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Better Eyesight

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

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HOW NOT TO CONCENTRATE

To remember the letter o of diamond type continuously and without effort, proceed as follows:
Imagine a little black spot on the right-hand side of the o blacker than the rest of the letter; then imagine a similar spot on the left-hand side. Shift the attention from the right-hand period to the left, and observe that every time that you think of the left period the o appears to move to the right, and every time you think of the right one it appears to move to the left. This motion, when the shifting is done properly, is very short, less than the width of the letter. Later you may become able to imagine the o without conscious shifting and swinging, but whenever the attention is directed to the matter these things will be noticed.
Now do the same with the o letter on the test card. If the shifting is normal, it will be noted that the letter can be regarded indefinitely, and that it appears to have a slight motion.
To demonstrate that the attempt to concentrate spoils the memory, or imagination, and the vision:
Try to think continuously of a period on one part of an imagined letter. The period and the whole letter will soon disappear. Or try to imagine two or more periods, or the whole letter, equally black and distinct at one time. This will be found to be even more difficult.
Do the same with a letter on the test card. The results will be the same.

THE VICE OF CONCENTRATION

By W. H. Bates, M. D.

MOST patients who come to me for the cure of imperfect sight think that they have to "concentrate" in order to improve their vision. When told that they should see nothing but black when their eyes are closed and covered, they think that they can arrive at this state by "concentrating" on the black. When they look at a line of letters and see it imperfectly and all alike, they think it is because they cannot "concentrate." If they see better after closing their eyes or palming, they think it is because these things have helped them to "concentrate." It is very hard to get these ideas out of their heads, even though, after "concentrating for all they are worth," as they express it, they invariably find that their sight is worse instead of better.
By concentration they seem to mean the ability to do, see, or remember, one thing at a time, for as long a time as they want to, and to stop doing, seeing and remembering everything else; and they are quite convinced that this can be accomplished by effort. As these ideas are almost entirely erroneous, it is not strange that their sight should fail to improve under their influence.
It is physiologically impossible to see one thing at a time and exclude everything else from sight, because nature has given us a visual field of considerable range. It is true that we can see even a very small object continuously, but only if the attention shifts constantly from one part to another, because the eye is in constant motion, and any attempt to stop this motion lowers the vision and causes the object to blur or disappear. When the vision is normal the movements of the eye are short, rhythmical and easy, and each successive point fixed is seen better than any other point. In the eye with imperfect sight the movements are longer, irregular and accompanied by strain. The points fixed are not seen best, so that the object may be seen all alike at one time. In neither case is it possible to stop the motion; but the eye with imperfect sight tries unconsciously to do so and to look at each point for an appreciable length of time. This unconscious attempt to concentrate upon a point is an invariable accompaniment of imperfect sight, and is always produced by an effort to see. When, therefore, patients try to "concentrate" upon a letter, the eye attempts to stop shifting, and the vision is made worse. Even in the case of an eye with previously normal sight, such an effort will quickly cause the letters to blur or disappear.
Although the physiological reasons for it are not as plain, the mind is subject to the same law as the eye. It cannot think of one thing to the exclusion of all other things. Nor can it think continuously of an unchanging object without continuous shifting of the attention. The attempt to do these things is accompanied by a strain which is reflected in the eyes and always produces abnormal conditions there.
It is often hard to get patients to realize these facts, because the shifting of attention may be and usually is unconscious. At points where the vision is good, patients may shift normally and easily from one part of a letter to another without being aware of the fact and without noticing the swing produced by this motion. Therefore they often imagine that they can see it all alike at one time for an indefinite period. In the same way they think that they can remember or imagine a letter all alike at one time continuously. One patient looked at an F for the better part of an hour, seeing it all the time perfectly black and distinct and, as he thought, all alike and stationary.
He was directed to imagine with his eyes closed that a small, black spot on the upper corner of the ten-line F was the blackest part of the letter. Then he was told to remember a similar period on the bottom of the letter and to forget the top period. Next he was directed to shift between these two periods, remembering each one alternately as the blackest part of the letter. He did this easily and noted that every time he thought of the top period, the letter appeared to move downward; and every time he thought of the lower period, the letter appeared to move upward. When he tried to concentrate on one period, however, he immediately lost it and lost the whole letter with it. To imagine two or more periods, or the whole letter, equally black at one time was even more difficult. Having demonstrated with his eyes closed that it was impossible to think continuously of one point, or to think of two or more points equally well at the same time, but very easy to shift continuously from one point to another, he became able to realize that he could not see the letter on the test card perfectly and continuously when he saw it all alike at one time, and could not even see one point perfectly black continuously.
Most patients, when asked to remember or imagine a letter of diamond type, state that they can do it continuously and that they see it all alike at one time. When asked to concentrate on a point, or imagine one or more points equally well at one time however, they find it, as in the case just mentioned, impossible; while they have no difficulty in shifting continuously from one point to another. After having demonstrated these facts they find it impossible to remember a letter all alike at one time, and realize that when they seemed to do so they must have been unconsciously shifting and swinging.
It is strange that physiologists and psychologists have never published these facts. The normal shifting of the eye is so short and easy that it is scarcely perceptible. The apparent movement of objects regarded, produced by this motion, is also inconspicuous; yet it is sufficiently marked so that when patients are asked whether the letters they are looking at are moving or stationary they often answer that they are moving. When asked to stop the movement or imagine that the letters are stationary, they reply that they cannot, and that the attempt to do so causes discomfort or pain. One patient even noticed the phenomenon without any hint from me, and came back to me several months after I had cured her to ask for an explanation. The movement, which she noticed only when she looked at a letter continuously, not when she read a few of the letters more or less rapidly, did not trouble her she said; in fact, when she tried to stop it she felt uncomfortable and her vision was lowered; but having never heard of it, she was afraid it might indicate something wrong with her eyes.

