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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 PALMING CURE

One of the most efficacious methods of relieving eyestrain, and hence of improving the sight, is palming. By this is meant the covering of the closed eyes with the palms of the hands in such a way as to exclude all the light, while avoiding pressure upon the eyeballs. In this way most patients are able to secure some degree of relaxation in a few minutes, and when they open their eyes find their vision temporarily improved.

When,relaxation is complete the patient sees, when palming, a~flack so deep that it is impossible to remember or imagin~' anything blacker, and such relaxation is always followed by a complete and permanent cure of all errors of refraction (nearsight, farsight, astigmatism' and even old sight), as well as by the relief or cure of many other abnormal conditions. In rare cases patients become able to see a perfect black very quickly, even in five, ten or fifteen minutes; but usually this cannot be done without considerable practice, and some never become able to do it until they have been cured by other means. When the patient becomes able after a few trials to see an approximate black, it is worth while to continue with the method; otherwise something else should be tried.

Most patients are helped by the memory of some color, preferably black, and as it is impossible to remember an unchanging object' for more than a few seconds, they usually find it necessary to shift consciously from one mental picture to another, or from one part of such a picture to another. In some cases, however, the shifting may be done unconsciously, and the black object may appear to be remembered all alike continuously.

THE VARIABILITY OF THE REFRACTION OF THE EYE

The theory that errors of refraction are due to permanent deformations of the eyeball leads naturally to the conclusion, not only that errors of refraction are permanent states, but that normal refraction is also a continuous condition. As this theory is almost universally accepted as a fact, therefore, it is not surprising to find that the normal eye is generally regarded as a perfect machine which is always in good working order. No matter whether the object regarded is strange or familiar, whether the light is good or imperfect, whether the surroundings are pleasant or disagreeable, even under conditions of nerve strain or bodily disease, the normal eye is expected to have normal refraction and normal sight all the time. It is true that the facts do not harmonize with this view, but they are conveniently attributed to the perversity of the ciliary muscle. This muscle is believed to control the shape of the lens, and is credited with a capacity for interfering with the refraction in some very curious ways. In hypermetropia (farsight), it is believed to alter the shape of the lens sufficiently to compensate, in whole or in part, for the shortness of the eyeball. In myopia, or nearsight, on the contrary, we are told that it actually goes out of its way to produce the condition, or to make an existing condition worse. In other words, the muscle is believed to get into a more or ,less continuous state of contraction, thus keeping the lens continuously in a state of convexity, which, according to accepted theories, it ought to assume only for vision at the near-point. This theory serves the purpose of explaining to the satisfaction of most eye specialists why persons who at times appear to have myopia, or hypermetropia, appear at other times not to have them. After people have reached the age at which the lens is not supposed to change it does not work so Well, while in astigmatism it is available only to a limited extent even at the earlier ages; but these facts are quietly ignored.

When we understand how the shape of the eyeball is controlled by the external muscles,.and how it responds instantaneously to their action, it is easy to See that no refractive state, whether it is normal or abnormal, can be permanent. This conclusion is confirmed by the retinoscope, and I had observed the facts long before my experiments upon the eye muscles of animals, reported in 1915[1] and to be described again in my forthcoming book, had offered a satisfactory explanation for them. During thirty years devoted to the study of refraction, I have found few people who could maintain perfect sight for more than a few minutes at a time, even under the most favorable conditions; and often I have seen the refraction change half a dozen times or more in a second, the variations ranging all the way from twenty diopters of myopia to normal.

Similarly I have found no eyes with continuous or unchanging errors of refraction, all persons with errors of refraction having, at frequent intervals during the day and night, moments of normal vision, when their myopia, hypermetropia, or astigmatism, wholly disappears. The form of the error also changes, myopia even changing into hypermetropia and one form of astigmatism into another.

