lower lines of the number card as well as an "E" pointing either to the right, left, up, or down on one of the lower lines of the "E" card.

The improvement in your vision all depends upon the time that you have to practice in the above way.

If sun treatment can be given the closed eyelids by placing yourself in the sun, raising your head, and letting the sun shine on the closed eyelids for five minutes or longer, it will help to improve the vision when doing the long swing.

If palming is irksome, just sit comfortably and close the eyes, remembering something pleasant every time the eyes are being rested in this way.

Alternate practicing with the distant cards by placing yourself at a desk. When writing for practice always place your small black card to the right or to the left of your desk and after writing a sentence or two, raise your head and look over to the card at any letter that you see easily without straining. It helps to close the eyes immediately afterward, remembering that letter. Write a few more sentences, again glancing at the card after raising your head in the direction of the letters and not trying hard to see any particular letter.

When large test cards are not used for practice, place two small cards on the window sill if possible and while swaying shift from one card to the other.

Announcements

It has come to our attention that certain parties not connected with Dr. Bates in any way are desirous of publishing a periodical called "Better Eyesight." We wish to say that any such use of this title is not with the permission of Dr. Bates or the Central Fixation Publishing Company and that any magazine issued under this title, other than the present one, is not published in the interests of the Bates Method. The title "Better Eyesight" is protected against illegal usage.

After June, it will be necessary to raise the price of bound volumes of "Better Eyesight." They are now listing at $3.00 per volume and begin with the year 1923. They contain much valuable information and we would suggest that subscribers secure any volume or volumes which they may desire before the price is raised.

We desire to inform our subscribers that the "Better Eyesight" magazine will be discontinued after the June, 1930, issue. This will enable Dr. Bates and Mrs. Bates to devote more time to the writing of new books an treatment alone for which there has been a very great demand during the past year. Subscriptions for the remaining months, however, are being received. We request that all those who desire to be notified upon the publication of new books kindly send us their names and addresses, which will be kept on file.

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