Psychologists tell us that it is impossible to attend continuously to an unchanging stimulus. This is true, but some of the proofs adduced in support of it are open to criticism. James says that if you try to attend steadfastly to a dot on a piece of paper, or on the wall, "you will presently find that one or the other of two things has happened: either your field of vision has become blurred so that you now see nothing distinct at all, or else you have involuntarily ceased to look at the dot in question, and are looking at something else. But if you ask yourself successive questions about the dot—how big it is, how far, of what shape, what shade of color, etc.; in other words if you turn it over, if you think of it in various ways, and along with various kinds of associations—you can keep your mind on it for a comparatively long time."1

It is probably true that in most cases the person who looks at a dot under the conditions in question would find his vision blurring, or his attention shifting to something else, because he would make an effort to see it. He would stare at it, or "concentrate," upon it. But a person with normal, or nearly normal vision, who looks at such a dot easily and naturally, can regard it indefinitely, because his eyes unconsciously shift from one part of it to another. Other persons, if they shift consciously and realize the apparent motion thus produced, will often find it possible to hold their attention on the dot for a considerable time, but will not see it as distinctly as persons who shift unconsciously. As for asking one's self questions about the dot, I have often tried this experiment with patients, but never found that it corrected the tendency to stare.

The idea that the attention can be forced is a very common one and is very bad for the eyes. It is greatly encouraged by popular writers, but is contrary to the teachings of more reliable psychologists who know that forced attention can only be momentary, and that it is a great strain upon the mind and the whole body. Ladd records that the subject of an experiment to determine reaction-time under concentrated attention often "though sitting quiet, sweats profusely."2

I can parallel this from my own experience. A patient was left in a room and told to rest her eyes by closing and covering them until I came back; but another patient had unfortunately told her that she must "concentrate on the black." So when a series of colors began to intrude themselves in her field of vision she tried to ignore them. The more they were ignored the more insistent they became, and when I returned the patient was in convulsions. She had to be carried into another room, and only after resting for an hour or two was she able to go home in a taxicab. It was a month, during which time she was under the care of her family physician, before she was able to resume treatment.

Since attempts to force the mind are reflected in the eyes, the popular ideas of concentration must be responsible for a great deal of that strain which is the cause of imperfect sight.

STORIES FROM THE CLINIC
17: Some Results of Concentration
By Emily C. Lierman

Almost all the patients who come to us at the clinic, especially adults, think it necessary to concentrate in order to see better. They think concentration is part of our method of treatment, and until they learn better I cannot make any progress with them.

A young girl about eighteen or nineteen years old came one day recently, holding her glasses in her hand and anxiously waiting to be treated. She told me she had worn glasses for seven years, and that she had consulted several oculists and opticians without getting any relief from the pain in her eyes. With her glasses she read 15/20, and without them 15/50, both eyes. When she closed her eyes I noticed a twitching of her eyelids. She was told to open her eyes and look at a letter on the card, then to close them and remember the blackness of the letter, thinking first of the bottom and then of the top, alternately. When a few minutes later she removed her hands from her eyes she could not see the letter which she had seen before. I wondered why her sight did not improve, but I understood when she said:

"I did what you asked me to do. You told me to remember the letter O, and I held on to it and tried hard not to remember anything else. But now my pain is worse than before."