Of twenty thousand school children examined in one year more than half had normal eyes, with sight which was perfect at times; but not one of them had perfect sight in each eye at all times of the day. Their sight might be good in the morning and imperfect in the afternoon, or imperfect in the morning and perfect in the afternoon. Many children could read one Snellen test card with perfect sight, while unable to see a different one perfectly. Many could also read some letters of the alphabet perfectly, while unable to distinguish other letters of the same size under similar conditions. The degree of this imperfect sight varied within wide limits, from one-third to one-tenth, or less. Its duration was also variable. Under some conditions it might continue for only a few minutes, or less; under others it might prevent the subject from seeing the blackboard for days, weeks, or even longer. Frequently all the pupils in a classroom were affected to this extent.

Among babies a similar condition was noted. Most investigators have found babies hypermetropic. A few have found them myopic. My own observations indicate that the refraction of infants is continually changing. One child was examined under atropine on four successive days, beginning two hours after birth. A three per cent solution of atropine was instilled into both eyes, the pupil was dilated to the maximum, and other physiological symptoms of the use of atropine were noted. The first examination showed a condition of mixed astigmatism. On the second day there was compound hypermetropic astigmatism, and on the third compound myopic astigmatism.[2] On the fourth one eye was normal and the other showed simple myopia. Similar variations were noted in many other cases.

What is tree of children and infants is equally true of adults of all ages. Persona over seventy years of age have suffered losses of vision of variable degree and intensity, and in such cases the retinoscope always indicated an error of refraction. A man eighty years old, with normal eyes and ordinarily normal sight, had periods of imperfect sight which would last from a few minutes to half an hour or longer. Retinoscopy at such times always indicated myopia of four diopters or more.

During sleep the refractive condition of the eye is rarely, if ever, normal. Persons whose refraction is normal when they are awake will produce myopia, hypermetropia and astigmatism when they are asleep, or, if they have errors of refraction when they are awake, they will be increased during sleep. This is why people waken in the morning with eyes more tired than at any other time, or even with severe headaches. When the subject is under ether or chloroform. or unconscious from any other cause, errors of refraction are also produced or increased.

When the eye regards an unfamiliar object an error of refraction is always produced. Hence the proverbial fatigue caused by viewing pictures, or other objects, in a museum. Children with normal eyes who can read perfectly small letters a quarter of an inch high at ten feet always have trouble in reading strange writing on the blackboard, although the letters may be two inches high. A strange map, or any map, has the same effect. I have never seen a child, or a teacher, who could look at a map at the distance without becoming nearsighted. German type has been accused of being responsible for much of the poor sight once supposed to be peculiarly a German malady; but if a German child attempts to read Roman print, it will at once become temporarily myopic. German print, or Greek or Chinese characters, will have the same effect on a child, or other person, accustomed to Roman letters. Cohn repudiated the idea that German lettering was trying to the eyes.[3] On the contrary, he always found it "pleasant, after a long reading of the monotonous Roman print. to return to our beloved German'." Because the German characters were more familiar to him than any others he found them restful to his eyes. "Use," as he truly observed, "has much to do with the matter." Children learning to read, write, draw, or sew, always suffer from defective vision, because of the unfamiliarity of the lines or objects with which they are working.

A sudden exposure to strong light, or rapid or sudden changes of light, are likely to produce imperfect sight in the normal eye, continuing in some cases for weeks and months.

Noise is also. a frequent cause of defective vision in the normal eye. All persons see imperfectly when they hear an unexpected loud noise. Familiar sounds do hot lower the vision, but unfamiliar ones always do. Country children from quiet schools may suffer from defective vision for a long time after moving to a noisy city. In school they cannot do well with their work, because their sight is impaired. It is, of course, a gross injustice for teachers and others to scold, punish, or humiliate, such children.

Under conditions of mental or physical discomfort, such as pain, cough, fever, discomfort from heat or cold, depression, anger, or anxiety; errors of refraction are always produced in the normal eye, or increased in the eye in which they already exist.

The variability of the refraction of the eye is responsible for many otherwise unaccountable accidents. When people are struck down in the street by automobiles or trolley cars, it is often due to the fact that they,were suffering from temporary loss of sight. Collisions on railroads or at sea, disasters in military operations, aviation accidents, etc., often occur because some responsible person suffered temporary loss of sight.

HOW LONG WILL IT TAKE?

This question is asked so constantly by persons who wish to be cured of imperfect sight that it seems worth while to devote a little space to its consideration. It is impossible, of course, to answer the question definitely. Cure is a question of the mind, and people's minds are different. While patients who have worn glasses are usually harder to cure than those who have not, elderly persons who have worn them for the better part of a lifetime are sometimes cured as quickly as children under twelve who have never worn them. These cases are very rare, but they do occur. Some patients can look at the letters on the test card, or in a paragraph of fine print, and imagine them at once to be perfectly black, with the result that they immediately become able to read them. Some patients are able to palm almost perfectly from the start, and nearly all can do it well' enough to improve their sight; some never become able to do it until their sight has been improved by other means.

Most patients, when they look from one side of a large letter to another, or from one side of the card to another, can imagine that the letter, or the card, is moving in a direction opposite to the movement of the eye. Others, whose condition may be no worse, take a week, or a month, or longer, to do the same thing. A patient recently treated was able to do almost everything I asked her to at the first visit. I began, as I always do, by directing her to close and rest her eyes, and, as in the case of most other patients, she was able to improve her sight materially by this method. Then she went on to do a lot of other things, some of which very few patients can do at the first visit, while no one but herself, so far as I can remember, was ever able to do all of them. She was able to stare at a letter and make her sight worse, and she was able to look from one side of it to another and imagine that it was moving in a direction opposite to the movement of the eye. If the letter was seen perfectly, the movement was short, rhythmical and easy; if it was seen imperfectly, it was longer, and irregular. She could not imagine a letter stationary, and if she tried to imagine it so, it blurred. When she looked at a line of letters that she could read, she realized at once that one letter was seen best and the adjoining ones worse; and when she looked at a line that she could not read, she noted that they were seen all alike. She demonstrated at once—which was very remarkable—that a perfect memory is quick and easy, and an imperfect memory slow, difficult and even impossible; that the first relieves fatigue and the second induces discomfort. She also demonstrated that while it was easy to imagine that a letter . remembered perfectly was swinging, she either could not imagine such a swing in the case of an imperfectly remembered letter, or else the swing was longer and irregular. It is hardly necessary to say that this patient became able at once to read the whole card, even in a dim light. It was only when she came to fine print that she failed. She could not imagine that the letters of diamond type were swinging. She could imagine the universal swing[4] when she looked two inches away from the letters, but she could not imagine it when she looked between the lines.

These peculiarities of the mind cannot be known in advance, and therefore it is seldom possible, in any given case, to make predictions as to the length of time that will be required for a cure. This much can be stated, however: that marked improvement is always obtained in a few weeks. and that all patients obtain some benefit at the first visit. If there are any exceptions to this rule, they are so rare that I do not remember them.

As more facts are accumulated. and better ways of presenting things learned, it becomes possible to cure people more quickly. I can cure people more quickly today than I did a year ago, and I expect to cure them next year more quickly than I do today. In the last three months, seven or eight patients have been cured in one visit, with a little additional help over the telephone.

When patients can give considerable time to the treatment they naturally get on faster than those who cannot or will not do this. When they follow instructions and do not waste time in discussion, or in carrying out theories of their own, they also get on faster. One of the advantages that children have over adults is that there lie-ads are not, so full of erroneous ideas, and that they are accustomed to doing as they are told.

The chief cause of delay seems to be that people will not believe the truth after it is demonstrated to them. You can demonstrate to anyone in a few minutes that rest improves the vision, but the idea that everything worth while must be gained by effort is so deeply ingrained in the

average mind that you may not in a year be able to get it out, and so long as the patient believes that his sight can be improved by effort, be will make little progress.