"You did not understand me," I said. "I did not ask you to hold on to the letter O. I asked you to remember the blackness of it, and see or imagine one part best at a time."

She tried it again, covering her eyes with her hands, and this time I said to her:

"Remember the letter O as you saw it, but first remember the top best. Now what happens to the bottom?"

"It fades from black to gray," she said.

"Now remember the bottom blacker than the top."

"The same thing happens to the top," she said. "It fades to gray color." And then she added:

"Please let me keep doing this for a little while, it seems to take my pain away."

After five minutes or so I had to ask her to remove her hands from her eyes, as I could not spend any more time with her, and I wanted to know if I had helped her. As she looked at the card again she saw the O very plainly, and also read two more lines, the forty and the thirty. The twitching of her eyelids had ceased, and she was able to smile. This patient is still coming, and is now able to read most of the ten-line at fifteen feet. She is also able to read some of the letters in a paragraph of diamond type at eight inches from her eyes; but when I hold the type at six inches and ask her to fix her eyes on one corner of the card and stare at it, the whole surface becomes a blank and the pain in her head and eyes comes back.

One day a little mother, imported from Ireland, sure enough, came with her little boy of eleven, who was suffering terrible pain. Dr. Bates and I were not very busy at that moment, which was something quite unusual, and we both listened together to her story, the gist of which was:

"The school nurse sis me biy needs glasses. 'Tis truble he's havin' wid his eyes."

The boy all the while kept his eyes covered with a white cloth, and at first glance I thought he was crying because the part of his face that I was able to see was much flushed. Dr. Bates asked me to see what I could do for him, and his mother began to talk again.

"Oi haven't any time to be foolin' round here, ma'am," she informed me. "Oi got to get back to me washin.' It's glasses he needs, ma'am."

When she finally stopped for want of breath, I said:

"Now wouldn't it be fine and dandy to cure him so that he wouldn't need glasses?"

As I said this, down came the cloth from the boy's eyes. He was interested and returned my smile.

"Just you leave him to me and I will cure him," I said to his mother. "And never mind leaving your work for him again. He can come here by himself."

"Sure ma'am, is it dreamin' ye are, or is it a bit o' blarney yer given' me?" she inquired.

"No," I said, "it isn't dreaming or blarney. Be a good mother and just watch your boy and see what happens."

I tested the boy's sight with the Snellen test card and found that his vision was 12/40 with each eye. Then I gave him a stool and showed him how to palm. Some minutes afterwards I told him to remove his hands from his eyes and look at the card. He stared at it as if some wild animal were after him. I discovered that his mother was threatening him, talking to him in a low tone. Evidently she thought she would please me by forcing him to do what I wished. By this time I knew that the boy was afraid of his mother, and I quietly invited her to take a nice, comfortable seat outside the room. The boy informed me that his name was Joe, and as I smoothed his hair and gave him a few pats the most affectionate look came into his eyes. Then we got down to business again. I told him to palm and reminded him of a baseball.

"Imagine you are throwing the ball," I said. "Now imagine that you are catching it. Now look at the card."

He smiled when he saw the letters come out blacker and more distinct than before. The redness of his face, which at first I had thought was from fever, left him, and his eyes, which were Irish blue, were clear and wide open. He read the thirty-line at twelve feet and part of the twenty-line, which I thought was doing well for the first visit. Now it occurred to me to see what would happen if he concentrated, or stared. I told him to look at the first letter on the forty-line, a Z, and keep his mind fixed on it no matter what happened. As he did this he began to frown, his forehead became wrinkled and his face became red again.

"I don't like to do that, nurse," he said. "All the other letters disappear and my head hurts."

I told him to palm again and remember the letter Z, thinking first of the top, then of the bottom. When he looked at the card again he saw the letters clearly once more, and read all of the twenty-line at fifteen feet. When he arrived at the ten-line, however, the first letter bothered him. He twisted his head in all directions. He stared at the letter, and finally decided to palm again. After a few moments I asked him to open his eyes, and told him that there were three of the same letters on the card, but that they were scattered here and there on the different lines. He again started to read the card, and as he saw the first letter on the hundred-line, which was a D, he said:

"Now I know the first letter on the ten-line is a D."