. In most cases it is necessary, in order to retain what has been gained, to continue the treatment for a few minutes every day. When a cure is complete it is always permanent. The patient need never think of the matter again, and may even forget how he was cured. But complete cures, which mean the attainment, not of what is ordinarily called normal sight, but of a measure of telescopic and microscopic vision, are very rare; and even in these cases the treatment may be continued with benefit,.for it is impossible to set limits to the visual powers of man, and no matter how good the sight, it is always possible to improve it.

RELIEF AFTER TWENTY-FIVE YEARS

While many persons are benefited by the accepted methods of treating defects of vision, there is a minority of cases, known to every eye specialist, which gets little or no help from them. These patients sometimes give up the search for relief in despair, and sometimes continue it with surprising pertinacity, never being able to abandon the belief, in spite of the testimony of experience, that somewhere in the world there must be some one with sufficient skill to fit them with the right glasses. The rapidity with which these patients respond to treatment by relaxation is often very dramatic, and affords a startling illustration of the superiority of this method to treatment by glasses and muscles-cutting. In the following case relaxation did in twenty-four hours what the old methods, as practiced by a succession of eminent specialists, had not been able to do in twenty-five years.

The patient was a man of forty-nine, and his imperfect sight was accompanied by continual pain and misery, culminating twenty years before I saw him, in a complete nervous breakdown. As he was a writer, dependent upon his pen for a living, his condition was a serious economic handicap, and he consulted many specialists in the vain hope of obtaining relief. Glasses did little, either to improve his sight, or to relieve his discomfort, and the eye specialists talked vaguely about disease of the optic nerve and brain as a' possible cause of his troubles. The nerve specialists, however, were unable to do anything to relieve him. One specialist diagnosed his case as muscular, and gave him prisms, which helped him a little. Later, the same specialist, finding that all of the apparent muscular trouble was not corrected by glasses, cut the external muscles of both eyes. This also brought some relief, but not much. At the age of twenty-nine the patient suffered the nervous breakdown already mentioned. For this he was treated unsuccessfully by various specialists, and for nine years he was compelled to live out of doors. This life, although it benefited him, failed to restore his health, and when he came to me on September 13, 1919, he was still suffering from neurasthenia. His distant vision was less than 20/40, and could not be improved by glasses. He was able to read with glasses, but could not do so without discomfort. I could find no symptom of disease of the brain or of the interior of the eye. When he tried to palm he saw grey and yellow instead of black; but he was able to rest his eyes simply by closing them, and by this means alone he became able, in twenty-four hours, to read diamond type and to make out most of the letters on the twenty line of the test card at twenty feet. At the same time his discomfort was materially relieved.

He was under treatment for about six weeks, and then he left the city. On October 25 he wrote as follows:

"I saw you last on October 6, and at the end of the week, the 11th, I started off on a ten-day motor trip as one of the officials of the Cavalry Endurance Test for horses. The last touch of eyestrain which affected me nervously at all I experienced on the 8th and. 9th. On the trip, though I averaged but five hours sleep, rode all day in an open motor without goggles and wrote reports at night by bad lights, I had no trouble. After the third day the universal slow swing seemed to establish itself, and I have never had a moment's discomfort since. I stood fatigue and excitement better than I have ever done. and went with less sleep. My practicing on the trip was necessarily somewhat curtailed,, yet there was noticeable improvement in my vision. Since returning I have spent a couple of hours a day in practice, and have at the same time done a lot of writing.