Shifting his eyes from the hundred-line to the ten-line letter had helped him to see it.

His last visit was a very interesting one. At the beginning of the treatment I explained to him how important it was for him to practice palming at least half a dozen times a day, but he did not feel that he could spare the time, because he earns a little money running errands for his mother. At the next to the last visit I had a talk with him about this and said:

"If your eyes are cured you can earn more money during vacation time, but you cannot if they trouble you."

He promised to practice at home as many times as I wished him to, so I made him a promise. My rose garden in the country was in full bloom and I promised to bring him a bouquet the next Clinic day. Not having enough flowers for each patient, I wrapped Joe's bouquet in paper and asked Dr. Bates to carry it. Joe spied me first as we passed the long line of benches which were filled with poor people, all of them suffering from some eye trouble. His hair was combed, which was unusual, and he was spruced up generally. He was smiling, too, and his eyes were shining with great expectations. But when he saw that my hands were empty, the smile vanished, and a look of disappointment came into his eyes. I know what it means to be disappointed, so I told him at once that Dr. Bates was bringing the bouquet for him, and the sun shone for him once more. I was well repaid for those flowers, for that day Joe made wonderful progress.

He had to wait some time before I could treat him, and he never took his eyes from me. I could feel his gratitude, and my impulse was to take him in my arms and hug him tight; but I refrained, thinking he might resent the familiarity. He read the ten-line at fifteen feet, in less than a minute, and he told me that he did not suffer any more pain in his head. He also said that his studies seemed easier to him when he remembered not to stare or think too hard of one thing.

QUESTIONS AND ANSWERS

All readers of this magazine are invited to send questions to the editor regarding any difficulties they may experience in using the various methods of treatment which it recommends. These will be answered as promptly as possible, in the magazine, if space permits, otherwise by mail. Kindly enclose a stamped, addressed envelope.

Q. After leaving off my glasses and practicing the methods advocated in your magazine for six months, I went to the oculist who gave me glasses eleven years ago to have my eyes re-examined. He said the astigmatism was exactly what it was eleven years ago, but that there had been some improvement in the near-sightedness. I am sending you the prescriptions, old and new. I apparently see better than when I took off my glasses, and there are times when I see letters measuring 3/32nds of an inch in height at a distance of ten feet. This lasts until I wink, when the letters become blurred and indistinguishable. I would like to ask the following questions: 1. Could there have been an improvement in the astigmatism without the oculist's observing it? 2. What is the percentage of improvement in each eye? 3. In your experience, when astigmatism has been cured, how does it go—all at once, or gradually? 4. Do you think I have made enough progress to warrant my continuing, or should I go back to glasses, which always gave me comfort, and leave perfect eyesight for those more easily cured? G. H. A.

A. 1. Yes. During the examination you may have been under a strain. 2. It is impossible to judge your improvement by comparing your glasses, because the refraction is continually changing. 3. It may go in either way. 4. Yes. Your trouble is so slight that I do not understand why it should take you so long to correct it.

Q. After being out in the bright sunlight everything looks intensely black to me indoors. Is this a natural consequence of the exposure of the eyes to bright light, or does the normal eye not experience it? L. K.

A. Many persons with imperfect sight, and also persons with ordinarily normal sight suffer in the way you describe after going indoors out of the bright sunlight, and the trouble can be relieved by any method which brings about a complete relief of strain.

Q. What is the quickest cure for inability to read without glasses on account of advancing years? J. L. C.

A. Close the eyes and remember a small letter of the alphabet perfectly. Open the eyes, and at twelve inches look at the corner of a card showing a specimen of diamond type, remembering the letter

as well as you can. Close the eyes or palm, and remember the letter better. Alternately, remember it with the eyes open (and looking at the corner of the card) and closed, until the memory with the eyes open and closed is nearly equal. Then look between the lines and do the same thing. In this way some patients become able in half an hour to read the letters on the card. Others require days, weeks, or longer.

Q. Is it possible to become able to read without glasses after the extraction of cataract? A. C.

A. Yes. Accommodation is brought about by a lengthening of the eyeball through the action of a pair of muscles on the outside. If the patient is able to look at a printed page without effort or strain, the eyeball will lengthen sufficiently to compensate for the loss of the lens.

1. Talks to Teachers, 1915, p. 104.
2. Elements of Physiological Psychology, 1900, p. 543.

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