"Yesterday, the 24th. I made a test with diamond type, and found that after twenty minutes' practice I could get the lines distinct, and make out the capital letters and bits of the text at a scant three inches. At seven I could read it readily, though I could not see it perfectly. This was by an average daylight—no sun. In a good daylight I can read the newspaper almost perfectly at a normal reading distance, say fifteen inches. 1 seem able now to read ordinary. print at a little distance from my eyes without straining; but I practice bringing it so close that it is not quite clear, and after closing and opening my eyes and thinking of the text as clear and black, or of a perfect black letter, it clears up. I am confident now that in a few weeks I shall be able to read the fine print at three inches. Now that the swing has established itself so well I seem to get the best results on close work by consciously relaxing as much as I can, avoiding all conscious effort to see better, and imagining words or letters perfectly clear and black. All soreness has gone from the eyeballs, but there are little muscle hitches that catch me when consciously opening or closing the lids. The last few days these almost ceased at the end of twenty minutes practice, and my sight was better.

"I feel now that I am really out of the woods. I have done night work without suffering for it, a thing I have not done in twenty-five years, and I have worked steadily for more hours than I have been able to work at a time since my breakdown in 1899, all without sense of strain or nervous fatigue. You can imagine my gratitude to you. Not only for my own sake, but for yours, I shall leave no stone unturned to make the cure complete and get back the child eyes which seem perfectly possible in the light of progress I have made in the eight weeks since I first went to you. ,

"I have just been trying the big card for distance in the out-of-door light of an overcast day at two in the afternoon. At twenty feet I get all the bottom line, but the "5" and "6." The "B" also is black. But I think I have done a little better than this. The halos[5] begin to come out spontaneously both on the fine print and on the big card at a distance. I am sure that I only have to keep on to win."

FACTS VERSUS THEORIES

Reading fine print is commonly supposed to be an extremely dangerous practice, and reading print of any kind upon a moving vehicle is thought to be even worse. Looking away to the distance, however; and not seeing anything in particular is believed to be very beneficial to the eyes. In the light of these superstitions the facts contained in the following letter are particularly interesting:

"On reaching home Monday morning I was surprised and pleased at the comments of my family regarding the appearance of my eyes. They all thought they looked so much brighter and rested, and that after two days of railroading. I didn't spare my eyes in the least on the way home. I read magazines and newspapers, looked at the scenery; in fact, used my eyes all the time. My sight for the near-points splendid. Can read for hours without tiring my eyes… I went downtown to day and my eyes were very tired when I got home. The fine print on the card (diamond type) helps me so… I would like to have your little Bible (a photographic reduction of the Bible with type much smaller than diamond). I'm sure the very fine print has a soothing effect on one's eyes, regardless of what my previous ideas on the subject were."

It will be observed that the eyes of this patient were not tired by her two days railroad journey, during which she read constantly;—they were not tired by hours of reading after her return; they were rested by reading extremely fine print; but they were very much tired by a trip downtown during which they were not called upon to focus upon small objects. Later a leaf from the Bible was sent to her, and she wrote:

"The effect even of the first effort to read it was wonderful. If you will believe it, I haven't been troubled having my eyes feel 'crossed' since, and while my actual vision does not seem to be any better, my eyes feel a great deal better."

1. Bates: The Cure of Defective Eyesight by Treatment Without Glasses, N. Y. Med. Jour., May 8, 1915 [link].
2. In astigmatism the eye is lopsided. In simple hypermetropic astigmatism one principal meridian is normal, and the other, at right angles to it, is flatter; hence the eye is farsighted in one curvature and normal in another. In simple myopic astigmatism the contrary is the case, one principal meridian is normal and the other, at right angles to it, more convex, making the refraction normal in one curvature and shortsighted in another. In mixed astigmatism one principal meridian is too flat, the other too convex. In compound hypermetropic astigmatism, both principal meridians are flatter than normal, one more so than the other. In compound myopic astigmatism both are more convex than normal, one more so than the other.
3. Eyes and School-Books, Pop. Sci. Monthly, May, 1881, translated from Deutsche Rundscau.
4. When the patient becomes able to imagine that the letters on the test card are swinging, everything else thought of also seems to be swinging. This is the universal swing.
5. When the sight is normal, the margins and openings of letters appear whiter than the rest of the background, and the lines of fine print seem to be separated by white streaks.

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